

Reports 356019. 2001-04-01.

OMM - Apr. 2001 - thru -

May - 2003



*George*

Route 100  
Somers, NY 10589 0100

April 5, 2001

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 58  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report covers the work performed at the Mead Property Site (Site) from March 1 through March 30, 2001 in order to fulfill the obligations mandated by the Order, and the work anticipated during the month of April 2001. The format of this report follows the sequence presented in the Order with modifications to present appropriate operations and maintenance data.

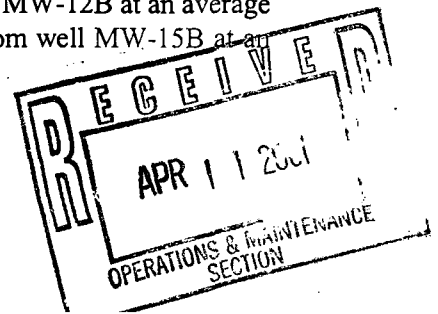
A. Actions During the Previous Month

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the period of March 1 through March 30, 2001. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on March 13 and 30, 2001.
- During this period, the GWTS recovered approximately 52,075 gallons of groundwater from well MW-12B at an average rate of 1.2gpm, approximately 169,830 gallons of groundwater from well MW-15B at an average rate of 3.4 gpm, and 26,557 gallons of groundwater from well MW-9B at an average rate of 0.9 gpm. Since start up in February 1996, the GWTS has recovered approximately 2,810,235 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm; approximately 6,446,809 gallons of groundwater from well MW-15B at an



average rate of 3.4 gpm; and approximately 946,671 gallons of groundwater from well MW-9B at an average rate of 0.9 gpm. Approximately 102 pounds of VOCs have been recovered by the GWTS through February 16, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-12B, MW-15B, and MW-9B.

- URS collected groundwater samples on March 13 and 30, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 59. The treated groundwater analytical results for February 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 10,573,356 gallons of water at an average rate of 5,757 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on March 13 and 30, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for February 2001 are included as Table 4 and in Appendices A and B.

C. Actions Anticipated For March 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

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E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE		1,1 DCA		1,2 DCA		1,2 DCE		TCA		TCE		
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,795,570	80	450	53	716	850	140	1.662	12.533	1.147	19.169	37.480	3.069	75.06

Notes:

- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
- 2) Only compounds detected above laboratory detection limits are used in this calculation.
- \* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.



**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

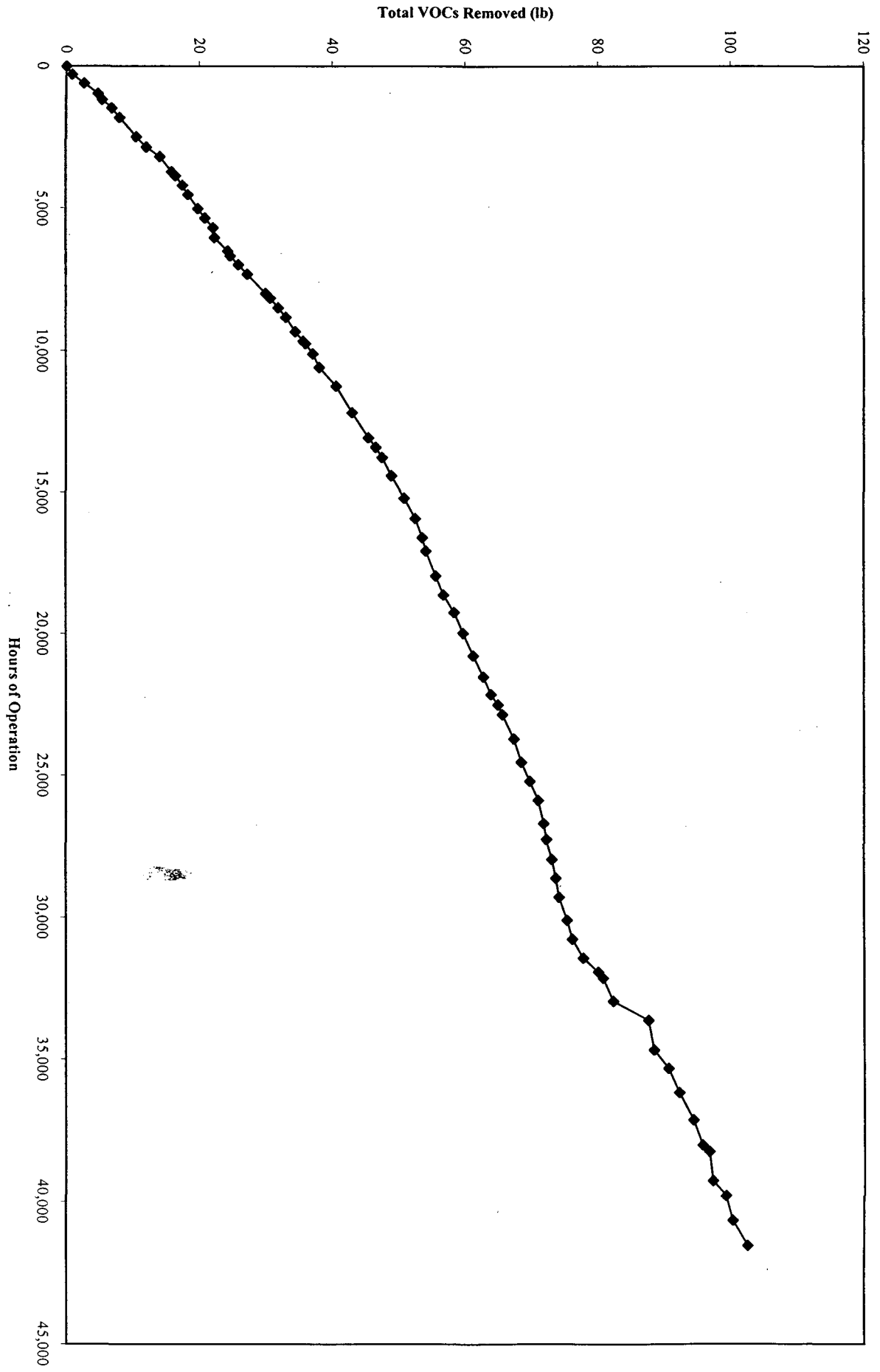
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	2/14/01	2/28/01
pH	6.0-9.0	SU	7.24	7.93
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	249	211
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	0.044	NS
Lead, Total (1)	0.04	mg/l	<0.002	NS
Benzene	10	µg/l	<0.3	NS
Chloroethane	10	µg/l	<0.4	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.4	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.4	NS
1,2-Dichloroethene	10	µg/l	<0.4	NS
Methylene Chloride	10	µg/l	<0.8	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.3	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.4	NS
Vinyl Chloride	10	µg/l	<0.6	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

Figure 1  
VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)  
Mead Property Site



Client ID: MW-9B  
Site: Mead Property

Lab Sample No: 257316  
Lab Job No: I169

Date Sampled: 02/14/01  
Date Received: 02/15/01  
Date Analyzed: 02/23/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v26773.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 5.0

**VOLATILE ORGANICS - GC/MS  
METHOD 624**

<u>Parameter</u>	<u>Analytical Result Units: ug/l</u>	<u>Method Detection Limit Units: ug/l</u>
Vinyl Chloride	ND	3.2
Chloroethane	ND	2.2
Methylene Chloride	ND	4.2
1,1-Dichloroethene	73	2.0
1,1-Dichloroethane	130	1.8
trans-1,2-Dichloroethene	ND	2.2
cis-1,2-Dichloroethene	97	2.0
1,2-Dichloroethane	8.9	1.2
1,1,1-Trichloroethane	*	1.6
Trichloroethene	140	2.0
Benzene	ND	1.3
Tetrachloroethene	ND	1.6
Toluene	ND	1.5
Chlorobenzene	ND	1.2
1,2-Dichlorobenzene	ND	1.5

\* See Dilution

Client ID: MW-9BD1  
Site: Mead Property

Lab Sample No: 257316D1  
Lab Job No: I169

Date Sampled: 02/14/01  
Date Received: 02/15/01  
Date Analyzed: 02/18/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f20786.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1,1-Trichloroethane	1400	6.6

Client ID: MW-12B  
Site: Mead Property

Lab Sample No: 257317  
Lab Job No: I169

Date Sampled: 02/14/01  
Date Received: 02/15/01  
Date Analyzed: 02/23/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v26774.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	3.2
Chloroethane	ND	2.2
Methylene Chloride	ND	4.2
1,1-Dichloroethene	80	2.0
1,1-Dichloroethane	450	1.8
trans-1,2-Dichloroethene	5.8	2.2
cis-1,2-Dichloroethene	710	2.0
1,2-Dichloroethane	53	1.2
1,1,1-Trichloroethane	850	1.6
Trichloroethene	140	2.0
Benzene	ND	1.3
Tetrachloroethene	ND	1.6
Toluene	ND	1.5
Chlorobenzene	ND	1.2
1,2-Dichlorobenzene	ND	1.5

Client ID: MW-15B  
Site: Mead Property

Lab Sample No: 256930  
Lab Job No: I114

Date Sampled: 02/13/01  
Date Received: 02/14/01  
Date Analyzed: 02/16/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v26525.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	15	0.4
1,1-Dichloroethane	83	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	30	0.4
1,2-Dichloroethane	1.6	0.2
1,1,1-Trichloroethane	130	0.3
Trichloroethene	11	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

Client ID: Carbon-2  
 Site: Mead Property

Lab Sample No: 257819  
 Lab Job No: I238

Date Sampled: 02/09/01  
 Date Received: 02/16/01  
 Date Analyzed: 02/22/01  
 GC Column: DB624  
 Instrument ID: VOAMS7.i  
 Lab File ID: v26749.d

Matrix: WATER  
 Level: LOW  
 Purge Volume: 5.0 ml  
 Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
 METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	ND	0.4
1,1-Dichloroethane	ND	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	ND	0.4
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 257819  
Lab Job No: 1238

Date Sampled: 02/09/01  
Date Received: 02/16/01

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	43.8	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)



Site: Mead Property

Lab Job No: I238

Date Sampled: 2/9/01-2/15/01

Date Received: 2/16/01

Matrix: WATER

Date Analyzed: 2/19/01

QA Batch: 1785

TOTAL DISSOLVED SOLIDS

STL Edison Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
257809	MW-10B	1.0	202
257811	MW-17B	1.0	208
257819	Carbon-2	1.0	249

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: I238

Date Sampled: 2/9/01-2/15/01

Date Received: 2/16/01

Matrix: WATER

Date Analyzed: 2/19/01

QA Batch: 1611

TOTAL SUSPENDED SOLIDS

STL Edison

Sample #

257819

Client ID

Carbon-2

Dilution Analytical Result

Factor

1.0

Units: mg/l

ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: I606

Date Sampled: 2/28/01

Date Analyzed: 3/6/01

Date Received: 3/1/01

QA Batch: 1795

Matrix: WATER

TOTAL DISSOLVED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Factor</u>	<u>Analytical Result Units: mg/l</u>
260674	Carbon_2	1.0	237

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: I606

Date Sampled: 2/28/01  
Date Received: 3/1/01  
Matrix: WATER

Date Analyzed: 3/6/01  
QA Batch: 1613

TOTAL SUSPENDED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Factor</u>	<u>Analytical Result Units: mg/l</u>
260674	Carbon_2	1.0	ND

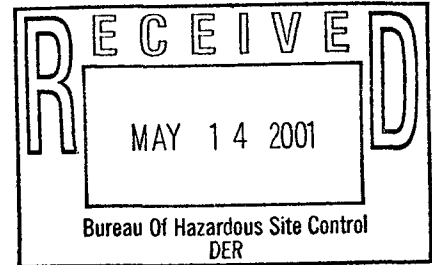
Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



May 7, 2001

Route 100  
Somers, NY 10589 0100

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 59  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report covers the work performed at the Mead Property Site (Site) from March 31 through April 30, 2001 in order to fulfill the obligations mandated by the Order, and the work anticipated during the month of May 2001. The format of this report follows the sequence presented in the Order with modifications to present appropriate operations and maintenance data.

A. Actions During the Previous Month

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the period of March 31 through April 30, 2001. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on April 1 and 25, 2001.
- During this period, the GWTS recovered approximately 44,375 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm, approximately 124,675 gallons of groundwater from well MW-15B at an average rate of 3.4 gpm, and 22,900 gallons of groundwater from well MW-9B at an average rate of 0.9 gpm. Since start up in February 1996, the GWTS has recovered approximately 2,854,610 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm; approximately 6,571,484 gallons of groundwater from well MW-15B at an

average rate of 3.4 gpm; and approximately 969,571 gallons of groundwater from well MW-9B at an average rate of 0.9 gpm. Approximately 103 pounds of VOCs have been recovered by the GWTS through March 13, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-12B, MW-15B, and MW-9B.

- URS collected groundwater samples on April 11 and 25, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 60. The treated groundwater analytical results for February 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 10,765,306 gallons of water at an average rate of 5,878 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on April 11 and 25, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for March 2001 are included as Table 4 and in Appendices A and B.

C. Actions Anticipated For March 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

Mr. Gerald Rider  
NYSDEC  
May 7, 2001  
Page -3-

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

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**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86



**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02

Notes: 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
2) Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78

**Notes:**

If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
 Only compounds detected above laboratory detection limits are used in this calculation.  
 \* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

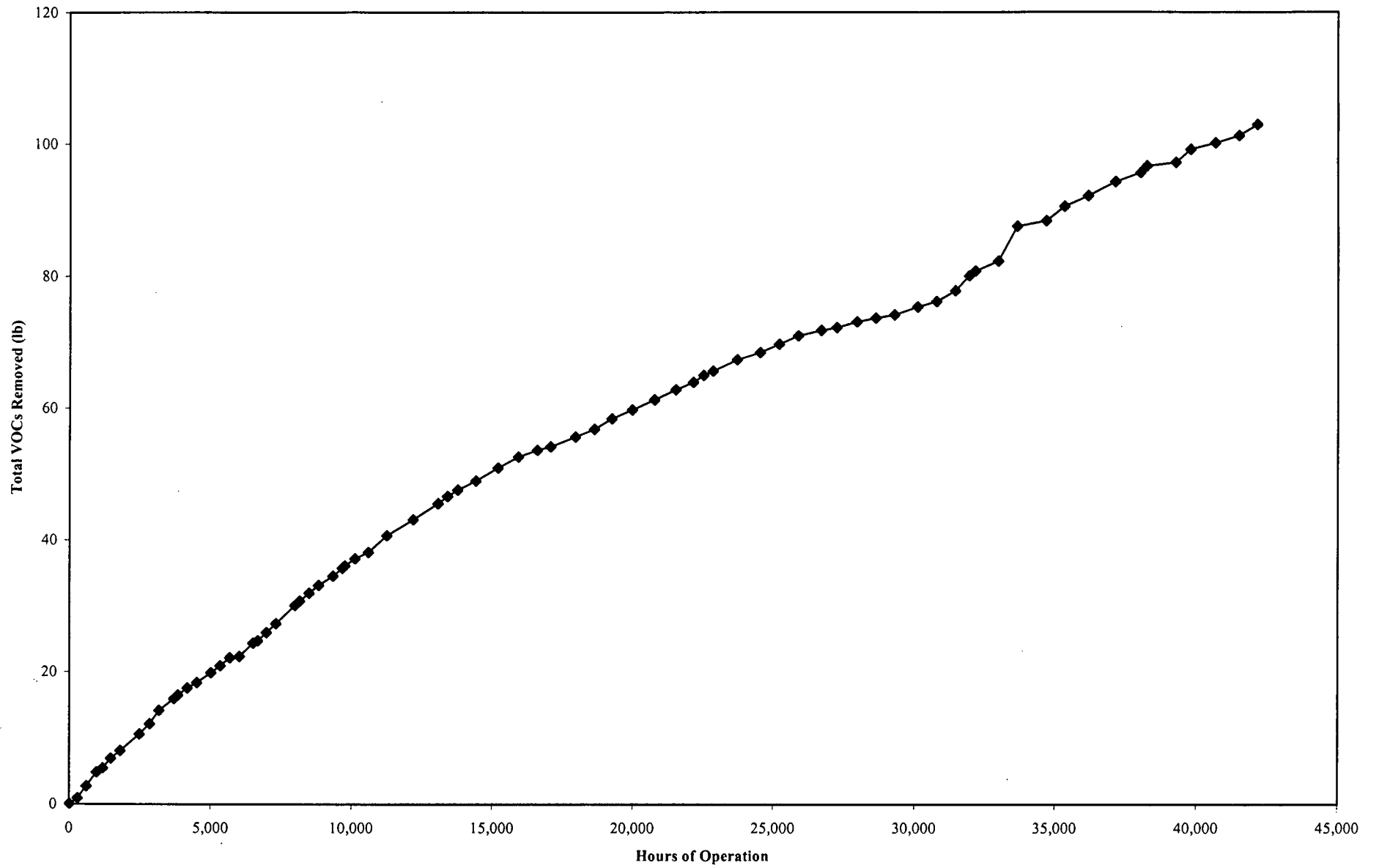
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	3/13/01	3/30/01
pH	6.0-9.0	SU	7.23	7.62
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	223	203
Aluminum, Total (1)	2.7	mg/l	<0.059	NS
Arsenic, Total (1)	0.15	mg/l	<0.004	NS
Iron, Total (1)	0.6	mg/l	<0.037	NS
Lead, Total (1)	0.04	mg/l	<0.002	NS
Benzene	10	µg/l	<0.3	NS
Chloroethane	10	µg/l	<0.4	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.4	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.4	NS
1,2-Dichloroethene	10	µg/l	<0.4	NS
Methylene Chloride	10	µg/l	<0.8	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.3	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.4	NS
Vinyl Chloride	10	µg/l	<0.6	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



# APPENDIX A

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 262631  
Lab Job No: 1956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/21/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21898.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/MS  
METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	ND	0.4
1,1-Dichloroethane	ND	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	ND	0.4
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 262631  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	58.6	P
Arsenic	ND	3.6	P
Iron	ND	37.1	P
Lead	ND	2.1	P

M Column - Method Code (See Section 2 of Report)



Site: Mead Property

Lab. Job No: 1956

Date Sampled: 3/13/01  
 Date Received: 3/14/01  
 Matrix: WATER

Date Analyzed: 3/16/01  
 QA Batch: 1796

TOTAL DISSOLVED SOLIDS

STL Edison Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
262631	Carbon-2	1.0	223

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: I956

Date Sampled: 3/13/01  
Date Received: 3/14/01  
Matrix: WATER

Date Analyzed: 3/17/01  
QA Batch: 1618

TOTAL SUSPENDED SOLIDS

STL Edison <u>Sample #</u>	<u>Client ID</u>	Dilution Analytical <u>Factor</u>	Result <u>Units: mg/l</u>
262631	Carbon-2	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Client ID: Carbon-1  
Site: Mead Property

Lab Sample No: 262632  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21805.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/MS  
METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	ND	0.4
1,1-Dichloroethane	19	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	ND	0.4
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	0.6	0.3
Trichloroethene	ND	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

Client ID: MW-15B  
 Site: Mead Property

Lab Sample No: 262633  
 Lab Job No: I956

Date Sampled: 03/13/01  
 Date Received: 03/14/01  
 Date Analyzed: 03/19/01  
 GC Column: DB624  
 Instrument ID: VOAMS6.i  
 Lab File ID: f21806.d

Matrix: WATER  
 Level: LOW  
 Purge Volume: 5.0 ml  
 Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
 METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	9.4	0.4
1,1-Dichloroethane	69	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	24	0.4
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	92	0.3
Trichloroethene	8.0	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

Client ID: MW-12B  
Site: Mead Property

Lab Sample No: 262634  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21807.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 5.0

**VOLATILE ORGANICS - GC/MS  
METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	3.2
Chloroethane	6.2	2.2
Methylene Chloride	ND	4.2
1,1-Dichloroethene	92	2.0
1,1-Dichloroethane	620	1.8
trans-1,2-Dichloroethene	ND	2.2
cis-1,2-Dichloroethene	*	2.0
1,2-Dichloroethane	79	1.2
1,1,1-Trichloroethane	*	1.6
Trichloroethene	190	2.0
Benzene	ND	1.3
Tetrachloroethene	ND	1.6
Toluene	ND	1.5
Chlorobenzene	ND	1.2
1,2-Dichlorobenzene	ND	1.5

\* See dilution

Client ID: MW-12BD1  
Site: Mead Property

Lab Sample No: 262634D1  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21820.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
cis-1,2-Dichloroethene	1000	3.9
1,1,1-Trichloroethane	860	3.3

Client ID: MW-9B  
Site: Mead Property

Lab Sample No: 262635  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21808.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.6
Chloroethane	ND	0.4
Methylene Chloride	ND	0.8
1,1-Dichloroethene	96	0.4
1,1-Dichloroethane	140	0.4
trans-1,2-Dichloroethene	ND	0.4
cis-1,2-Dichloroethene	110	0.4
1,2-Dichloroethane	9.4	0.2
1,1,1-Trichloroethane	*	0.3
Trichloroethene	170	0.4
Benzene	ND	0.3
Tetrachloroethene	ND	0.3
Toluene	ND	0.3
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.3

\* See dilution

Client ID: MW-9BD1  
Site: Mead Property

Lab Sample No: 262635D1  
Lab Job No: I956

Date Sampled: 03/13/01  
Date Received: 03/14/01  
Date Analyzed: 03/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f21821.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1,1-Trichloroethane	1200	6.6



# APPENDIX B

Site: IBM Mead

Lab Job No: J529

Date Sampled: 3/30/01

Date Received: 4/2/01

Matrix: WATER

Date Analyzed: 4/3/01

QA Batch: 1799

TOTAL DISSOLVED SOLIDS

STL Edison

Sample #  
266527

Client ID  
Carbon-2\_Eff

Dilution Analytical Result

Factor  
1.0

Units: mg/l  
203

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: J529

Date Sampled: 3/30/01

Date Received: 4/2/01

Matrix: WATER

Date Analyzed: 4/4/01

QA Batch: 1627

TOTAL SUSPENDED SOLIDS

STL Edison	Client ID	Dilution	Analytical Result
<u>Sample #</u>	<u>          </u>	<u>Factor</u>	<u>Units: mg/l</u>
266527	Carbon-2_Eff	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



*Moore*

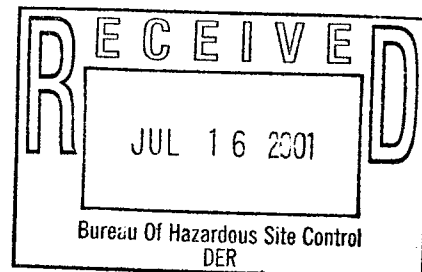
Route 100  
Somers, NY 10589

July 10, 2001

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
625 Broadway  
Albany, New York 12233-7251

Re: O&M Progress Report No. 61

SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019



Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from May 31 through June 25, 2001, and outlines the work anticipated during the month of July 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (May 31, 2001 through June 25, 2001)

SVE System Routine O&M

The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on June 7 and 25, 2001.
- During the reporting period, the GWTS recovered approximately 48,860 gallons of groundwater from well MW-12B at an average rate of 1.3 gpm, approximately 102,590 gallons of groundwater from well MW-15B at an average rate of 2.74 gpm, and 21,540 gallons of groundwater from well MW-9B at an average rate of 0.6 gpm. Since start up in February 1996, the GWTS has recovered approximately 2,961,445 gallons of groundwater

from well MW-12B at an average rate of 1.2 gpm; approximately 6,822,402 gallons of groundwater from well MW-15B at an average rate of 3.4 gpm; and approximately 1,019,371 gallons of groundwater from well MW-9B at an average rate of 0.83 gpm. Approximately 106 pounds of VOCs have been recovered by the GWTS through May 10, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on June 7 and 25, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 62. The treated groundwater analytical results for May 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 11,172,859 gallons of water at an average rate of 5,994 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on June 7 and 25, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for May 2001 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For July 2001 SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

- The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio – NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE		1,1 DCA		1,2 DCA		1,2 DCE		TCA		TCE		
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65

Notes: 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
2) Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.



**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

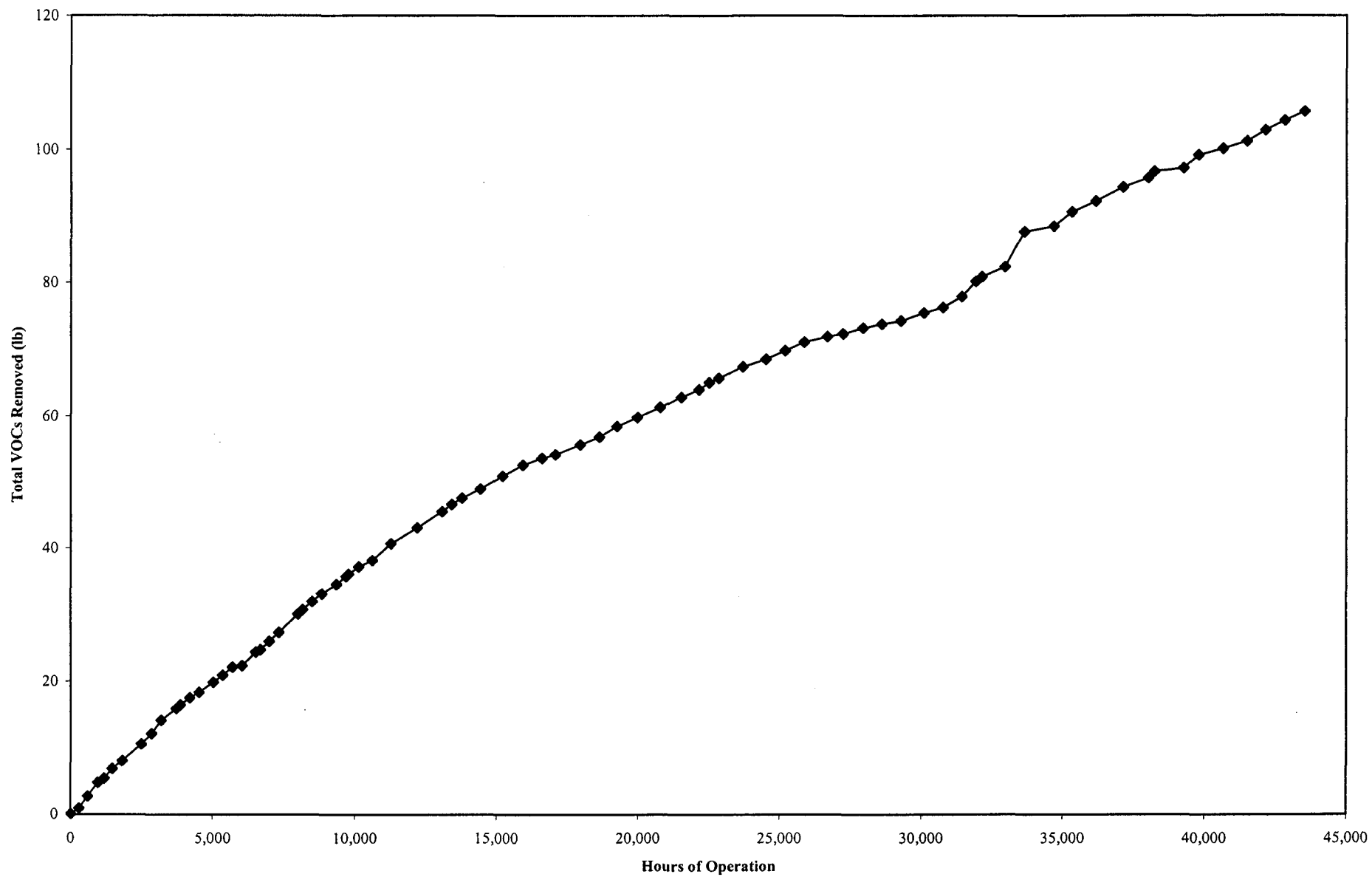
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	5/10/01	5/30/01
pH	6.0-9.0	SU	7.61	7.01
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	255	219
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	<0.002	NS
Benzene	10	µg/l	<0.3	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	0.6	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 274355  
Lab Job No: K727

Date Sampled: 05/10/01  
Date Received: 05/11/01  
Date Analyzed: 05/19/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v30098.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/MS  
METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	0.6	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	0.3	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon-2  
 Site: Mead Property

Lab Sample No: 274355  
 Lab Job No: K727

Date Sampled: 05/10/01  
 Date Received: 05/11/01

Matrix: WATER  
 Level: LOW

**METALS ANALYSIS**

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	ND	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)

Site: Mead Property

Lab Job No: K727

Date Sampled: 5/10/01  
Date Received: 5/11/01  
Matrix: WATER

Date Analyzed: 5/14/01  
QA Batch: 1816

TOTAL DISSOLVED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Result Factor</u>	<u>Units: mg/l</u>
274355	Carbon-2	1.0	255

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: K727

Date Sampled: 5/10/01  
Date Received: 5/11/01  
Matrix: WATER

Date Analyzed: 5/15/01  
QA Batch: 1641

TOTAL SUSPENDED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Factor</u>	<u>Result Units: mg/l</u>
274355	Carbon-2	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



## Analytical Results Summary

Site: IBM Mead

Lab Job No: L277

Date Received: 05/31/2001

Date Analyzed: 06/01/2001

Matrix: WATER

QA Batch: 1824

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Dilution</u> <u>Factor</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
278307	Carbon_Effluent	05/30/2001	1.0	219
278308	Carbon_Influent	05/30/2001	1.0	221

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: L277

Date Received: 05/31/2001

Date Analyzed: 06/04/2001

Matrix: WATER

QA Batch: 1649

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Dilution</u> <u>Factor</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
278307	Carbon_Effluent	05/30/2001	1.0	ND
278308	Carbon_Influent	05/30/2001	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



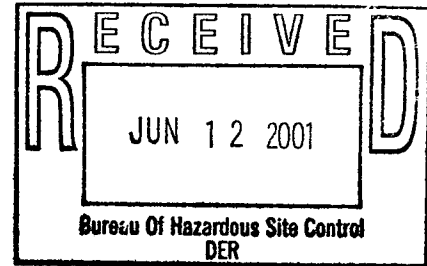
*George*

Route 100  
Somers, NY 10589 0100

June 1, 2001

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 60  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019



Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from April 26 through May 30, 2001, and outlines the work anticipated during the month of June 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (April 26, 2001 through May 30, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on May 10 and 30, 2001.
- During the reporting period, the GWTS recovered approximately 57,975 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm, approximately 148,328 gallons of groundwater from well MW-15B at an average rate of 2.94 gpm, and 28,260 gallons of groundwater from well MW-9B at an average rate of 0.84 gpm. Since start up in February 1996, the GWTS has recovered approximately 2,912,585 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm; approximately 6,719,812 gallons of groundwater from well

MW-15B at an average rate of 3.4 gpm; and approximately 997,831 gallons of groundwater from well MW-9B at an average rate of 0.84 gpm. Approximately 104 pounds of VOCs have been recovered by the GWTS through April 11, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on May 10 and 30, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 61. The treated groundwater analytical results for April 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 10,999,869 gallons of water at an average rate of 5,980 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on May 10 and 30, 2001.
- The flow meter/totalizer for recovery well MW-15B was replaced on May 10, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for April 2001 are included as Table 4 and in Appendices A and B.

C. Actions Anticipated For June 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

Mr. Gerald Rider  
NYSDEC  
June 1, 2001  
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F. Citizen Participation

Citizen participation activities during the reporting period included:

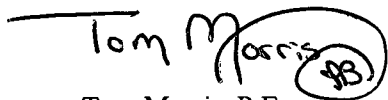
- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

Page 1  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

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**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
- \* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.



VOC Mass Removal from Groundwater (MW-15B)  
Mead Property Site

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99

Notes:

If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
 Only compounds detected above laboratory detection limits are used in this calculation.  
 \* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

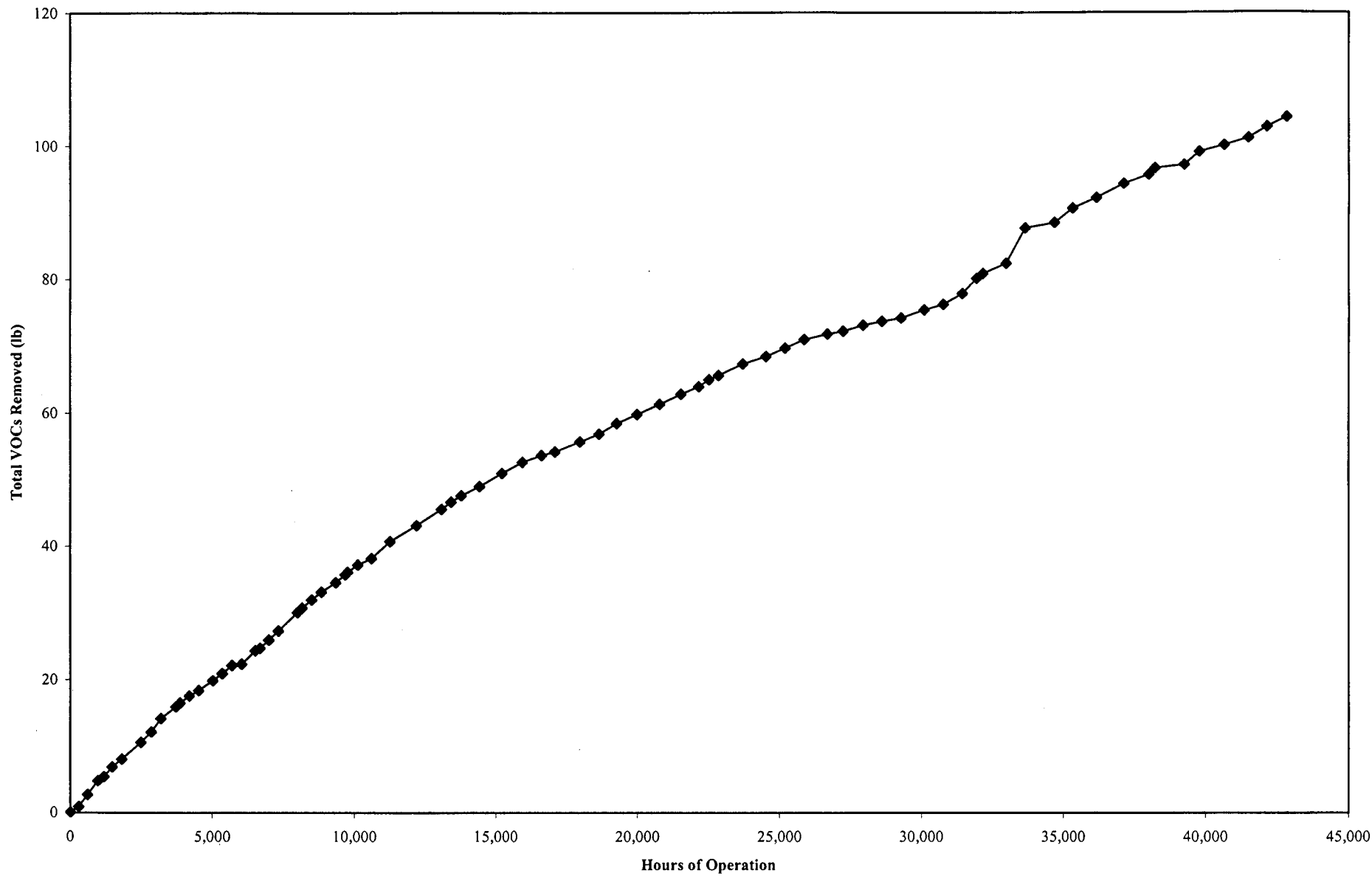
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	4/11/01	4/25/01
pH	6.0-9.0	SU	7.61	7.61
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	233	188
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	<0.002	NS
Benzene	10	µg/l	<0.3	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



APPENDIX A

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 268504  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/17/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f22858.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 268504  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	ND	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)

Site: Mead Property

Lab Job No: J854

Date Sampled: 4/11/01  
Date Received: 4/12/01  
Matrix: WATER

Date Analyzed: 4/14/01  
QA Batch: 1805

TOTAL DISSOLVED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Result Factor</u>	<u>Units: mg/l</u>
268504	Carbon-2	1.0	233

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



Site: Mead Property

Lab Job No: J854

Date Sampled: 4/11/01  
Date Received: 4/12/01  
Matrix: WATER

Date Analyzed: 4/14/01  
QA Batch: 1631

TOTAL SUSPENDED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Factor</u>	<u>Result Units: mg/l</u>
268504	Carbon-2	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Client ID: Carbon-1  
Site: Mead Property

Lab Sample No: 268505  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/17/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f22859.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	34	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	2.3	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: MW-9B  
Site: Mead Property

Lab Sample No: 268506  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/20/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f23015.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	1.2
Chloroethane	ND	1.4
Methylene Chloride	ND	5.1
1,1-Dichloroethene	43	1.2
1,1-Dichloroethane	110	0.8
trans-1,2-Dichloroethene	ND	1.0
cis-1,2-Dichloroethene	93	0.9
1,2-Dichloroethane	8.9	1.0
1,1,1-Trichloroethane	*	1.3
Trichloroethene	130	1.6
Benzene	ND	1.0
Tetrachloroethene	ND	1.4
Toluene	ND	0.9
Chlorobenzene	ND	0.8
1,2-Dichlorobenzene	ND	0.6

\*See dilution

Client ID: MW-9B  
Site: Mead Property

Lab Sample No: 268506D1  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/17/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f22872.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1,1-Trichloroethane	1300	5.2

Client ID: MW-12B  
Site: Mead Property

Lab Sample No: 268507  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/20/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f23016.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	1.2
Chloroethane	ND	1.4
Methylene Chloride	ND	5.1
1,1-Dichloroethene	58	1.2
1,1-Dichloroethane	430	0.8
trans-1,2-Dichloroethene	1.2	1.0
cis-1,2-Dichloroethene	700	0.9
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	760	1.3
Trichloroethene	120	1.6
Benzene	ND	1.0
Tetrachloroethene	ND	1.4
Toluene	ND	0.9
Chlorobenzene	ND	0.8
1,2-Dichlorobenzene	ND	0.6

Client ID: MW-15B  
Site: Mead Property

Lab Sample No: 268508  
Lab Job No: J854

Date Sampled: 04/11/01  
Date Received: 04/12/01  
Date Analyzed: 04/17/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f22860.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	7.4	0.2
1,1-Dichloroethane	63	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	18	0.2
1,2-Dichloroethane	1.1	0.2
1,1,1-Trichloroethane	83	0.3
Trichloroethene	5.0	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

APPENDIX B

Site: Mead Property

Lab Job No: K280

Date Sampled: 4/25/01  
Date Received: 4/27/01  
Matrix: WATER

Date Analyzed: 5/1/01  
QA Batch: 1812

TOTAL DISSOLVED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Result Factor</u>	<u>Units: mg/l</u>
271233	CARBON_2	1.0	188

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



Site: Mead Property

Lab Job No: K280

Date Sampled: 4/25/01  
Date Received: 4/27/01  
Matrix: WATER

Date Analyzed: 5/1/01  
QA Batch: 1637

TOTAL SUSPENDED SOLIDS

<u>STL Edison Sample #</u>	<u>Client ID</u>	<u>Dilution Analytical Factor</u>	<u>Result Units: mg/l</u>
271233	CARBON_2	1.0	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

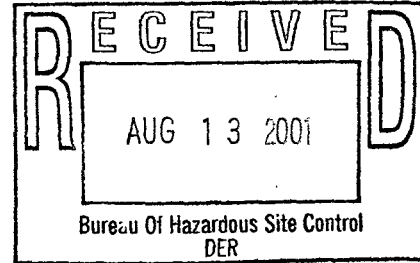


*George*

August 7, 2001

Route 100  
Somers, NY 10589

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 62  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from June 26 through July 27, 2001, and outlines the work anticipated during the month of August 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (June 26, 2001 through July 27, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B and MW-15B operated 100% of the time. MW-12B did not operate for a time between June 26 and July 10, 2001 due to a tripped circuit breaker. It is not known when the circuit breaker tripped.
- URS performed site visits on July 10, 26, and 27, 2001.
- During the reporting period, the GWTS recovered approximately 34,451 gallons of groundwater from well MW-12B at an average rate of 0.77 gpm, approximately 133,441 gallons of groundwater from well MW-15B at an average rate of 2.99 gpm, and 17,975 gallons of groundwater from well MW-9B at an average rate of 0.40 gpm. Since start up in February 1996, the GWTS has recovered approximately 2,995,896 gallons of groundwater from well MW-12B

at an average rate of 1.2 gpm; approximately 6,955,843 gallons of groundwater from well MW-15B at an average rate of 3.34 gpm; and approximately 1,037,346 gallons of groundwater from well MW-9B at an average rate of 0.81 gpm. Approximately 108 pounds of VOCs have been recovered by the GWTS through June 7, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on July 10 and 27, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 63. The treated groundwater analytical results for June 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 11,364,981 gallons of water at an average rate of 5,692 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on July 10 and 27, 2001.
- The granular activated carbon in the primary unit was changed out on July 27, 2001. Flow was switched so that the former secondary unit is now the primary unit, and the fresh carbon now serves as the secondary unit.

B. Deliverables

- Treated groundwater quality monitoring results for June 2001 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For August 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

Mr. Gerald Rider  
NYSDEC  
August 7, 2001  
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E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

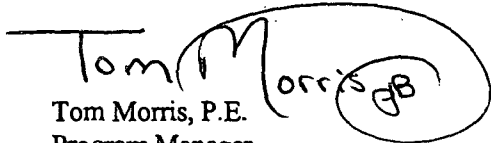
- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in black ink that reads "Tom Morris" with a circled "JB" to the right of the name.

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

## TABLES

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Meach Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64

Notes: 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
2) Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17

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**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
 Only compounds detected above laboratory detection limits are used in this calculation.  
 \* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

Table 3  
VOC Mass Removal from Groundwater (MW-9B)  
Mead Property Site

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,636	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	6/7/01	6/25/01
pH	6.0-9.0	SU	7.62	7.83
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	241	257
Aluminum, Total (1)	2.7	mg/l	0.107	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	0.003	NS
Benzene	10	µg/l	<0.3	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	0.6	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

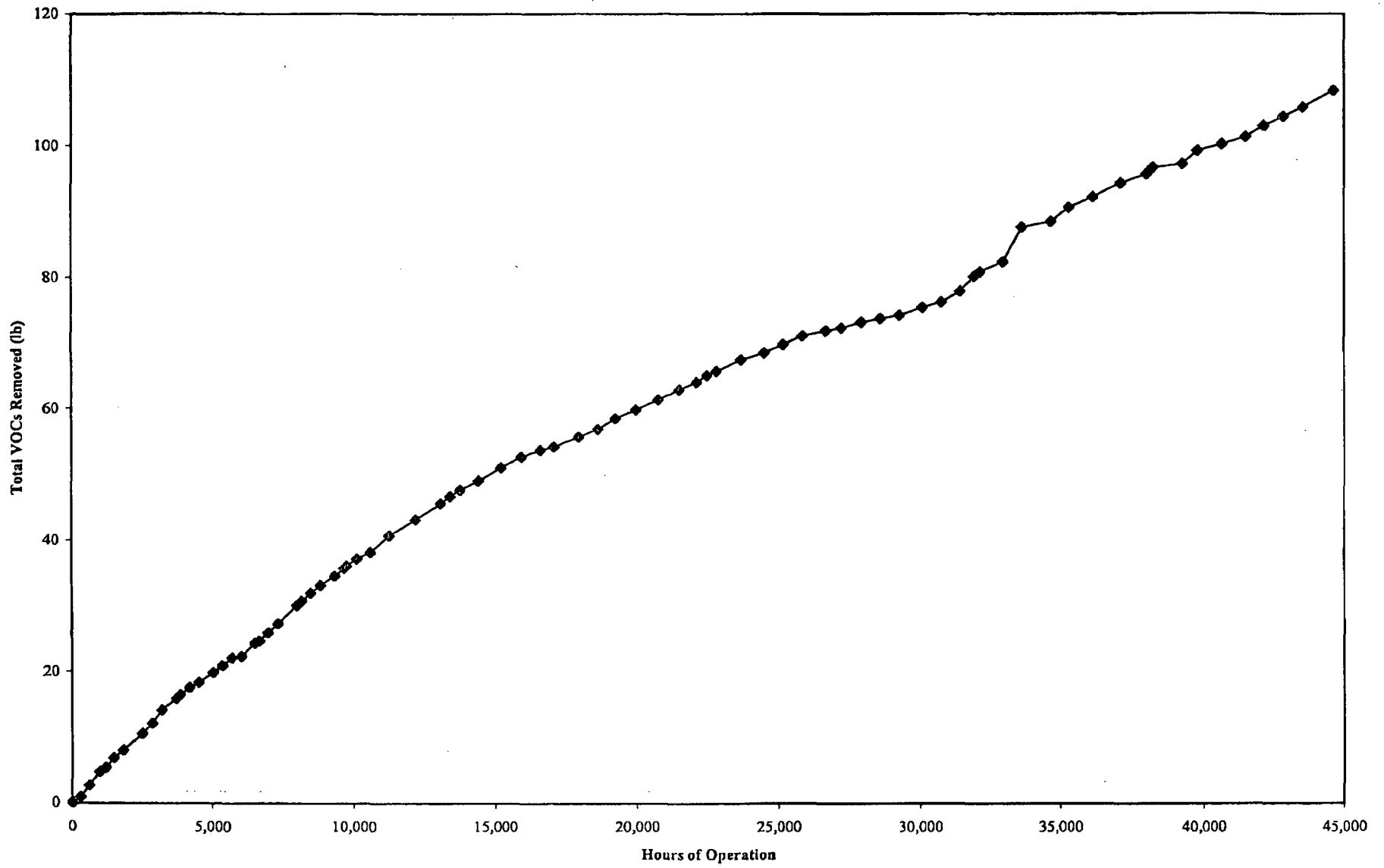
(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

## FIGURES

Figure 1  
VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)  
Mead Property Site



## APPENDIX A

SEVERN

TRENT

SERVICES

Site: Mead Property

Lab Job No: M106

Date Received: 06/26/2001

Date Analyzed: 06/28/2001

Matrix: WATER

QA Batch: 1828

## Total Dissolved Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Resul</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/</u>
284344	Carbon_2_Eff	06/25/2001	257

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

STL Edison is a part of Severn Trent Laboratories, Inc.

M106

SEVERN

TRENT

SERVICES

Site: Mead Property

Lab Job No: M106

Date Received: 06/26/2001

Date Analyzed: 06/28/2001

Matrix: WATER

QA Batch: 1659

## Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
284344	Carbon_2_Eff	06/25/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



## APPENDIX B

SEVERN

TRENT

SERVICES

Client ID: Carbon-2  
 Site: Mead Property

Lab Sample No: 280626  
 Lab Job No: L591

Date Sampled: 06/07/01  
 Date Received: 06/08/01  
 Date Analyzed: 06/14/01  
 GC Column: DB624  
 Instrument ID: VOAMS6.i  
 Lab File ID: f25232.d

Matrix: WATER  
 Level: LOW  
 Purge Volume: 5.0 ml  
 Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
 METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

SEVERN

TRENT

SERVICES

Client ID: Carbon-2  
 Site: Mead Property

Lab Sample No: 280626  
 Lab Job No: L591

Date Sampled: 06/07/01  
 Date Received: 06/08/01

Matrix: WATER  
 Level: LOW

## METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	107	77.4	P
Arsenic	ND	3.4	P
Iron	ND	39.7	P
Lead	2.6	2.2	P

M Column - Method Code (See Section 2 of Report)

SEVERN  
TRENT  
SERVICES

Site: Mead Property

Lab Job No: L591

Date Received: 06/08/2001

Date Analyzed: 06/11/2001

Matrix: WATER

QA Batch: 1826

## Total Dissolved Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Factor</u>	<u>Units: mg/l</u>
280626	Carbon-2	06/07/2001	1.0	241

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



Site: Mead Property

Lab Job No: L591

Date Received: 06/08/2001

Date Analyzed: 06/11/2001

Matrix: WATER

QA Batch: 1651

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Dilution</u> <u>Factor</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
280626	Carbon-2	06/07/2001	1.0	ND

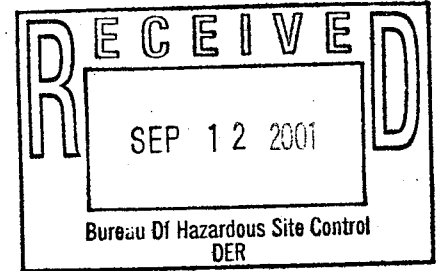
Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



September 6, 2001

Route 100  
Somers, NY 10589

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 63  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from July 28 through August 30, 2001, and outlines the work anticipated during the month of September 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (July 28, 2001 through August 30, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on August 8 and 30, 2001.
- During the reporting period, the GWTS recovered approximately 41,808 gallons of groundwater from well MW-12B at an average rate of 0.83 gpm, approximately 136,495 gallons of groundwater from well MW-15B at an average rate of 2.71 gpm, and approximately 7,765 gallons of groundwater from well MW-9B at an average rate of 0.15 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,037,704 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm; approximately 7,092,338 gallons of groundwater

from well MW-15B at an average rate of 3.48 gpm; and approximately 1,045,111 gallons of groundwater from well MW-9B at an average rate of 0.86 gpm. Approximately 109 pounds of VOCs have been recovered by the GWTS through July 10, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on August 8 and 30, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 64. The treated groundwater analytical results for July 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 11,573,385 gallons of water at an average rate of 5,984 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on August 8 and 30, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for July 2001 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For September 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

Mr. Gerald Rider  
NYSDEC  
September 6, 2001  
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F. Citizen Participation

Citizen participation activities during the reporting period included:

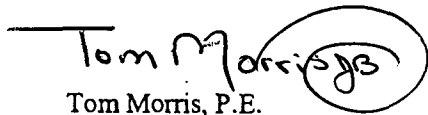
- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

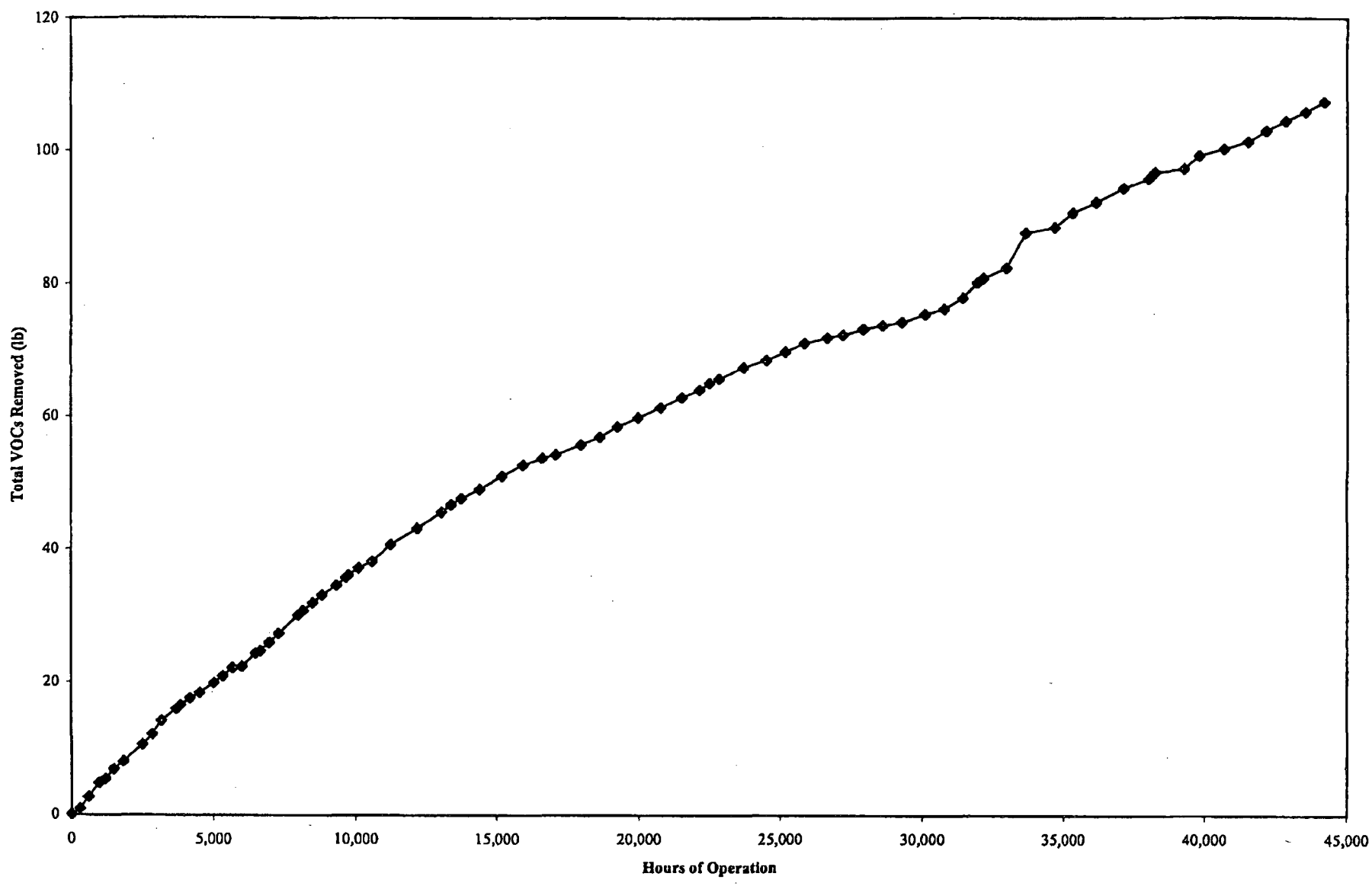
A handwritten signature in black ink that reads "Tom Morris" with a stylized flourish at the end.

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services



**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1-DCE	1,1-DCA	1,2-DCA	1,2-DCE	TCA	TCE	1,1-DCE	1,1-DCA	1,2-DCA	1,2-DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

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**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81

Notes: 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
2) Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17

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**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
 Only compounds detected above laboratory detection limits are used in this calculation.  
 \* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

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Table 3  
 VOC Mass Removal from Groundwater (MW-9B)  
 Mead Property Site

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
 Only compounds detected above laboratory detection limits are used in this calculation.  
 \* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	7/10/2001	7/26/01
pH	6.0-9.0	SU	7.6	7.48
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	236	243
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	0.5	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

APPENDIX A



SEVERN

TRENT

SERVICES

Client ID: CARBON-2  
Site: IBM Mead

Lab Sample No: 287831  
Lab Job No: M628

Date Sampled: 07/10/01  
Date Received: 07/12/01  
Date Analyzed: 07/17/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f26490.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	0.5	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	0.3	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

STL Edison is a part of Severn Trent Laboratories, Inc.

M528

2



Client ID: CARBON-2  
Site: IBM Mead

Lab Sample No: 287831  
Lab Job No: M628

Date Sampled: 07/10/01  
Date Received: 07/12/01

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	ND	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)



Site: IBM Mead

Lab Job No: M628

Date Received: 07/12/2001

Date Analyzed: 07/16/2001

Matrix: WATER

QA Batch: 1834

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
287831	CARBON-2	07/10/2001	236

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

SEVERN  
TRENT  
SERVICES

Site: IBM Mead

Lab Job No: M628

Date Received: 07/12/2001

Date Analyzed: 07/16/2001

Matrix: WATER

QA Batch: 1664

## Total Suspended Solids

<u>STL Edison</u> <u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>	<u>Date</u>	<u>Units: mg/l</u>
287831 CARBON-2	07/10/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

APPENDIX B

Site: Mead Property

Lab Job No: N183

Date Received: 07/30/2001

Date Analyzed: 08/01/2001

Matrix: WATER

QA Batch: 1839

## Total Dissolved Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
291453	Carbon_2	07/27/2001	243

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: N183

Date Received: 07/30/2001

Date Analyzed: 08/02/2001

Matrix: WATER

QA Batch: 1669

## Total Suspended Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
291453	Carbon_2	07/27/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

N183

3

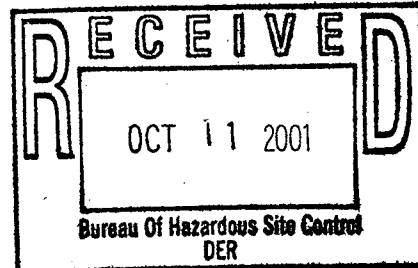


Route 100  
Somers, NY 10589

George  
FYA  
10/11/01

October 8, 2001

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 64  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from August 31 through September 26, 2001, and outlines the work anticipated during the month of October 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (August 31, 2001 through September 26, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on September 13 and 26, 2001.
- During the reporting period, the GWTS recovered approximately 24,946 gallons of groundwater from well MW-12B at an average rate of 0.64 gpm, approximately 108,739 gallons of groundwater from well MW-15B at an average rate of 2.80 gpm, and approximately 5,913 gallons of groundwater from well MW-9B at an average rate of 0.15 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,062,650 gallons of groundwater from well MW-12B at an average rate of 1.2 gpm; approximately 7,201,077 gallons of groundwater



from well MW-15B at an average rate of 3.47 gpm; and approximately 1,051,024 gallons of groundwater from well MW-9B at an average rate of 0.84 gpm. Approximately 111 pounds of VOCs have been recovered by the GWTS through August 8, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on September 13 and 26, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 65. The treated groundwater analytical results for August 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 11,728,577 gallons of water at an average rate of 5,981 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on September 13 and 26, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for August 2001 are summarized in Table 4 and included as Appendices A and B.
- During the next reporting period, URS will review historic information and submit to NYSDEC an evaluation of pumping rates currently used at the three recovery wells for the GWTS.

C. Actions Anticipated For October 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

Mr. Gerald Rider  
NYSDEC  
October 8, 2001  
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E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

- cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE		1,1 DCA		1,2 DCA		1,2 DCE		TCA		TCE		
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98*	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66

Notes: 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
2) Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97*	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-15B was not collected in November. Concentrations from October were assumed for calculation purposes.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99*	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,154,147	53	140	8.4	133.2	1400	140	0.6490	0.7665	0.0410	0.5178	10.3086	0.9531	13.236

Notes: If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.  
Only compounds detected above laboratory detection limits are used in this calculation.  
\* A groundwater sample from well MW-9B was not collected in January. Concentrations from December were assumed for calculation purposes.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	8/8/01	8/30/01
pH	6.0-9.0	SU	6.89	7.21
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	222	226
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

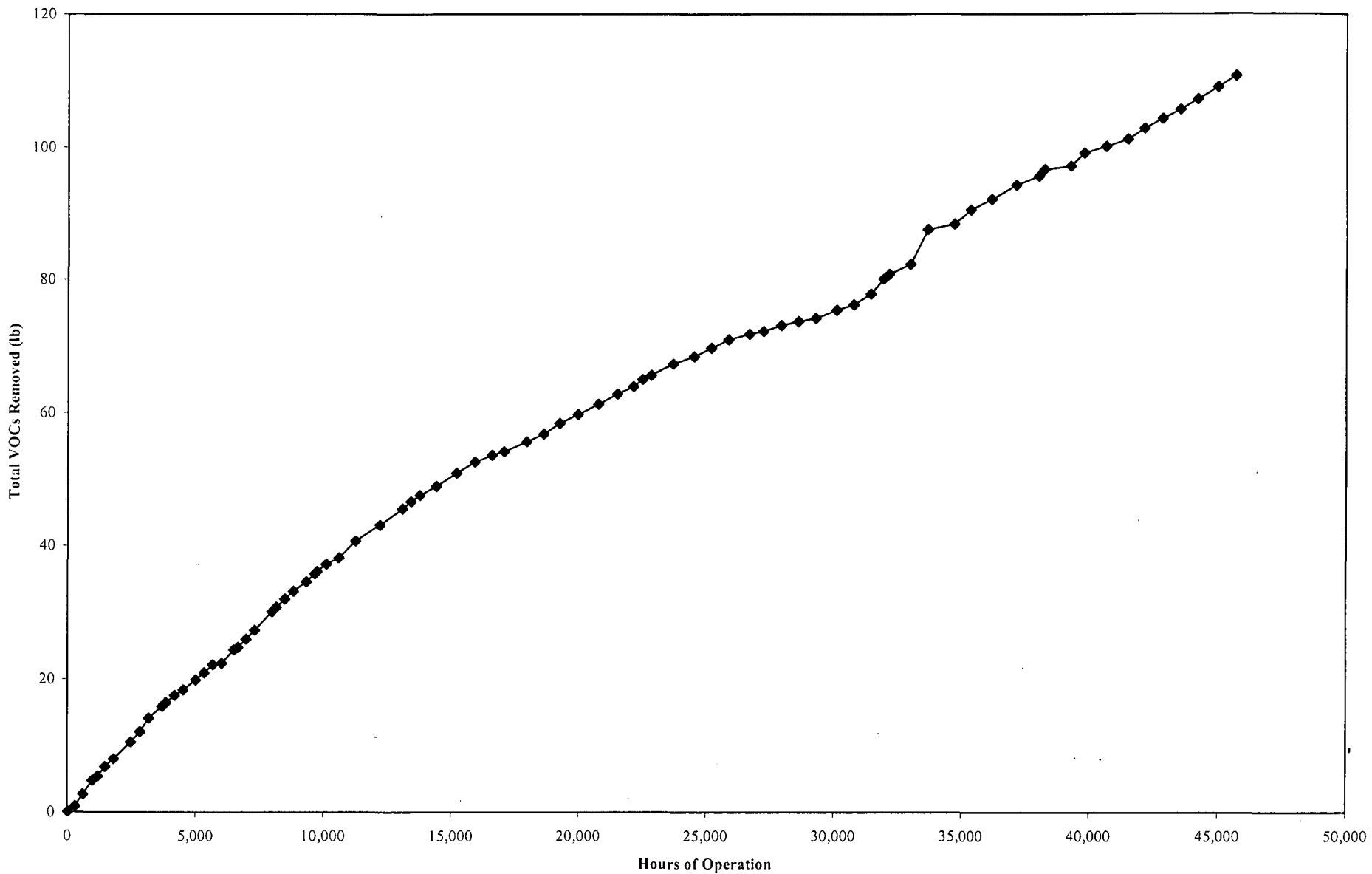
(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.



**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



## APPENDIX A

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 293986  
Lab Job No: N652

Date Sampled: 08/09/01  
Date Received: 08/10/01  
Date Analyzed: 08/18/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f27649.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Site: Mead Property

Lab Job No: N652

Date Received: 08/10/2001

Date Analyzed: 08/13/2001

Matrix: WATER

QA Batch: 1673

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
293986	Carbon-2	08/09/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: N652

Date Received: 08/10/2001  
Matrix: WATER

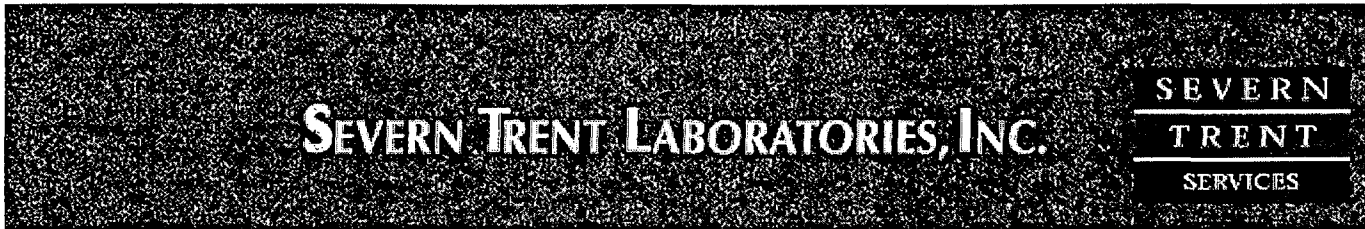
Date Analyzed: 08/16/2001  
QA Batch: 1843

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
293986	Carbon-2	08/09/2001	222

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

## APPENDIX B



[Quality Experience Capabilities Dedication Service](#)

[Locations and Contacts Career Opportunities](#)

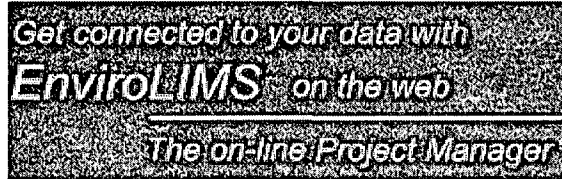
[EnviroLIMS](#)

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[Trade Shows](#)



## Data Results Page...

The following is your test results.

Job	Sample No	Client ID	Sample Date	Fraction	Parameter	Result	Qual	MDL	Units	Dilution
0323	297968	Carbon-2	2001-08-30	WET CHEM	Total Dissolved Sollds	226		10.0	mg/l	1.0
0323	297968	Carbon-2	2001-08-30	WET CHEM	Total Suspended Sollds		U	10.0	mg/l	1.0

**STL Edison**

777 New Durham Road  
Edison, New Jersey, 08817

Phone: 732-549-3900

Fax: 732-549-3679



Route 100  
Somers, NY 10589 0100

November 9, 2001

Mr. Gerald Rider, Chief  
New York State Department of Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, NY 2233-7010

Re: O&M Progress Report No. 65  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 35601921

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from September 27 through October 23, 2001, and outlines the work anticipated during the month of November 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (September 27, 2001 through October 23, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on October 11 and 23, 2001.
- During the reporting period, the GWTS recovered approximately 14,085 gallons of groundwater from well MW-12B at an average rate of 0.36 gpm, approximately 103,954



gallons of groundwater from well MW-15B at an average rate of 2.67 gpm, and approximately 6,788 gallons of groundwater from well MW-9B at an average rate of 0.17 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,076,735 gallons of groundwater from well MW-12B at an average rate of 1.13 gpm; approximately 7,305,031 gallons of groundwater from well MW-15B at an average rate of 3.46 gpm; and approximately 1,057,812 gallons of groundwater from well MW-9B at an average rate of 0.82 gpm. Approximately 112 pounds of VOCs have been recovered by the GWTS through September 13, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on October 11 and 23, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 66. The treated groundwater analytical results for September 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 11,874,366 gallons of water at an average rate of 5,962 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on October 11, 2001.

#### B. Deliverables

- Treated groundwater quality monitoring results for September 2001 are summarized in Table 4 and included as Appendices A and B.
- Under separate cover, URS provided a review historic information and submitted to NYSDEC an evaluation of pumping rates currently used at the three recovery wells for the GWTS.

#### C. Actions Anticipated For November 2001 SVE System

- None.

#### Groundwater Treatment System

- Routine O&M activities.
- Evaluate the reduced recovery rates recently observed in wells MW-9B and MW-12B.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.

Program Manager

Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66
9/13/01	On	46,554	3,082,490	56	340	0	400	980	76	1.829	13.712	1.229	20.864	39.594	3.357	80.58

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.
  - 4) Due to miscommunication with the laboratory, the groundwater sample collected on September 13, 2001 was not analyzed for 1,1-DCE. The concentration detected in the August 8, 2001 sample was used in the calculation.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86
9/13/01	On	36,024	7,066,912	11	57	0	20	98	6.6	0.768	3.979	0.093	2.254	9.543	1.458	18.09

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-15B was not collected in November 1997. Concentrations from October 1997 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, the groundwater sample collected on September 13, 2001 was not analyzed for 1,1-DCE. The concentration detected in the August 8, 2001 sample was used in the calculation.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,124,915	53	140	8.4	133.2	1400	140	0.6360	0.7323	0.0390	0.4854	9.9673	0.9190	12.779
9/13/01	On	22,381	1,132,691	53	94	0	86	970	99	0.6395	0.7384	0.0390	0.4909	10.0302	0.9254	12.863

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-9B was not collected in January 2000. Concentrations from December 1999 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, the groundwater sample collected on September 13, 2001 was not analyzed for 1,1-DCE. The concentration detected in the August 8, 2001 sample was used in the calculation.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	9/13/01	9/26/01
pH	6.0-9.0	SU	7.3	7.48
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	219	248
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	0.002	NS
Benzene	10	µg/l	NA	NS
Chloroethane	10	µg/l	NA	NS
Chlorobenzene	10	µg/l	NA	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	NA	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	NA	NS
Tetrachloroethene	2	µg/l	NA	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	NA	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

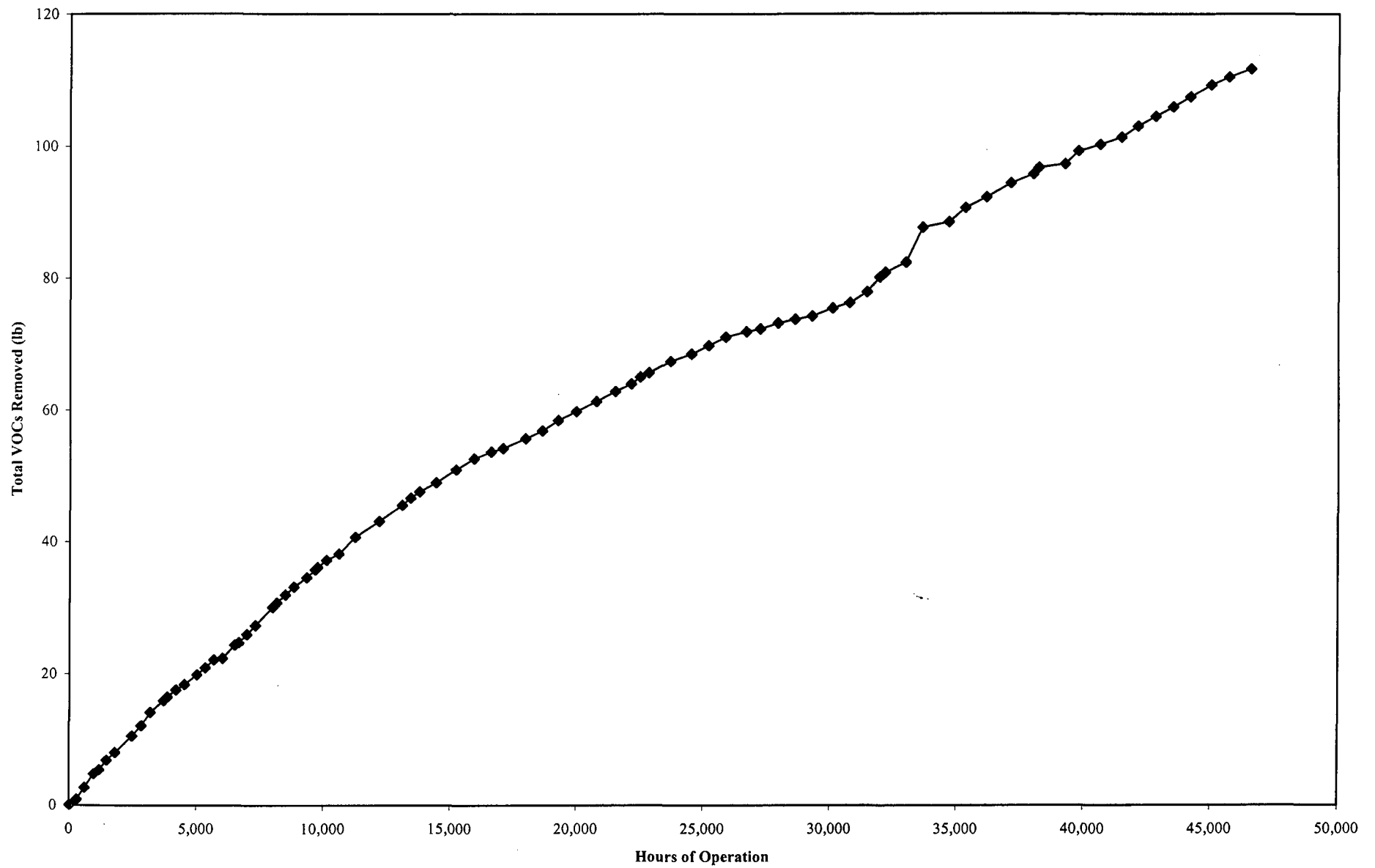
(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

NA - not analyzed for this constituent due to miscommunication with the analytical laboratory.



**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



Client ID: MW-9B  
Site: IBM Mead

Lab Sample No: 300756  
Lab Job No: 0784

Date Sampled: 09/13/01  
Date Received: 09/14/01  
Date Analyzed: 09/24/01  
GC Column: DB624  
Instrument ID: VOAMS8.i  
Lab File ID: j21783.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1-Dichloroethane	94	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	86	1.8
1,2-Dichloroethane	ND	2.1
1,1,1-Trichloroethane	970	2.6
Trichloroethene	99	3.1
Toluene	ND	1.8
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW-12B  
Site: IBM Mead

Lab Sample No: 300754  
Lab Job No: 0784

Date Sampled: 09/13/01  
Date Received: 09/14/01  
Date Analyzed: 09/24/01  
GC Column: DB624  
Instrument ID: VOAMS8.i  
Lab File ID: j21781.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1-Dichloroethane	340	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	400	1.8
1,2-Dichloroethane	ND	2.1
1,1,1-Trichloroethane	980	2.6
Trichloroethene	76	3.1
Toluene	ND	1.8
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW-15B  
Site: IBM Mead

Lab Sample No: 300755  
Lab Job No: 0784

Date Sampled: 09/13/01  
Date Received: 09/14/01  
Date Analyzed: 09/24/01  
GC Column: DB624  
Instrument ID: VOAMS8.i  
Lab File ID: j21782.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1-Dichloroethane	57	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	20	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	98	0.3
Trichloroethene	6.6	0.3
Toluene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon\_1  
Site: IBM Mead

Lab Sample No: 300753  
Lab Job No: 0784

Date Sampled: 09/13/01  
Date Received: 09/14/01  
Date Analyzed: 09/24/01  
GC Column: DB624  
Instrument ID: VOAMS8.i  
Lab File ID: j21780.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Toluene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon\_2  
 Site: IBM Mead

Lab Sample No: 300752  
 Lab Job No: 0784

Date Sampled: 09/13/01  
 Date Received: 09/14/01  
 Date Analyzed: 09/24/01  
 GC Column: DB624  
 Instrument ID: VOAMS8.i  
 Lab File ID: j21779.d

Matrix: WATER  
 Level: LOW  
 Purge Volume: 5.0 ml  
 Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
 METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	-ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Toluene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon 2  
 Site: IBM Mead

Lab Sample No: 300752  
 Lab Job No: 0784

Date Sampled: 09/13/01  
 Date Received: 09/14/01

Matrix: WATER  
 Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	ND	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)

Site: IBM Mead

Lab Job No: 0784

Date Received: 09/14/2001

Date Analyzed: 09/19/2001

Matrix: WATER

QA Batch: 1854

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
300752	Carbon_2	09/13/2001	219

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



Site: IBM Mead

Lab Job No: 0784

Date Received: 09/14/2001

Date Analyzed: 09/18/2001

Matrix: WATER

QA Batch: 1683

Total Suspended Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
300752	Carbon_2	09/13/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: P215

Date Received: 09/27/2001

Date Analyzed: 10/01/2001

Matrix: WATER

QA Batch: 1860

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
303497	Carbon_2	09/26/2001	248

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: P215

Date Received: 09/27/2001

Date Analyzed: 09/29/2001

Matrix: WATER

QA Batch: 1687

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
303497	Carbon_2	09/26/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

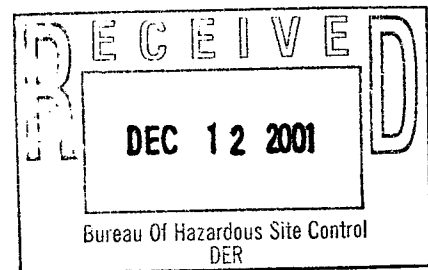


Gerry  
FNA  
12/20

Route 100  
Somers, NY 10589 0100

December 10, 2001

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 66  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 03-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from October 24 through November 28, 2001, and outlines the work anticipated during the month of December 2001. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (October 24, 2001 through November 28, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW15B operated 100% of the time.
- URS performed site visits on November 6 and 28, 2001.
- During the reporting period, the GWTS recovered approximately 7,897 gallons of groundwater from well MW-12B at an average rate of 0.15 gpm, approximately 134,974 gallons of groundwater from well MW-15B at an average rate of 2.60 gpm, and approximately 5,602 gallons of groundwater from well MW-9B at an average rate of 0.11 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,084,632 gallons of groundwater from well MW-12B at an average rate of 1.12 gpm; approximately 7,440,005 gallons of groundwater from well MW15B at an average rate of 3.44 gpm; and approximately 1,063,812 gallons of groundwater from well MW-9B at an average rate of 0.79 gpm. Approximately 112 pounds of VOCs have been recovered by the GWTS through October 11, 2001. Analytical data for groundwater recovered from wells MW12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
- URS collected groundwater samples on November 6 and 28, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 67. The treated groundwater analytical results for October 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 12,002,304 gallons of water at an average rate of 6,010 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.

sampling events.

- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on November 6 and November 28, 2001.

B. Deliverables

- Treated groundwater quality monitoring results for October 2001 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For December 2001  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.
- Continued evaluation of the reduced recovery rates recently observed in the recovery wells of the GWTS. It is believed that the reduced recovery rates may be related to the drought conditions that currently exist on the East Coast. Groundwater elevations are approximately 3 to 5 feet lower than they were during May 2001. On November 9, 2001, URS provided to NYSDEC a review of historic pumping information and an evaluation of pumping rates currently used at the three recovery wells for the GWTS. This information had been previously requested by NYSDEC in order to assess and verify optimization of groundwater pumping.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Mr. Gerald Rider  
NYSDEC  
December 6, 2001  
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Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86



**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66
9/13/01	On	46,554	3,082,490	56	340	0	400	980	76	1.829	13.712	1.229	20.864	39.594	3.357	80.58
10/11/01	On	47,226	3,088,538	49	370	33	400	1200	79	1.831	13.731	1.231	20.884	39.655	3.361	80.69

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86
9/13/01	On	36,024	7,066,912	11	57	0	20	98	6.6	0.768	3.979	0.093	2.254	9.543	1.458	18.09
10/11/01	On	36,696	7,175,776	8.8	68	1.7	26	120	8.5	0.776	4.040	0.094	2.277	9.652	1.466	18.31

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-15B was not collected in November 1997. Concentrations from October 1997 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCE	1,2 DCA	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,124,915	53	140	8.4	133.2	1400	140	0.6360	0.7323	0.0390	0.4854	9.9673	0.9190	12.779
9/13/01	On	22,381	1,132,691	53	94	0	86	970	99	0.6395	0.7384	0.0390	0.4909	10.0302	0.9254	12.863
10/11/01	On	23,053	1,138,739	40	110	7.4	95	1100	120	0.6415	0.7440	0.0394	0.4957	10.0857	0.9314	12.938

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-9B was not collected in January 2000. Concentrations from December 1999 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

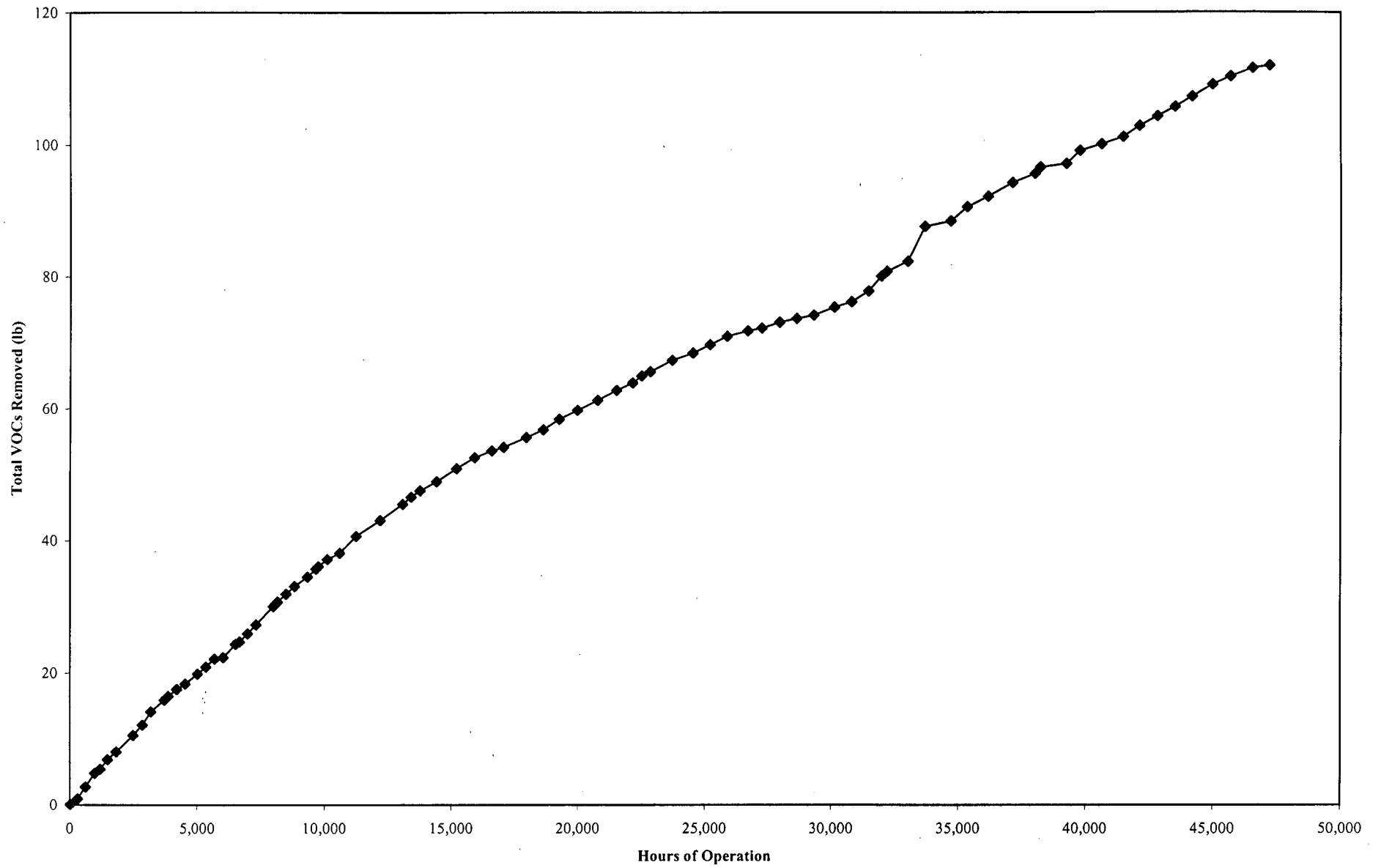
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	10/11/2001	10/23/2001
pH	6.0-9.0	SU	7.52	7.33
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	252	79
Aluminum, Total (1)	2.7	mg/l	<0.077	NS
Arsenic, Total (1)	0.15	mg/l	<0.003	NS
Iron, Total (1)	0.6	mg/l	<0.040	NS
Lead, Total (1)	0.04	mg/l	0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 306714  
Lab Job No: P755

Date Sampled: 10/11/01  
Date Received: 10/12/01  
Date Analyzed: 10/15/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v35536.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon-1  
Site: Mead Property

Lab Sample No: 306715  
Lab Job No: P755

Date Sampled: 10/11/01  
Date Received: 10/12/01  
Date Analyzed: 10/15/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v35537.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1



Client ID: MW-9B  
Site: Mead Property

Lab Sample No: 306716  
Lab Job No: P755

Date Sampled: 10/11/01  
Date Received: 10/12/01  
Date Analyzed: 10/15/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v35538.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	2.3
Chloroethane	ND	2.8
Methylene Chloride	ND	10
1,1-Dichloroethene	40	2.4
1,1-Dichloroethane	110	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	95	1.8
1,2-Dichloroethane	7.4	2.1
1,1,1-Trichloroethane	1100	2.6
Trichloroethene	120	3.1
Benzene	ND	1.9
Tetrachloroethene	ND	2.8
Toluene	ND	1.8
Chlorobenzene	ND	1.5
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW-12B  
Site: Mead Property

Lab Sample No: 306717  
Lab Job No: P755

Date Sampled: 10/11/01  
Date Received: 10/12/01  
Date Analyzed: 10/15/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v35539.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	2.3
Chloroethane	ND	2.8
Methylene Chloride	ND	10
1,1-Dichloroethene	49	2.4
1,1-Dichloroethane	370	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	400	1.8
1,2-Dichloroethane	33	2.1
1,1,1-Trichloroethane	1200	2.6
Trichloroethene	79	3.1
Benzene	ND	1.9
Tetrachloroethene	ND	2.8
Toluene	ND	1.8
Chlorobenzene	ND	1.5
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW-15B  
Site: Mead Property

Lab Sample No: 306718  
Lab Job No: P755

Date Sampled: 10/11/01  
Date Received: 10/12/01  
Date Analyzed: 10/15/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v35542.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	8.8	0.2
1,1-Dichloroethane	68	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	26	0.2
1,2-Dichloroethane	1.7	0.2
1,1,1-Trichloroethane	120	0.3
Trichloroethene	8.5	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1



Site: IBM Mead

Lab Job No: Q209

Date Received: 10/25/2001

Date Analyzed: 10/27/2001

Matrix: WATER

QA Batch: 1696

Total Suspended Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
309805	Carbon_2	10/23/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: Q209

Date Received: 10/25/2001

Date Analyzed: 10/26/2001

Matrix: WATER

QA Batch: 1875

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
309805	Carbon_2	10/23/2001	79.0

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

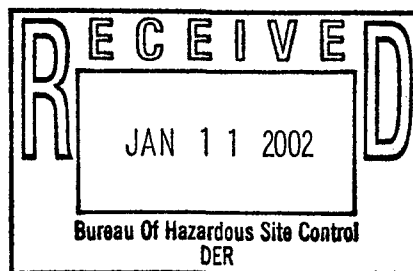


*Gerald  
Rider  
1/21/02  
J*

P.O. Box 100  
Somers, NY 10589

January 10, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 167  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 13-56-019

Dear Mr. Rider,

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from November 29 through December 27, 2001, and outlines the work anticipated during the month of January 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (November 29, 2001 through December 27, 2001)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

### Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on December 11 and 27, 2001.
- During the reporting period, the GWTS recovered approximately 1,100 gallons of groundwater from well MW-12B at an average rate of 0.03 gpm, approximately 107,334 gallons of groundwater from well MW-15B at an average rate of 2.57 gpm, and approximately 228 gallons of groundwater from well MW-9B at an average rate of 0.01 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,085,732 gallons of groundwater from well MW-12B at an average rate of 1.10 gpm; approximately 7,547,339 gallons of groundwater from well MW-15B at an average rate of 3.42 gpm; and approximately 1,063,642 gallons of groundwater from well MW-9B at an average rate of 0.77 gpm. Approximately 112 pounds of VOCs have been recovered by the GWTS through November 11, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
- URS collected groundwater samples on December 11 and 27, 2001. The results of these groundwater analyses will be reported in O&M Progress Report No. 68. The treated groundwater analytical results for November 2001 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 12,110,966 gallons of water at an average rate of 6,086 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on December 11 and December 27, 2001.

### B. Deliverables

- Treated groundwater quality monitoring results for November 2001 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For January 2002  
SVE System

- None.

Groundwater Treatment System

- Routine O&M activities.
- Continued evaluation of the reduced recovery rates recently observed in the recovery wells of the GWTS. It is believed that the reduced recovery rates may be related to the drought conditions that existed during the summer months. Groundwater elevations are approximately 3 to 5 feet lower than they were during May 2001. On November 9, 2001, URS provided to NYSDEC a review of historic pumping information and an evaluation of pumping rates currently used at the three recovery wells for the GWTS. This information had been previously requested by NYSDEC in order to assess and verify optimization of groundwater pumping.
- In accordance with the Remedial Action Work Plan for the site, the GWTS is scheduled for termination of operation 6 years from startup, namely February, 2002. During the month of January, 2002, IBM will begin to evaluate termination activities and procedures.

D. Schedule

The Groundwater Treatment System is in the O & M Phase. Routine O & M will be performed and reported on a monthly basis. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress



If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in black ink that reads "Tom Morris". The signature is written in a cursive, slightly slanted style.

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Corporate Environmental Services

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66
9/13/01	On	46,554	3,082,490	56	340	0	400	980	76	1.829	13.712	1.229	20.864	39.594	3.357	80.58
10/11/01	On	47,226	3,088,538	49	370	33	400	1200	79	1.831	13.731	1.231	20.884	39.655	3.361	80.69
11/6/01	On	47,850	3,089,661	190	380	28	380	1000	71	1.833	13.734	1.231	20.887	39.664	3.361	80.71

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86
9/13/01	On	36,024	7,066,912	11	57	0	20	98	6.6	0.768	3.979	0.093	2.254	9.543	1.458	18.09
10/11/01	On	36,696	7,175,776	8.8	68	1.7	26	120	8.5	0.776	4.040	0.094	2.277	9.652	1.466	18.31
11/6/01	On	37,320	7,273,120	21	67	0	24	90	7.1	0.793	4.095	0.094	2.297	9.725	1.472	18.48

Notes:

- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
- 2) Only compounds detected above laboratory detection limits are used in this calculation.
- 3) A groundwater sample from well MW-15B was not collected in November 1997. Concentrations from October 1997 were assumed for calculation purposes.
- 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,124,915	53	140	8.4	133.2	1400	140	0.6360	0.7323	0.0390	0.4854	9.9673	0.9190	12.779
9/13/01	On	22,381	1,132,691	53	94	0	86	970	99	0.6395	0.7384	0.0390	0.4909	10.0302	0.9254	12.863
10/11/01	On	23,053	1,138,739	40	110	7.4	95	1100	120	0.6415	0.7440	0.0394	0.4957	10.0857	0.9314	12.938
11/6/01	On	23,677	1,139,113	310	290	26	330	1900	230	0.6425	0.7449	0.0394	0.4968	10.0916	0.9321	12.947

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-9B was not collected in January 2000. Concentrations from December 1999 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

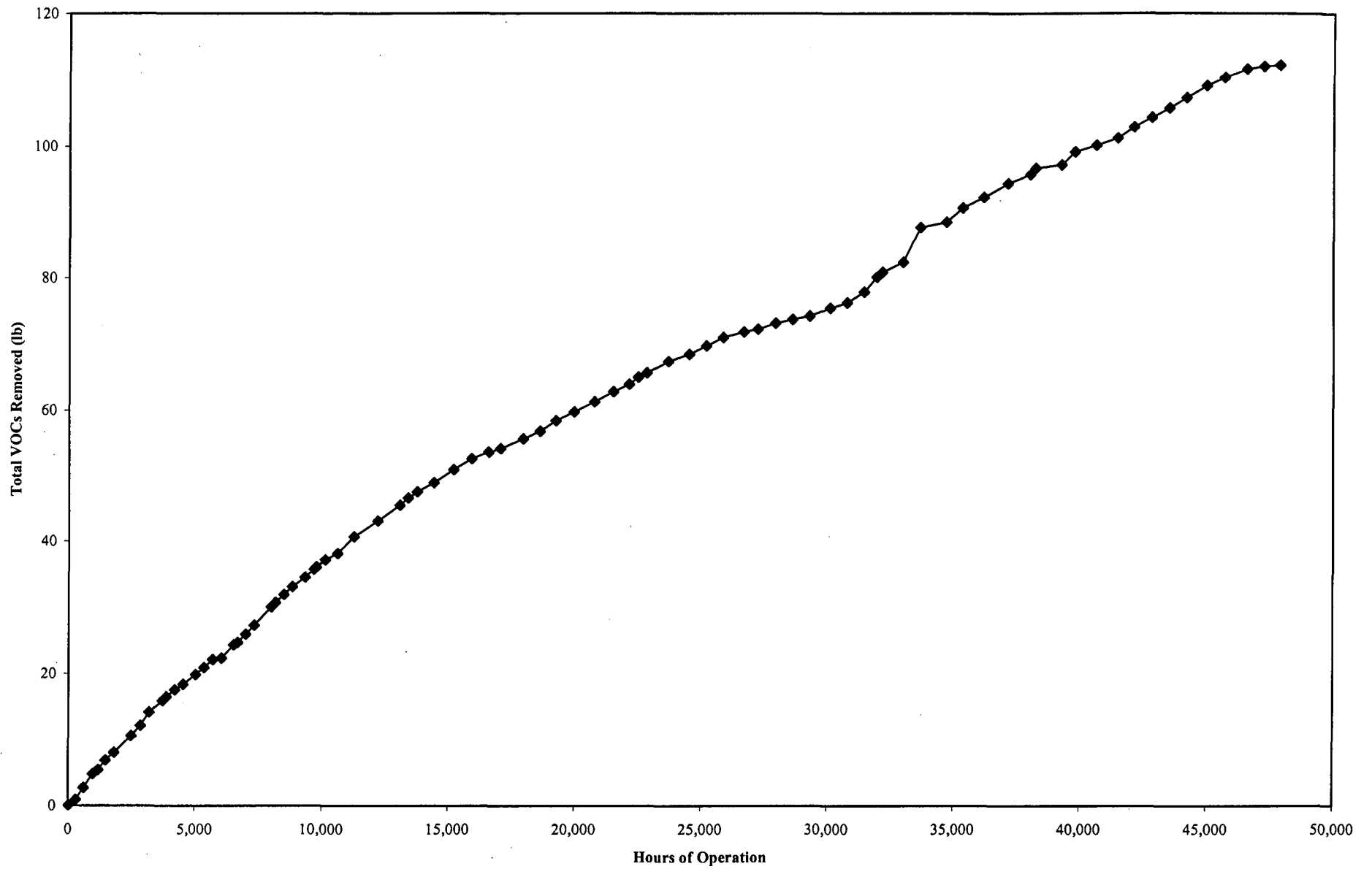
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	11/6/01	11/28/01
pH	6.0-9.0	SU	7.09	7.52
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	239	129
Aluminum, Total (1)	2.7	mg/l	< 0.077	NS
Arsenic, Total (1)	0.15	mg/l	< 0.003	NS
Iron, Total (1)	0.6	mg/l	0.059	NS
Lead, Total (1)	0.04	mg/l	< 0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**





Client ID: MW9B  
Site: IBM Mead

Lab Sample No: 313091  
Lab Job No: Q717

Date Sampled: 11/06/01  
Date Received: 11/07/01  
Date Analyzed: 11/12/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v36498.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	4.6
Chloroethane	ND	5.6
Methylene Chloride	ND	20
1,1-Dichloroethene	310	4.8
1,1-Dichloroethane	290	3.4
trans-1,2-Dichloroethene	ND	4.0
cis-1,2-Dichloroethene	330	3.6
1,2-Dichloroethane	26	4.2
1,1,1-Trichloroethane	1900	5.2
Trichloroethene	230	6.2
Benzene	ND	3.8
Tetrachloroethene	ND	5.6
Toluene	ND	3.6
Chlorobenzene	ND	3.0
Xylene (Total)	ND	3.8
1,2-Dichlorobenzene	ND	2.6

Client ID: MW12B  
Site: IBM Mead

Lab Sample No: 313090  
Lab Job No: Q717

Date Sampled: 11/06/01  
Date Received: 11/07/01  
Date Analyzed: 11/12/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v36495.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	2.3
Chloroethane	ND	2.8
Methylene Chloride	ND	10
1,1-Dichloroethene	190	2.4
1,1-Dichloroethane	380	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	380	1.8
1,2-Dichloroethane	28	2.1
1,1,1-Trichloroethane	1000	2.6
Trichloroethene	71	3.1
Benzene	ND	1.9
Tetrachloroethene	ND	2.8
Toluene	ND	1.8
Chlorobenzene	ND	1.5
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW15B  
Site: IBM Mead

Lab Sample No: 313089  
Lab Job No: Q717

Date Sampled: 11/06/01  
Date Received: 11/07/01  
Date Analyzed: 11/11/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v36494.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	21	0.2
1,1-Dichloroethane	67	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	24	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	90	0.3
Trichloroethene	7.1	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon\_2  
Site: IBM Mead

Lab Sample No: 313093  
Lab Job No: Q717

Date Sampled: 11/06/01  
Date Received: 11/07/01  
Date Analyzed: 11/12/01  
GC Column: DB624  
Instrument ID: VOAMS7.i  
Lab File ID: v36500.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon 2  
Site: IBM Mead

Lab Sample No: 313093  
Lab Job No: Q717

Date Sampled: 11/06/01  
Date Received: 11/07/01

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	58.9	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)

Site: IBM Mead

Lab Job No: Q717

Date Received: 11/07/2001

Date Analyzed: 11/08/2001

Matrix: WATER

QA Batch: 1702

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
313093	Carbon_2	11/06/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: IBM Mead

Lab Job No: Q717

Date Received: 11/07/2001

Date Analyzed: 11/11/2001

Matrix: WATER

QA Batch: 1882

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
313093	Carbon_2	11/06/2001	239

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: IBM MEAD

Lab Job No: R380

Date Received: 11/29/2001

Date Analyzed: 11/30/2001

Matrix: WATER

QA Batch: 1708

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
318072	CARBON2	11/28/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



Site: IBM MEAD

Lab Job No: R380

Date Received: 11/29/2001

Date Analyzed: 12/04/2001

Matrix: WATER

QA Batch: 1892

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
318072	CARBON2	11/28/2001	129

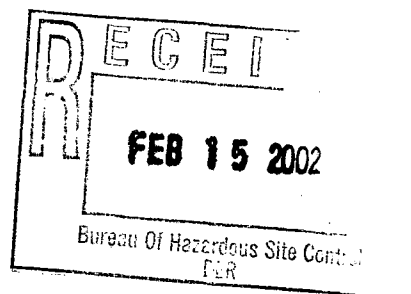
Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



P.O. Box 100  
Somers, NY 10589

February 11, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 68  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 356-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from December 28, 2001 through January 22, 2002, and outlines the work anticipated during the month of February 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (December 28, 2001 through January 22, 2002)

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on January 10 and 22, 2002.

- During the reporting period, the GWTS recovered approximately 1,125 gallons of groundwater from well MW-12B at an average rate of 0.03 gpm, approximately 102,467 gallons of groundwater from well MW-15B at an average rate of 2.74 gpm, and approximately 900 gallons of groundwater from well MW-9B at an average rate of 0.02 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,266,666 gallons of groundwater from well MW-12B at an average rate of 1.15 gpm; approximately 7,649,806 gallons of groundwater from well MW-15B at an average rate of 3.41 gpm; and approximately 1,145,542 gallons of groundwater from well MW-9B at an average rate of 0.75 gpm. Approximately 112 pounds of VOCs have been recovered by the GWTS through December 11, 2001. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
- URS collected groundwater samples on January 10 and 22, 2002. The results of these groundwater analyses will be reported in O&M Progress Report No. 69. The treated groundwater analytical results for December 2001 are reported in Table 4 and attached in Appendices A and B.
- URS removed the pump from well MW-12B to evaluate the operation and condition of the recovery pump on January 22, 2002. The discharge line from well MW-12B to the groundwater treatment system was also flushed with water to evaluate the potential that the piping being blocked was affecting the recovery rate from the well. It was determined that the pump is operating according to specifications, and that the discharge piping was not blocked. Following the evaluation, the pump was placed in the well and returned to service.
- The GWTS has treated and discharged a total of approximately 12,215,243 gallons of water at an average rate of 6,148 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on January 10, 2002.

#### B. Deliverables

- Treated groundwater quality monitoring results for December 2002 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For February 2002  
SVE System

- None.

Groundwater Treatment System

- In accordance with the Amended Remedial Action Work Plan (Work Plan), which was attached to and was incorporated as part of Order on Consent #W3-0084-87-09, IBM is preparing to terminate operation of the GWTS in February 2002. GWTS operation began in February 1996, and as stated in the first paragraph of Section 9.3.3 of the Work Plan, "IBM will dismantle and remove the various components of the groundwater recovery and treatment system and restore the Site after termination of recovery activities, or after six years of operation, whichever comes first." Additionally, the first sentence of the seventh paragraph of Section 9.3.3 of the Work Plan states, "The groundwater treatment system will be operated for a period not to exceed six years."
- In accordance with the Groundwater Monitoring Program (Dames & Moore, November 1995), after the cessation of groundwater recovery and treatment, selected onsite monitoring wells will be sampled twice per year, during seasonal water table high and low periods, for 2 years. A review of the analytical data will be conducted to assess the necessity for any further monitoring activities.
- In response to NYSDEC's letter of January 22, 2002, IBM will evaluate the use of monitoring well MW-10B due to the inability to sample the DiMetro well.

D. Schedule

The Groundwater Treatment System will be shut down in February 2002. After the Groundwater Treatment System has been shut down, post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.

Program Manager

Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66
9/13/01	On	46,554	3,082,490	56	340	0	400	980	76	1.829	13.712	1.229	20.864	39.594	3.357	80.58
10/11/01	On	47,226	3,088,538	49	370	33	400	1200	79	1.831	13.731	1.231	20.884	39.655	3.361	80.69
11/6/01	On	47,850	3,089,661	190	380	28	380	1000	71	1.833	13.734	1.231	20.887	39.664	3.361	80.71
12/11/01	On	48,690	3,091,173	50	310	23	310	1200	53	1.834	13.738	1.231	20.891	39.679	3.362	80.74

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37



**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86
9/13/01	On	36,024	7,066,912	11	57	0	20	98	6.6	0.768	3.979	0.093	2.254	9.543	1.458	18.09
10/11/01	On	36,696	7,175,776	8.8	68	1.7	26	120	8.5	0.776	4.040	0.094	2.277	9.652	1.466	18.31
11/6/01	On	37,320	7,273,120	21	67	0	24	90	7.1	0.793	4.095	0.094	2.297	9.725	1.472	18.48
12/11/01	On	38,160	7,404,160	9	64	1.6	28	140	7.6	0.803	4.165	0.096	2.327	9.878	1.480	18.75

Notes:

- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
- 2) Only compounds detected above laboratory detection limits are used in this calculation.
- 3) A groundwater sample from well MW-15B was not collected in November 1997. Concentrations from October 1997 were assumed for calculation purposes.
- 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,124,915	53	140	8.4	133.2	1400	140	0.6360	0.7323	0.0390	0.4854	9.9673	0.9190	12.779
9/13/01	On	22,381	1,132,691	53	94	0	86	970	99	0.6395	0.7384	0.0390	0.4909	10.0302	0.9254	12.863
10/11/01	On	23,053	1,138,739	40	110	7.4	95	1100	120	0.6415	0.7440	0.0394	0.4957	10.0857	0.9314	12.938
11/6/01	On	23,677	1,139,113	310	290	26	330	1900	230	0.6425	0.7449	0.0394	0.4968	10.0916	0.9321	12.947
12/11/01	On	24,517	1,139,617	33	86	6.5	75	910	90	0.6426	0.7453	0.0395	0.4971	10.0954	0.9325	12.952

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-9B was not collected in January 2000. Concentrations from December 1999 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

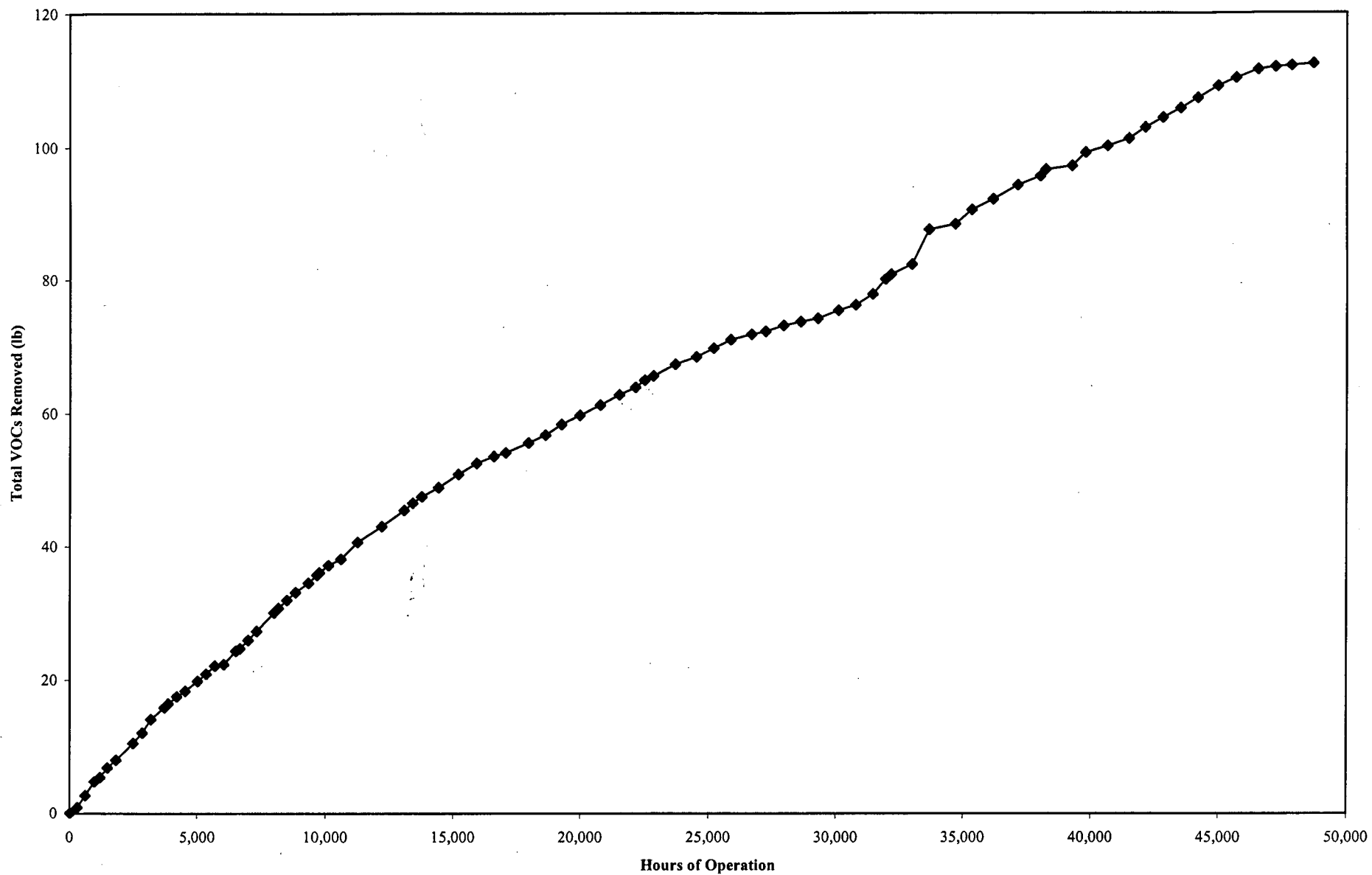
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	12/11/01	12/27/01
pH	6.0-9.0	SU	7.54	7.56
Solids, Suspended (1)	10	mg/l	<10	<10
Solids, Dissolved	Monitor	mg/l	233	204
Aluminum, Total (1)	2.7	mg/l	< 0.077	NS
Arsenic, Total (1)	0.15	mg/l	< 0.003	NS
Iron, Total (1)	0.6	mg/l	0.123	NS
Lead, Total (1)	0.04	mg/l	< 0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 321659  
Lab Job No: R900

Date Sampled: 12/11/01  
Date Received: 12/13/01  
Date Analyzed: 12/19/01  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f31190.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: Carbon-2  
Site: Mead Property

Lab Sample No: 321659  
Lab Job No: R900

Date Sampled: 12/11/01  
Date Received: 12/13/01

Matrix: WATER  
Level: LOW

#### METALS ANALYSIS

<u>Analyte</u>	Analytical Result <u>Units: ug/l</u>	Instrument Detection <u>Limit</u>	<u>M</u>
Aluminum	ND	77.4	P
Arsenic	ND	3.4	P
Iron	123	39.7	P
Lead	ND	2.2	P

M Column - Method Code (See Section 2 of Report)

Site: Mead Property

Lab Job No: R900

Date Received: 12/13/2001

Date Analyzed: 12/17/2001

Matrix: WATER

QA Batch: 1899

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
321659	Carbon-2	12/11/2001	233

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: R900

Date Received: 12/13/2001

Date Analyzed: 12/17/2001

Matrix: WATER

QA Batch: 1716

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
321659	Carbon-2	12/11/2001	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.



Site: IBM Property

Lab Job No: S346

Date Received: 12/28/2001

Date Analyzed: 01/02/2002

Matrix: WATER

QA Batch: 1720

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
324540	Carbon2	12/27/2001	NI

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

Site: IBM Property

Lab Job No: S346

Date Received: 12/28/2001

Date Analyzed: 01/02/2002

Matrix: WATER

QA Batch: 1903

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
324540	Carbon2	12/27/2001	204

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

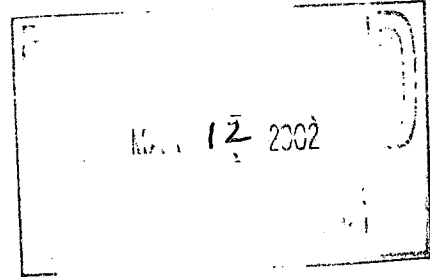


P.O. Box 100  
Somers, NY 10589

*Close  
for your  
attention.  
T  
3/12/02*

March 11, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 69  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019 \*

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from January 23, 2002 through February 20, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (January 23, 2002 through February 20, 2002).  
SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 100% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 100% of the time.
- URS performed site visits on February 7 and 20, 2002.
- During the reporting period, the GWTS recovered approximately 15,120 gallons of groundwater from well MW-12B at an average rate of 0.37 gpm, approximately 116,640 gallons of groundwater from well MW-15B at an average rate of 2.84 gpm,

Mr. GERAL RIDER  
NYSDEC  
March 7, 2002

and approximately 15,120 gallons of groundwater from well MW-9B at an average rate of 0.36 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,281,786 gallons of groundwater from well MW-12B at an average rate of 1.14 gpm; approximately 7,766,446 gallons of groundwater from well MW-15B at an average rate of 3.39 gpm; and approximately 1,160,662 gallons of groundwater from well MW-9B at an average rate of 0.75 gpm. Approximately 113 pounds of VOCs have been recovered by the GWTS through January 10, 2002. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.

- URS collected groundwater samples on February 7 and 20, 2002. The results of these groundwater analyses will be reported in O&M Progress Report No. 70. The treated groundwater analytical results for January 2002 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 12,397,716 gallons of water at an average rate of 6,296 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- Bag filters in Particulate Filter 1 and Particulate Filter 2 were changed on February 20, 2002.

B. Deliverables

- Treated groundwater quality monitoring results for January 2002 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For March 2002  
SVE System

- None.

Groundwater Treatment System

- In accordance with the Amended Remedial Action Work Plan (Work Plan), which was attached to and was incorporated as part of Order on Consent #W3-0084-87-09, IBM terminated operation of the GWTS on February 28, 2002. Notification of the shutdown was provided in O&M Progress Report No. 68 and in a letter to NYSDEC dated February 11, 2002.

Mr. GERAL RIDER  
NYSDEC  
March 7, 2002

- In accordance with the Groundwater Monitoring Program (Dames & Moore, November 1995), after the cessation of groundwater recovery and treatment, selected on-site monitoring wells will be sampled twice per year, during seasonal water table high and low periods, for 2 years.

D. Schedule

The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. The SVE system is currently shut down and is scheduled to be decommissioned upon approval from NYSDEC.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

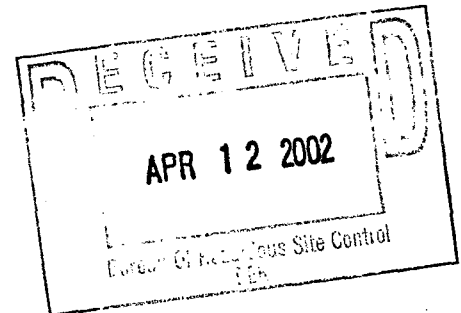
cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Hill Environmental



P.O. Box 100  
Summers, NY 10589

April 9, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. ~~703~~  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. ~~3-56-019~~

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from February 21, 2002 through March 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (February 21, 2002 through March 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 18% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 18% of the time. The GWTS was shut down on February 28, 2002.

- URS performed a site visit on February 28, 2002.
- During the reporting period, the GWTS recovered approximately 3,842 gallons of groundwater from well MW-12B at an average rate of 0.33 gpm, approximately 32,730 gallons of groundwater from well MW-15B at an average rate of 2.84 gpm, and approximately 634 gallons of groundwater from well MW-9B at an average rate of 0.06 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,285,628 gallons of groundwater from well MW-12B at an average rate of 1.14 gpm; approximately 7,799,176 gallons of groundwater from well MW-15B at an average rate of 3.39 gpm; and approximately 1,161,296 gallons of groundwater from well MW-9B at an average rate of 0.87 gpm. Approximately 114 pounds of VOCs have been recovered by the GWTS through February 7, 2002. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
- The treated groundwater analytical results for February 2002 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 12,434,922 gallons of water at an average rate of 6,296 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.
- On March 25, IBM responded to your letter dated March 20. In that letter, IBM promised a more detailed response. This detailed response is currently being drafted.

B. Deliverables

- Treated groundwater quality monitoring results for February 2002 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For April 2002  
SVE System

- None.

Groundwater Treatment System

- None.

- URS performed a site visit on February 28, 2002.
- During the reporting period, the GWTS recovered approximately 3,842 gallons of groundwater from well MW-12B at an average rate of 0.33 gpm, approximately 32,730 gallons of groundwater from well MW-15B at an average rate of 2.84 gpm, and approximately 634 gallons of groundwater from well MW-9B at an average rate of 0.06 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,285,628 gallons of groundwater from well MW-12B at an average rate of 1.14 gpm; approximately 7,799,176 gallons of groundwater from well MW-15B at an average rate of 3.39 gpm; and approximately 1,161,296 gallons of groundwater from well MW-9B at an average rate of 0.87 gpm. Approximately 114 pounds of VOCs have been recovered by the GWTS through February 7, 2002. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
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- On March 25, IBM responded to your letter dated March 20. In that letter, IBM promised a more detailed response. This detailed response is currently being drafted.

B. Deliverables

- Treated groundwater quality monitoring results for February 2002 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For April 2002  
SVE System

- None.

Groundwater Treatment System

- None.



**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
2/16/96	On	8	1,778	0	0	0	2100	2100	80	0.000	0.000	0.000	0.031	0.031	0.001	0.06
2/28/96	On	296	32,020	0	660	87	780	1700	100	0.000	0.166	0.022	0.228	0.460	0.026	0.90
3/12/96	On	608	68,729	100	1300	0	2400	2000	120	0.031	0.564	0.022	0.963	1.072	0.063	2.72
3/27/96	On	968	105,093	120	1800	0	2600	2300	130	0.067	1.110	0.022	1.751	1.770	0.103	4.82
4/5/96	On	1,184	118,508	0	760	0	3400	1600	0	0.067	1.195	0.022	2.132	1.949	0.103	5.47
4/17/96	On	1,472	154,361	200	960	100	1200	2200	140	0.127	1.482	0.052	2.490	2.607	0.144	6.90
5/1/96	On	1,808	193,720	0	0	0	1000	2400	120	0.127	1.482	0.052	2.819	3.394	0.184	8.06
5/29/96	On	2,480	279,880	0	400	0	800	2200	120	0.127	1.770	0.052	3.393	4.975	0.270	10.59
6/13/96	On	2,840	323,040	100	840	0	1200	2000	140	0.163	2.072	0.052	3.825	5.695	0.320	12.13
6/27/96	On	3,176	366,820	320	1700	0	1100	2300	180	0.280	2.693	0.052	4.227	6.535	0.386	14.17
7/19/96	On	3,704	415,910	0	650	70	1000	2400	160	0.280	2.959	0.081	4.636	7.518	0.452	15.92
7/25/96	On	3,848	433,240	0	660	0	790	2300	160	0.280	3.054	0.081	4.751	7.850	0.475	16.49
8/8/96	On	4,184	470,050	0	560	0	670	2100	160	0.280	3.226	0.081	4.956	8.495	0.524	17.56
8/22/96	On	4,520	493,280	0	640	70	930	2400	170	0.280	3.350	0.094	5.137	8.960	0.557	18.38
9/12/96	On	5,024	549,580	0	460	0	570	2000	140	0.280	3.566	0.094	5.404	9.899	0.623	19.87
9/26/96	On	5,360	588,080	0	480	50	600	2000	150	0.280	3.720	0.110	5.597	10.541	0.671	20.92
10/10/96	On	5,696	623,850	0	610	70	850	2500	0	0.280	3.902	0.131	5.850	11.287	0.671	22.12
10/24/96	On	6,032	655,720	0	0	0	290	320	220	0.280	3.902	0.131	5.927	11.372	0.729	22.34
11/14/96	On	6,507	712,810	0	570	70	990	2400	190	0.280	4.174	0.164	6.399	12.514	0.820	24.35
11/21/96	On	6,675	731,610	0	620	80	1100	260	240	0.280	4.271	0.177	6.571	12.555	0.857	24.71
12/4/96	On	6,987	767,520	0	560	0	1000	2400	190	0.280	4.439	0.177	6.871	13.274	0.914	25.95
12/18/96	On	7,323	805,450	0	600	80	980	2400	190	0.280	4.629	0.202	7.181	14.033	0.974	27.30
1/15/97	On	7,995	881,140	0	680	80	960	2400	250	0.280	5.058	0.253	7.787	15.548	1.132	30.06
1/22/97	On	8,163	900,260	0	670	70	860	2400	240	0.280	5.165	0.264	7.924	15.931	1.170	30.73
2/5/97	On	8,499	937,350	0	510	60	840	2200	190	0.280	5.322	0.282	8.184	16.611	1.229	31.91
2/19/97	On	8,835	974,080	0	620	80	860	2100	210	0.280	5.512	0.307	8.447	17.255	1.294	33.09
3/12/97	On	9,339	1,021,570	94	520	67	940	1600	140	0.317	5.718	0.333	8.820	17.888	1.349	34.43
3/26/97	On	9,675	1,058,380	110	520	68	750	2000	160	0.351	5.878	0.354	9.050	18.502	1.398	35.53
4/9/97	On	9,762	1,069,133	120	630	80	1000	1700	160	0.361	5.934	0.361	9.139	18.655	1.412	35.86
4/24/97	On	10,122	1,107,550	100	480	51	780	1500	130	0.393	6.088	0.378	9.389	19.136	1.454	36.84
5/8/97	On	10,602	1,132,753	74	550	72	810	2000	170	0.409	6.204	0.393	9.560	19.556	1.490	37.61
6/5/97	On	11,262	1,202,500	79	540	63	800	2100	160	0.455	6.518	0.430	10.025	20.777	1.583	39.79
7/22/97	On	12,198	1,289,528	45	360	45	620	1100	84	0.488	6.779	0.462	10.475	21.576	1.644	41.42
8/28/97	On	13,086	1,358,742	98	550	55	780	2500	170	0.544	7.097	0.494	10.925	23.019	1.742	43.82
9/11/97	On	13,422	1,384,653	80	510	49	660	2600	160	0.561	7.207	0.505	11.068	23.581	1.777	44.70
10/10/97	On	13,782	1,413,710	140	480	58	720	2300	150	0.595	7.323	0.519	11.242	24.138	1.813	45.63
11/6/97	On	14,430	1,459,330	64	430	51	610	1900	120	0.620	7.487	0.538	11.474	24.861	1.859	46.84
12/9/97	On	15,222	1,509,539	80	580	71	900	1600	140	0.653	7.730	0.568	11.851	25.531	1.917	48.25
1/8/98	On	15,942	1,547,630	100	610	84	1000	1900	160	0.685	7.924	0.594	12.169	26.135	1.968	49.47
2/5/98	On	16,614	1,581,929	89	530	65	820	1600	140	0.710	8.075	0.613	12.404	26.592	2.008	50.40
3/3/98	On	17,082	1,597,260	95	450	66	880	1300	140	0.723	8.133	0.622	12.516	26.759	2.026	50.78
4/9/98	On	17,970	1,640,689	80	440	66	770	960	110	0.752	8.292	0.645	12.795	27.106	2.066	51.66
5/7/98	On	18,642	1,659,511	160	600	69	950	1200	140	0.777	8.386	0.656	12.944	27.295	2.088	52.15
6/2/98	On	19,266	1,680,039	98	490	57	1000	1200	99	0.793	8.470	0.666	13.115	27.500	2.105	52.65
7/8/98	On	19,986	1,722,656	87	520	65	810	1200	130	0.824	8.655	0.689	13.403	27.927	2.151	53.65
8/10/98	On	20,778	1,771,180	140	350	47	590	1100	88	0.881	8.797	0.708	13.642	28.372	2.187	54.59
9/10/98	On	21,522	1,824,372	67	350	40	520	1300	77	0.911	8.952	0.726	13.873	28.948	2.221	55.63
10/6/98	On	22,146	1,855,060	140	380	37	490	1400	79	0.947	9.049	0.735	13.998	29.307	2.241	56.28
11/5/98	Off	22,506	1,873,049	140	380	37	490	1400	79	0.968	9.106	0.741	14.072	29.517	2.253	56.66
12/3/98	On	22,842	1,888,649	100	340	30	370	1400	59	0.981	9.150	0.745	14.120	29.699	2.260	56.95
1/8/99	On	23,706	1,929,156	120	360	35	450	2300	80	1.021	9.272	0.757	14.272	30.476	2.287	58.08
2/11/99	On	24,522	1,967,601	66	460	56	650	1700	99	1.042	9.419	0.775	14.480	31.021	2.319	59.06
3/11/99	On	25,194	2,007,080	110	450	50	640	1400	98	1.079	9.568	0.791	14.691	31.482	2.352	59.96
4/8/99	On	25,866	2,048,080	94	420	50	580	1400	96	1.111	9.711	0.808	14.889	31.961	2.384	60.86

**Table 1**  
**VOC Mass Removal from Groundwater (MW-12B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW12B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/12/99	On	26,682	2,091,590	14	170	25	240	470	36	1.116	9.773	0.817	14.976	32.131	2.397	61.21
6/4/99	On	27,234	2,104,384	28	210	40	380	410	47	1.119	9.795	0.821	15.017	32.175	2.402	61.33
7/8/99	On	27,936	2,127,570	85	390	46	570	1100	93	1.135	9.871	0.830	15.127	32.388	2.420	61.77
8/5/99	On	28,608	2,136,911	110	440	44	590	1500	100	1.144	9.905	0.834	15.173	32.505	2.428	61.99
9/2/99	On	29,280	2,157,730	7.8	22	2.2	25	100	5.2	1.145	9.909	0.834	15.177	32.522	2.429	62.02
10/7/99	On	30,095	2,174,316	170	590	64	1000	1000	120	1.169	9.990	0.843	15.316	32.660	2.446	62.42
11/4/99	On	30,767	2,174,549	91	550	77	910	820	140	1.169	9.992	0.843	15.317	32.662	2.446	62.43
12/2/99	On	31,439	2,215,908	110	600	78	960	850	150	1.207	10.198	0.870	15.649	32.955	2.498	63.38
1/17/00	On	31,943	2,223,579	73	480	66	860	620	110	1.211	10.229	0.874	15.704	32.995	2.505	63.52
2/4/00	On	32,159	2,252,939	72	390	63	660	650	100	1.229	10.325	0.890	15.865	33.154	2.529	63.99
3/9/00	On	32,975	2,316,232	64	380	52	620	980	100	1.263	10.525	0.917	16.192	33.671	2.582	65.15
4/6/00	On	33,647	2,479,723	75	520	62	680	1100	120	1.365	11.234	1.002	17.120	35.171	2.746	68.64
5/2/00	On	34,680	2,507,444	54	420	60	590	800	97	1.378	11.331	1.016	17.256	35.356	2.768	69.10
6/1/00	On	35,328	2,568,455	160	430	43	610	1000	100	1.459	11.550	1.037	17.566	35.865	2.819	70.30
7/6/00	On	36,168	2,608,267	160	430	43	610	1000	100	1.512	11.693	1.052	17.769	36.197	2.852	71.07
8/1/00	On	37,128	2,656,781	160	620	62	900	810	140	1.577	11.944	1.077	18.133	36.525	2.909	72.16
9/7/00	On	38,016	2,688,726	63	470	62	694	850	120	1.594	12.069	1.093	18.318	36.751	2.941	72.77
10/5/00	On	38,232	2,705,002	79	540	62	840	810	140	1.604	12.142	1.102	18.432	36.861	2.960	73.10
11/13/00	On	39,258	2,713,490	68	570	58	940	940	150	1.609	12.183	1.106	18.499	36.928	2.970	73.29
12/5/00	On	39,786	2,745,170	73	610	70	1400	740	150	1.628	12.344	1.124	18.868	37.123	3.010	74.10
1/10/01	Off	40,650	2,745,170	100	640	73	1573	770	160	Pump not operational.						74.10
2/14/01	Off	41,490	2,745,170	80	450	53	716	850	140	1.628	12.344	1.124	18.868	37.123	3.010	74.10
3/13/01	On	42,138	2,784,050	92	620	79	1000	860	190	1.658	12.545	1.150	19.193	37.402	3.072	75.02
4/11/01	On	42,834	2,825,810	58	430	0	701.2	760	120	1.679	12.695	1.150	19.437	37.667	3.113	75.74
5/10/01	On	43,530	2,873,834	57	500	58	707	840	120	1.701	12.895	1.173	19.720	38.003	3.161	76.65
6/7/01	On	44,202	2,920,202	82	540	53	820	920	140	1.733	13.104	1.194	20.037	38.359	3.216	77.64
7/10/01	On	44,994	2,974,850	100	560	43	790	930	130	1.779	13.359	1.213	20.397	38.783	3.275	78.81
8/8/01	On	45,690	3,022,874	56	460	39	668	810	110	1.801	13.543	1.229	20.665	39.107	3.319	79.66
9/13/01	On	46,554	3,082,490	56	340	0	400	980	76	1.829	13.712	1.229	20.864	39.594	3.357	80.58
10/11/01	On	47,226	3,088,538	49	370	33	400	1200	79	1.831	13.731	1.231	20.884	39.655	3.361	80.69
11/6/01	On	47,850	3,089,661	190	380	28	380	1000	71	1.833	13.734	1.231	20.887	39.664	3.361	80.71
12/11/01	On	48,690	3,091,173	50	310	23	310	1200	53	1.834	13.738	1.231	20.891	39.679	3.362	80.74
1/10/02	On	49,410	3,106,293	210	500	37	560	1600	96	1.860	13.801	1.236	20.962	39.881	3.374	81.11
2/7/02	On	50,082	3,120,405	60	290	24	280	1300	48	1.867	13.836	1.239	20.995	40.034	3.380	81.35

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-12B was not collected in November 1998 because the pump in the well was not working. Concentrations from October 1998 were assumed in calculations.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
3/12/97	On	360	43,870	6.2	76	0	15	96	11	0.002	0.028	0.000	0.005	0.035	0.004	0.07
3/26/97	On	696	85,400	8.6	78	0	16	120	13	0.005	0.055	0.000	0.011	0.077	0.009	0.16
4/9/97	On	783	97,271	9.8	100	1.7	30	130	11	0.006	0.065	0.000	0.014	0.090	0.010	0.18
4/24/97	On	1,143	193,450	8.2	64	0	9.7	88	7.2	0.013	0.116	0.000	0.022	0.160	0.015	0.33
5/8/97	On	1,479	264,753	5.0	56	2.3	39	160	31	0.016	0.149	0.002	0.045	0.255	0.034	0.50
6/5/97	On	2,139	461,090	8.2	71	0.8	13	120	7.4	0.029	0.266	0.003	0.066	0.452	0.046	0.86
7/31/97	On	3,075	700,203	7.8	67	2.6	58	220	44	0.045	0.399	0.008	0.182	0.891	0.134	1.66
8/28/97	On	3,243	725,301	7.5	66	0.7	16	120	10	0.046	0.413	0.008	0.185	0.916	0.136	1.70
9/11/97	On	3,579	813,850	6.6	63	1.5	31	160	22	0.051	0.460	0.009	0.208	1.034	0.152	1.91
10/10/97	On	3,849	815,955	5.9	62	2.2	33	180	33	0.051	0.461	0.009	0.209	1.037	0.153	1.92
11/6/97	On	4,353	890,220	5.9	62	2.2	33	180	33	0.055	0.499	0.011	0.229	1.148	0.173	2.12
12/9/97	On	4,761	1,057,117	11	74	0	43	230	38	0.070	0.602	0.011	0.289	1.469	0.226	2.67
1/8/98	On	5,481	1,234,637	9.8	69	0	22	190	17	0.085	0.704	0.011	0.322	1.750	0.251	3.12
2/5/98	On	6,153	1,255,998	9.4	78	4.2	57	230	39	0.086	0.718	0.011	0.332	1.791	0.258	3.20
3/3/98	On	6,309	1,321,582	13	63	1.5	29	200	25	0.094	0.753	0.012	0.348	1.900	0.272	3.38
4/9/98	On	7,197	1,520,961	14	66	0	36	220	32	0.117	0.862	0.012	0.407	2.266	0.325	3.99
4/28/98	On	7,653	1,577,147	14	66	0	36	220	32	0.123	0.893	0.012	0.424	2.369	0.340	4.16
Pump was turned off on April 28 and restarted on May 21. Concentrations from April 9 were assumed for April 28 for calculation purposes.																
6/2/98	On	7,941	1,601,917	110	220	22	480	1900	510	0.146	0.939	0.017	0.524	2.762	0.445	4.83
7/8/98	On	8,661	1,667,777	14	79	2.3	43	180	33	0.154	0.982	0.018	0.547	2.861	0.463	5.03
8/10/98	On	9,453	1,713,390	14	44	2.4	36	140	24	0.159	0.999	0.019	0.561	2.914	0.473	5.12
9/10/98	On	9,621	1,714,415	22	88	6.8	120	540	81	0.159	1.000	0.019	0.562	2.918	0.473	5.13
10/6/98	On	9,933	1,867,830	12	55	1.1	22	70	14	0.175	1.070	0.020	0.590	3.008	0.491	5.35
11/5/98	On	10,653	2,028,454	21	66	1.9	36	140	28	0.203	1.158	0.023	0.638	3.196	0.529	5.75
12/3/98	On	11,325	2,112,538	11	45	1.3	56	97	56	0.211	1.190	0.024	0.677	3.264	0.568	5.93
1/8/99	On	12,189	2,289,365	14	62	1.7	25	180	19	0.231	1.281	0.026	0.714	3.529	0.596	6.38
2/11/99	On	13,005	2,412,975	3.3	27	0.8	12	75	8.6	0.235	1.309	0.027	0.727	3.606	0.605	6.51
3/11/99	On	13,677	2,562,050	9	57	1.7	36	170	25	0.246	1.380	0.029	0.771	3.818	0.636	6.88
4/8/99	On	14,349	2,689,320	13	64	2	38	200	26	0.260	1.448	0.031	0.812	4.030	0.663	7.24
5/12/99	On	15,165	2,830,690	10	75	2.6	49	220	31	0.271	1.536	0.035	0.870	4.289	0.700	7.70
6/4/99	On	15,717	2,894,197	19	75	3.8	75	340	63	0.281	1.576	0.037	0.909	4.469	0.733	8.01
7/8/99	On	16,419	3,073,910	14	63	1.8	37	180	19	0.302	1.671	0.039	0.965	4.739	0.762	8.48
8/5/99	On	17,091	3,199,671	16	64	1.8	35	180	18	0.319	1.738	0.041	1.001	4.928	0.781	8.81
9/2/99	On	17,763	3,325,546	11	56	2.6	43	150	30	0.331	1.796	0.044	1.047	5.085	0.812	9.12
10/7/99	On	18,578	3,482,363	20	56	1.3	42	130	24	0.357	1.870	0.046	1.102	5.255	0.844	9.47
11/4/99	On	19,250	3,638,658	15	68	1.9	47	190	34	0.376	1.958	0.048	1.163	5.503	0.888	9.94
12/2/99	On	19,922	3,790,732	12	64	1.2	22	120	10	0.392	2.040	0.050	1.191	5.655	0.901	10.23
1/17/00	On	20,426	3,899,336	110	180	13	410	1200	310	0.491	2.203	0.061	1.562	6.742	1.181	12.24
2/4/00	On	20,642	4,008,545	13	56	1.8	27	130	13	0.503	2.254	0.063	1.587	6.861	1.193	12.46
3/9/00	On	21,458	4,214,464	6	44	1.8	30	110	14	0.513	2.329	0.066	1.638	7.050	1.217	12.81
4/6/00	On	22,130	4,685,941	9	69	1.3	25	120	9.2	0.550	2.600	0.071	1.737	7.521	1.254	13.73
5/2/00	On	22,754	4,766,410	10	73	1.6	29	120	14	0.557	2.649	0.072	1.756	7.602	1.263	13.90
6/1/00	On	25,080	4,969,539	6	52	1.4	22	65	10	0.567	2.738	0.075	1.793	7.712	1.280	14.16
7/6/00	On	25,728	5,128,349	19	64	1.1	28	100	13	0.592	2.822	0.076	1.830	7.845	1.297	14.46
8/1/00	On	26,688	5,349,431	14	59	1	22	81	9.2	0.618	2.931	0.078	1.871	7.994	1.314	14.81
9/7/00	On	27,576	5,513,911	10	68	1.8	23	130	13	0.631	3.024	0.080	1.902	8.172	1.332	15.14
10/5/00	On	27,792	5,623,147	11	72	1.4	33	120	16	0.641	3.090	0.082	1.933	8.282	1.346	15.37

**Table 2**  
**VOC Mass Removal from Groundwater (MW-15B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW15B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
11/13/00	On	28,728	5,757,318	7	75	0	28	0	13	0.649	3.174	0.082	1.964	8.282	1.361	15.51
12/5/00	On	29,256	5,861,862	10	73	0	30	150	11	0.657	3.238	0.082	1.990	8.412	1.371	15.75
1/10/01	On	30,120	6,039,155	13	84	1.5	34	140	12	0.676	3.362	0.084	2.040	8.619	1.388	16.17
2/14/01	On	30,960	6,211,523	15	83	1.6	30	130	11	0.698	3.481	0.086	2.083	8.806	1.404	16.56
3/13/01	On	31,608	6,344,492	9	69	0	24	92	8	0.708	3.558	0.086	2.110	8.908	1.413	16.78
4/11/01	On	32,304	6,487,312	7	63	1.1	18	83	5	0.717	3.633	0.087	2.131	9.007	1.419	16.99
5/10/01	On	33,000	6,589,624	10	79	1.5	25	100	8.3	0.726	3.700	0.089	2.153	9.092	1.426	17.19
6/7/01	On	33,672	6,688,408	11	75	1.5	28	120	10	0.735	3.762	0.090	2.176	9.191	1.434	17.39
7/10/01	On	34,464	6,804,832	9	74	1.3	26	120	7.6	0.744	3.834	0.091	2.201	9.308	1.442	17.62
8/8/01	On	35,160	6,921,760	11	78	1.3	29	120	8.6	0.755	3.910	0.093	2.229	9.425	1.450	17.86
9/13/01	On	36,024	7,066,912	11	57	0	20	98	6.6	0.768	3.979	0.093	2.254	9.543	1.458	18.09
10/11/01	On	36,696	7,175,776	8.8	68	1.7	26	120	8.5	0.776	4.040	0.094	2.277	9.652	1.466	18.31
11/6/01	On	37,320	7,273,120	21	67	0	24	90	7.1	0.793	4.095	0.094	2.297	9.725	1.472	18.48
12/11/01	On	38,160	7,404,160	9	64	1.6	28	140	7.6	0.803	4.165	0.096	2.327	9.878	1.480	18.75
1/10/02	On	38,880	7,520,800	15	59	1.6	26.6	97	6.3	0.818	4.222	0.097	2.353	9.973	1.486	18.95
2/7/02	On	39,552	7,629,664	10	59	1.4	27	140	7.8	0.827	4.276	0.099	2.378	10.100	1.493	19.17

Notes:

- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
- 2) Only compounds detected above laboratory detection limits are used in this calculation.
- 3) A groundwater sample from well MW-15B was not collected in November 1997. Concentrations from October 1997 were assumed for calculation purposes.
- 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported.

**Table 3**  
**VOC Mass Removal from Groundwater (MW-9B)**  
**Mead Property Site**

Date	Status	Hours of Operation	Groundwater Recovered from MW9B (gal)	Concentration (ug/L)						Cumulative Mass Removed (lb)						Total VOC Mass Removed (lb)
				1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	1,1 DCE	1,1 DCA	1,2 DCA	1,2 DCE	TCA	TCE	
5/7/98	On	384	33,867	140	51	0	0	1500	42	0.040	0.014	0.000	0.000	0.424	0.012	0.49
6/2/98	On	1,008	70,008	77	42	3.2	0	1200	55	0.063	0.027	0.001	0.000	0.785	0.028	0.90
7/8/98	On	1,728	83,251	56	36	0	0	1200	46	0.069	0.031	0.001	0.000	0.918	0.034	1.05
8/10/98	On	2,520	136,720	93	44	0	19	920	58	0.110	0.051	0.001	0.008	1.328	0.059	1.56
9/10/98	On	3,264	183,604	37	46	3.1	22	1000	73	0.125	0.069	0.002	0.017	1.719	0.088	2.02
10/6/98	On	3,888	213,850	83	40	3.2	13	830	69	0.146	0.079	0.003	0.020	1.929	0.105	2.28
11/5/98	On	4,608	247,376	130	39	3.4	15	820	68	0.182	0.090	0.004	0.025	2.158	0.124	2.58
12/3/98	On	5,280	269,255	48	32	0	12	680	56	0.191	0.095	0.004	0.027	2.282	0.135	2.73
1/8/99	Off	5,656	289,586	48	32	0	12	680	56	0.199	0.101	0.004	0.029	2.397	0.144	2.87
8/5/99	On	5,662	289,916	37	19	0	2.6	600	30	0.199	0.101	0.004	0.029	2.399	0.144	2.88
9/2/99	On	6,334	319,851	26	26	0	7.9	560	27	0.206	0.107	0.004	0.031	2.539	0.151	3.04
10/7/99	On	7,149	355,792	160	53	0	27	1200	83	0.254	0.123	0.004	0.039	2.898	0.176	3.49
11/4/99	On	7,821	389,631	54	49	3.8	30	940	87	0.269	0.137	0.005	0.047	3.164	0.200	3.82
12/2/99	On	8,493	423,453	67	66	5.5	44	1100	100	0.288	0.156	0.007	0.060	3.474	0.229	4.21
01/17/00*	Off	8,997	434,563	67	66	5.5	44	1100	100	0.2940	0.1619	0.0071	0.0638	3.5759	0.2378	4.340
2/4/00	Pump not operating.															
3/23/00	On	9,177	435,540	9	23	0	6	350	35	0.2940	0.1621	0.0071	0.0638	3.5787	0.2381	4.344
4/6/00	On	9,513	539,095	30	50	2.7	19	860	63	0.3199	0.2053	0.0094	0.0803	4.3214	0.2925	5.229
5/2/00	On	10,137	561,968	27	39	0	16	640	58	0.3251	0.2127	0.0094	0.0833	4.4435	0.3035	5.378
6/1/00	On	11,341	622,288	33	90	7	64	1000	110	0.3417	0.2580	0.0129	0.1155	5.0153	0.3589	6.102
7/6/00	On	12,205	664,533	140	84	0	58	1100	110	0.3910	0.2876	0.0129	0.1359	5.4028	0.3976	6.628
8/1/00	On	12,829	722,641	120	110	6.4	80	970	130	0.4492	0.3409	0.0160	0.1747	5.8729	0.4606	7.314
9/7/00	On	13,717	755,570	42	86	6.2	66	1200	110	0.4607	0.3645	0.0177	0.1928	6.2025	0.4909	7.729
10/5/00	On	14,149	791,858	53	110	0	88	1100	130	0.4767	0.3978	0.0177	0.2195	6.5354	0.5302	8.177
11/13/00	On	15,085	821,491	20	46	0	18	680	85	0.4817	0.4092	0.0177	0.2239	6.7034	0.5512	8.387
12/5/00	On	15,613	886,667	48	110	7	80	1300	140	0.5078	0.4690	0.0215	0.2674	7.4101	0.6273	9.303
1/10/01	On	16,477	933,323	64	120	7.1	100	1100	130	0.5327	0.5157	0.0243	0.3063	7.8381	0.6779	9.895
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
2/14/01	On	17,317	978,683	73	130	8.9	97	1400	140	0.5603	0.5648	0.0277	0.3430	8.3677	0.7308	10.594
3/13/01	On	17,965	1,013,675	96	140	9.4	110	1200	170	0.5883	0.6057	0.0304	0.3751	8.7179	0.7805	11.098
4/11/01	On	18,661	1,051,259	43	110	8.9	93	1300	130	0.6018	0.6402	0.0332	0.4043	9.1254	0.8212	11.626
5/10/01	On	19,357	1,072,974	37	140	10	111.5	1300	140	0.6085	0.6655	0.0350	0.4245	9.3608	0.8466	11.941
6/7/01	On	20,029	1,093,941	58	140	9.4	120	1400	160	0.6186	0.6900	0.0366	0.4454	9.6056	0.8745	12.271
7/10/01	On	20,821	1,118,651	71	170	9.2	160	1400	180	0.6333	0.7250	0.0385	0.4784	9.8942	0.9116	12.681
8/8/01	On	21,517	1,124,915	53	140	8.4	133.2	1400	140	0.6360	0.7323	0.0390	0.4854	9.9673	0.9190	12.779
9/13/01	On	22,381	1,132,691	53	94	0	86	970	99	0.6395	0.7384	0.0390	0.4909	10.0302	0.9254	12.863
10/11/01	On	23,053	1,138,739	40	110	7.4	95	1100	120	0.6415	0.7440	0.0394	0.4957	10.0857	0.9314	12.938
11/6/01	On	23,677	1,139,113	310	290	26	330	1900	230	0.6425	0.7449	0.0394	0.4968	10.0916	0.9321	12.947
12/11/01	On	24,517	1,139,617	33	86	6.5	75	910	90	0.6426	0.7453	0.0395	0.4971	10.0954	0.9325	12.952
1/10/02	On	25,237	1,154,737	170	160	10	150	1400	160	0.6640	0.7654	0.0407	0.5160	10.2720	0.9527	13.211
2/7/02	On	25,909	1,168,849	30	47	0	32	690	74	0.6676	0.7710	0.0407	0.5198	10.3532	0.9614	13.314

- Notes:
- 1) If laboratory analyses were below detection limits, the concentration is assumed to be 0 ug/L for the purposes of this estimate.
  - 2) Only compounds detected above laboratory detection limits are used in this calculation.
  - 3) A groundwater sample from well MW-9B was not collected in January 2000. Concentrations from December 1999 were assumed for calculation purposes.
  - 4) Due to miscommunication with the laboratory, analytical results for 1,1-DCE from the groundwater sample collected on September 13, 2001 were not reported. The concentration detected in the August 8, 2001 sample was used in the calculations.

**Table 4**  
**GWTS Effluent Quality Data**  
**Mead Property Site**

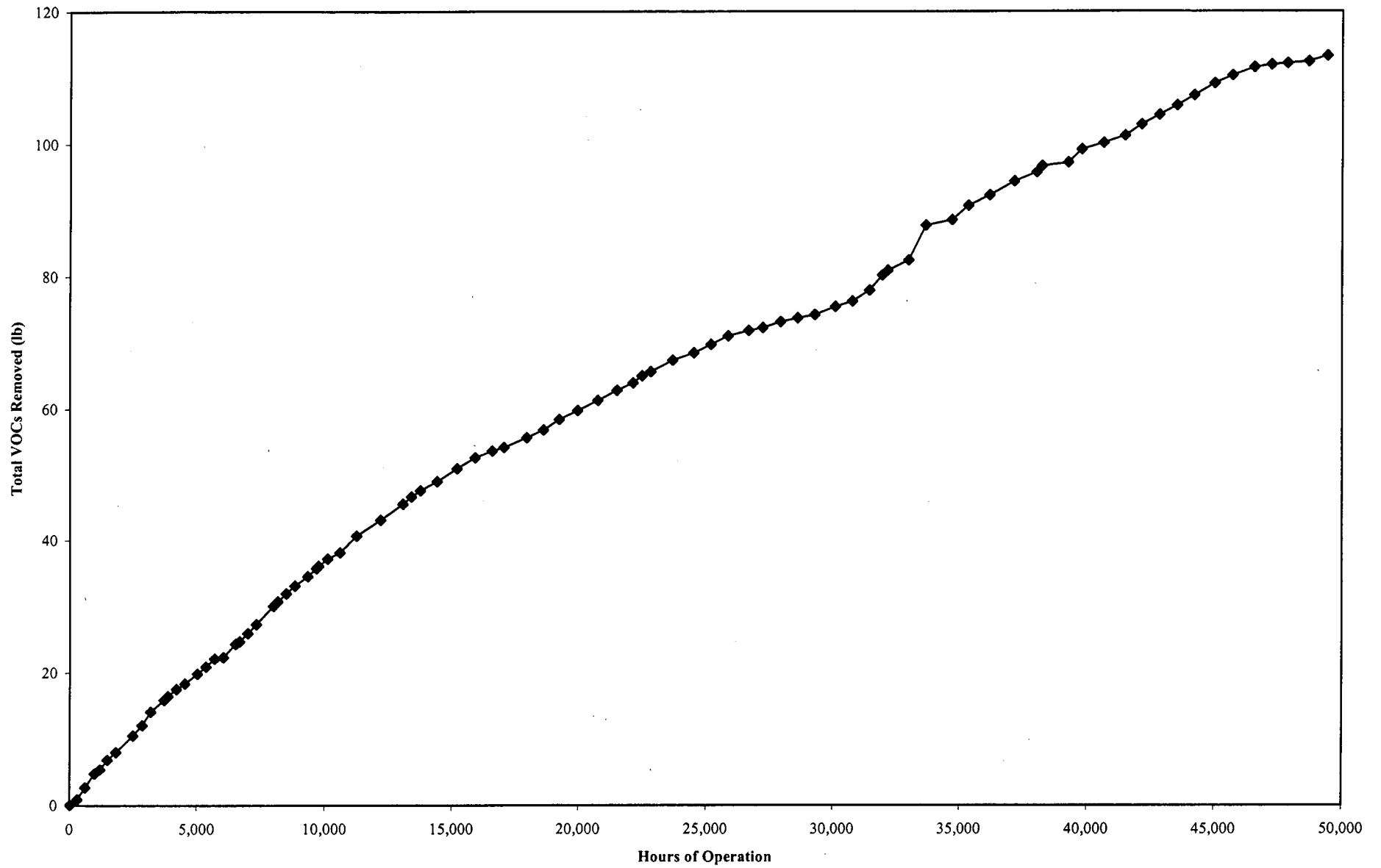
Sampling Parameters	Discharge Limitations (2)		Sample Date	
	Daily Max.	Units	2/7/02	2/20/02
pH	6.0-9.0	SU	7.42	7.45
Solids, Suspended (1)	10	mg/l	<10	26
Solids, Dissolved	Monitor	mg/l	216	234
Aluminum, Total (1)	2.7	mg/l	< 0.059	NS
Arsenic, Total (1)	0.15	mg/l	< 0.003	NS
Iron, Total (1)	0.6	mg/l	0.484	NS
Lead, Total (1)	0.04	mg/l	< 0.002	NS
Benzene	10	µg/l	<0.2	NS
Chloroethane	10	µg/l	<0.3	NS
Chlorobenzene	10	µg/l	<0.2	NS
1,1-Dichloroethane	10	µg/l	<0.2	NS
1,2-Dichloroethane	10	µg/l	<0.2	NS
1,1-Dichloroethene	10	µg/l	<0.2	NS
1,2-Dichloroethene	10	µg/l	<0.2	NS
Methylene Chloride	10	µg/l	<1	NS
Tetrachloroethene	2	µg/l	<0.3	NS
Toluene	10	µg/l	<0.2	NS
1,1,1-Trichloroethane	10	µg/l	<0.3	NS
Trichloroethene	10	µg/l	<0.3	NS
Vinyl Chloride	10	µg/l	<0.2	NS

(1) The limitation for this parameter becomes effective 30 days after the Department has received the sampling results (excluding start up) of the first 6 months and determined that applicable law and regulation require imposition of a limit.

(2) Final effluent limitations and monitoring requirements issued by the NYSDEC and effective January 1, 1996.

NS - Not sampled. Samples for analysis of VOCs and metals are collected once a month.

**Figure 1**  
**VOC Mass Removal from Groundwater (MW-12B, MW-15B, MW-9B)**  
**Mead Property Site**



## Analytical Results Summary



Client ID: MW-9B  
 Site: IBM MEAD

Lab Sample No: 331244  
 Lab Job No: T428

Date Sampled: 02/04/02  
 Date Received: 02/07/02  
 Date Analyzed: 02/09/02  
 GC Column: DB624  
 Instrument ID: VOAMS6.i  
 Lab File ID: f31952.d

Matrix: WATER  
 Level: LOW  
 Purge Volume: 5.0 ml  
 Dilution Factor: 10.0

**VOLATILE ORGANICS - GC/MS**  
**METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	2.3
Chloroethane	ND	2.8
Methylene Chloride	ND	10
1,1-Dichloroethene	30	2.4
1,1-Dichloroethane	47	1.7
trans-1,2-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	32	1.8
1,2-Dichloroethane	ND	2.1
1,1,1-Trichloroethane	690	2.6
Trichloroethene	74	3.1
Benzene	ND	1.9
Tetrachloroethene	ND	2.8
Toluene	ND	1.8
Chlorobenzene	ND	1.5
Xylene (Total)	ND	1.9
1,2-Dichlorobenzene	ND	1.3

Client ID: MW-12B  
Site: IBM MEAD

Lab Sample No: 331245  
Lab Job No: T428

Date Sampled: 02/04/02  
Date Received: 02/07/02  
Date Analyzed: 02/09/02  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f31953.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 20.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	4.6
Chloroethane	ND	5.6
Methylene Chloride	ND	20
1,1-Dichloroethene	60	4.8
1,1-Dichloroethane	290	3.4
trans-1,2-Dichloroethene	ND	4.0
cis-1,2-Dichloroethene	280	3.6
1,2-Dichloroethane	24	4.2
1,1,1-Trichloroethane	1300	5.2
Trichloroethene	48	6.2
Benzene	ND	3.8
Tetrachloroethene	ND	5.6
Toluene	ND	3.6
Chlorobenzene	ND	3.0
Xylene (Total)	ND	3.8
1,2-Dichlorobenzene	ND	2.6

Client ID: MW-15B  
Site: IBM MEAD

Lab Sample No: 331246  
Lab Job No: T428

Date Sampled: 02/04/02  
Date Received: 02/07/02  
Date Analyzed: 02/09/02  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f31954.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	0.3	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	10	0.2
1,1-Dichloroethane	59	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	27	0.2
1,2-Dichloroethane	1.4	0.2
1,1,1-Trichloroethane	140	0.3
Trichloroethene	7.8	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

## Analytical Results Summary

Client ID: CarbonEFF-1-1115  
Site: IBM MEAD

Lab Sample No: 331232  
Lab Job No: T426

Date Sampled: 02/07/02  
Date Received: 02/07/02  
Date Analyzed: 02/09/02  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f31946.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	0.2	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: CarbonEFF-2-1110  
Site: IBM MEAD

Lab Sample No: 331233  
Lab Job No: T426

Date Sampled: 02/07/02  
Date Received: 02/07/02  
Date Analyzed: 02/09/02  
GC Column: DB624  
Instrument ID: VOAMS6.i  
Lab File ID: f31947.d

Matrix: WATER  
Level: LOW  
Purge Volume: 5.0 ml  
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS  
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Vinyl Chloride	ND	0.2
Chloroethane	ND	0.3
Methylene Chloride	ND	1.0
1,1-Dichloroethene	ND	0.2
1,1-Dichloroethane	ND	0.2
trans-1,2-Dichloroethene	ND	0.2
cis-1,2-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,1,1-Trichloroethane	ND	0.3
Trichloroethene	ND	0.3
Benzene	ND	0.2
Tetrachloroethene	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.2
Xylene (Total)	ND	0.2
1,2-Dichlorobenzene	ND	0.1

Client ID: CarbonEFF-2-1110  
Site: IBM MEAD

Lab Sample No: 331233  
Lab Job No: T426

Date Sampled: 02/07/02  
Date Received: 02/07/02

Matrix: WATER  
Level: LOW

METALS ANALYSIS

<u>Analyte</u>	<u>Analytical Result Units: ug/l</u>	<u>Instrument Detection Limit</u>	<u>M</u>
Aluminum	ND	58.6	P
Arsenic	ND	3.6	P
Iron	484	37.1	P
Lead	ND	2.1	P

M Column - Method Code (See Section 2 of Report)

Site: IBM MEAD

Lab Job No: T426

Date Received: 02/07/2002

Date Analyzed: 02/08/2002

Matrix: WATER

QA Batch: 1910

Total Dissolved Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
331233	CarbonEFF-2-1110	02/07/2002	216

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.



Site: IBM MEAD

Lab Job No: T426

Date Received: 02/07/2002

Date Analyzed: 02/11/2002

Matrix: WATER

QA Batch: 1730

Total Suspended Solids

<u>STL Edison</u> <u>Sample #</u>	<u>Client ID</u>	<u>Sample</u> <u>Date</u>	<u>Analytical Result</u> <u>Units: mg/l</u>
331233	CarbonEFF-2-1110	02/07/2002	ND

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

## Analytical Results Summary

Site: Mead Property

Lab Job No: T824

Date Received: 02/21/2002

Date Analyzed: 02/25/2002

Matrix: WATER

QA Batch: 1913

Total Dissolved Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
333975	Carbon_2	02/20/2002	234

Quantitation Limit for Total Dissolved Solids is 10.0 mg/l.

Site: Mead Property

Lab Job No: T824

Date Received: 02/21/2002

Date Analyzed: 02/22/2002

Matrix: WATER

QA Batch: 1737

Total Suspended Solids

<u>STL Edison</u>	<u>Client ID</u>	<u>Sample</u>	<u>Analytical Result</u>
<u>Sample #</u>		<u>Date</u>	<u>Units: mg/l</u>
333975	Carbon_2	02/20/2002	26.0

Quantitation Limit for Total Suspended Solids is 10.0 mg/l.

April 8, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 70  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from February 21, 2002 through March 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (February 21, 2002 through March 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS operated 18% of the time during the reporting period. Wells MW-9B, MW-12B and MW-15B operated 18% of the time. The GWTS was shut down on February 28, 2002.
- URS performed a site visit on February 28, 2002.

- During the reporting period, the GWTS recovered approximately 3,842 gallons of groundwater from well MW-12B at an average rate of 0.33 gpm, approximately 32,730 gallons of groundwater from well MW-15B at an average rate of 2.84 gpm, and approximately 634 gallons of groundwater from well MW-9B at an average rate of 0.06 gpm. Since start up in February 1996, the GWTS has recovered approximately 3,285,628 gallons of groundwater from well MW-12B at an average rate of 1.14 gpm; approximately 7,799,176 gallons of groundwater from well MW-15B at an average rate of 3.39 gpm; and approximately 1,161,296 gallons of groundwater from well MW-9B at an average rate of 0.87 gpm. Approximately 114 pounds of VOCs have been recovered by the GWTS through February 7, 2002. Analytical data for groundwater recovered from wells MW-12B, MW-15B, and MW-9B are summarized in Tables 1, 2, and 3, respectively. The data for groundwater recovered from wells MW-9B, MW-12B, and MW-15B are also attached in Appendices A and B. Figure 1 presents the cumulative mass of VOCs recovered from wells MW-9B, MW-12B, and MW-15B.
- The treated groundwater analytical results for February 2002 are reported in Table 4 and attached in Appendices A and B.
- The GWTS has treated and discharged a total of approximately 12,434,922 gallons of water at an average rate of 6,296 gallons per day (gpd). The treated water consists of recovered groundwater from wells MW-9B, MW-12B, MW-15B, recovered groundwater from the SVE system, and purge water from groundwater sampling events.

B. Deliverables

- Treated groundwater quality monitoring results for February 2002 are summarized in Table 4 and included as Appendices A and B.

C. Actions Anticipated For April 2002  
SVE System

- None.

Groundwater Treatment System

- None.

Mr. Gerald Rider  
NYSDEC  
April 8, 2002  
Page -3-

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Hill Environmental

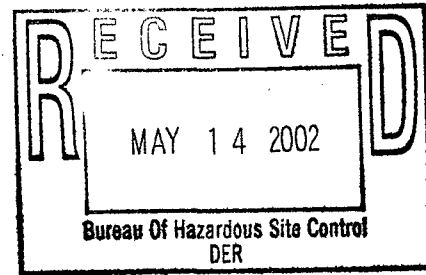


George  
PAC  
5/14

Route 100  
Somers, NY 10589

May 3, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 71  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. ~~3356~~019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from April 1, 2002 through April 30, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (April 1, 2002 through April 30, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.



C. Actions Anticipated For May 2002

SVE System

- None.

Groundwater Treatment System

- None.

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. URS is contacting NYSDEC to schedule a meeting to discuss future activities at the site.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

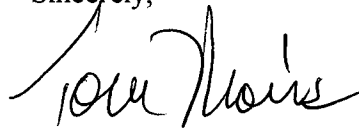
- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager

Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS

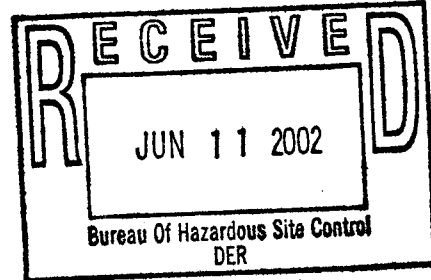
IBM

Copy  
FTR

June 10, 2002

Route 100  
Somers, NY 10589 0100

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 721  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 356-0191

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from May 1, 2002 through May 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (May 1, 2002 through May 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For June 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. IBM and NYSDEC are engaging in ongoing discussions regarding groundwater monitoring at the site.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

Mr. Gerald Rider  
NYSDEC  
June 10, 2002  
Page -3-

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Morris". The signature is fluid and cursive, with a long horizontal stroke at the end.

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio – NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley – Hill Environmental



Route 100  
Somers, NY 10589

George  
mrd  
7/12/02

July 10, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 737  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 13-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from June 1, 2002 through June 30, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (June 1, 2002 through June 30, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

Mr. Gerald Rider  
NYSDEC  
July 10, 2002

C. Actions Anticipated For July 2002

SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. IBM and NYSDEC are engaging in ongoing discussions regarding groundwater monitoring at the site.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

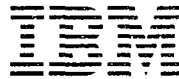


Tom Morris, P.E.

Program Manager

Corporate Environmental Programs

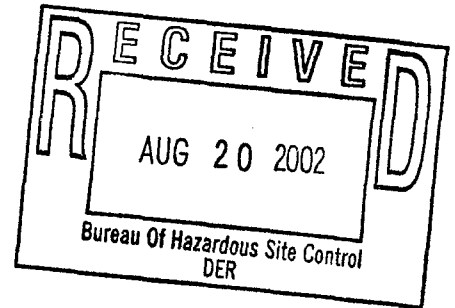
cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS



Route 100  
Somers, NY 10580

August 12, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 74. 3  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-0193

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from July 1, 2002 through July 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (July 1, 2002 through July 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For August 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring will be implemented in accordance with the Groundwater Monitoring Program. IBM and NYSDEC are engaging in ongoing discussions regarding groundwater monitoring at the site.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.



Mr. Gerald Rider  
NYSDEC  
August 12, 2002

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS

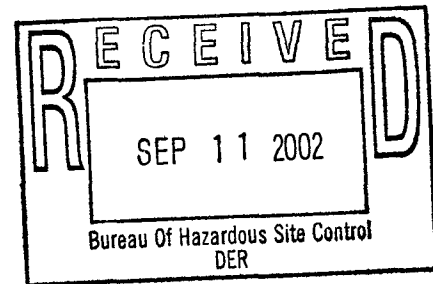
*George*

**IBM**

Route 100  
Somers, NY 10589

September 10, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 75  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from August 1, 2002 through August 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (August 1, 2002 through August 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For August 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

**Mr. Gerald Rider**  
**NYSDEC**  
**September 10, 2002**

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in cursive script that reads "Tom Morris". To the right of the signature is a small circular stamp containing the initials "TMM".

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS

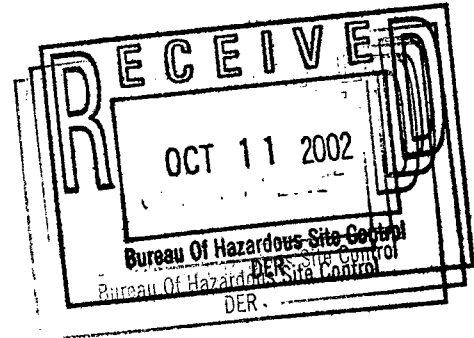


*Jerry  
FK*

Route 100  
Somers, NY 10589

October 10, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 76  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from September 1, 2002 through September 30, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (September 1, 2002 through September 30, 2002).  
SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For October 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

**Mr. Gerald Rider**  
**NYSDEC**  
**October 10, 2002**

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in cursive script that reads "Tom Morris".

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS



George

Route 100  
Somers, NY 10589

November 11, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 77  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from October 1, 2002 through October 31, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (October 1, 2002 through October 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.



Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None

C. Actions Anticipated For November 2002 SVE System

- None

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

E. Proposed Modifications

- None

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

**Mr. Gerald Rider**  
**NYSDEC**  
**November 11, 2002**

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Thomas D. Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joseph Tarsavage - URS  
Alison Spare - URS

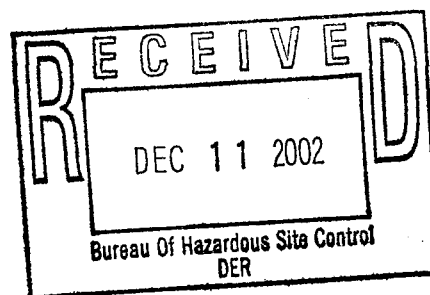


Geoff  
fkr  
12/22  
T  
5

Route 100  
Somers, NY 10589

December 10, 2002

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 78  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from November 1, 2002 through November 30, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (November 1, 2002 through November 30, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For December 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

**Mr. Gerald Rider**  
**NYSDEC**  
**December 10, 2002**

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in black ink that reads "Tom Morris". The signature is written in a cursive style with a large, sweeping initial "T".

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS

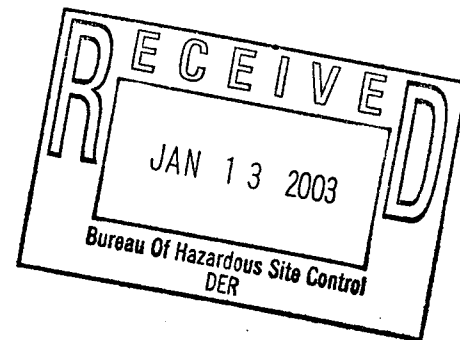
George



Route 100  
Somers, NY 10589 0100

January 8, 2003

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 79  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No: 3-56-019 ?

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from December 1, 2002 through December 3, 2002. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (December 1, 2002 through December 31, 2002).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For December 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

Mr. Gerald Rider  
NYSDEC  
January 8, 2003  
Page -3-

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Hill Environmental

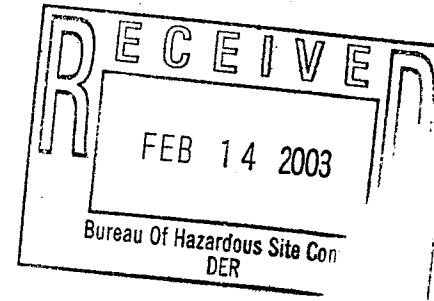




Georg  
FVA  
2/18

Route 100  
Somers, NY 10589

February 10, 2002



Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 80  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from January 1, 2003 through January 31, 2003. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (January 1, 2003 through January 31, 2003).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For December 2002  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We anticipate follow-up discussions with NYSDEC to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.
- An annual groundwater sampling event is scheduled February 2003.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

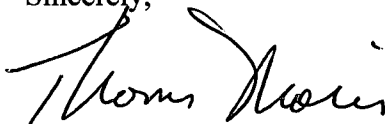
Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

Mr. Gerald Rider  
NYSDEC  
February 10, 2002

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley

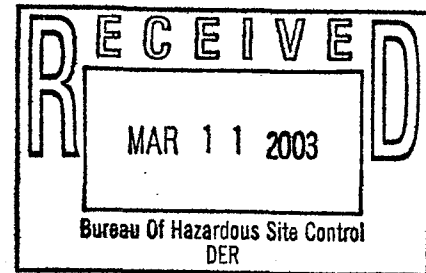


Route 100  
Somers, NY 10589

George  
Fike  
3/13/03

March 10, 2003

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010



Re: O&M Progress Report No. 81  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from February 1, 2003 through February 28, 2003. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (February 1, 2003 through February 28, 2003).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For March 2003  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We will contact NYSDEC for follow up discussions to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.
- An annual groundwater sampling event is scheduled in March 2003. The event had been scheduled for February, but was delayed due to severe weather conditions. An annual report will be prepared and submitted to NYSDEC following the groundwater sampling event.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

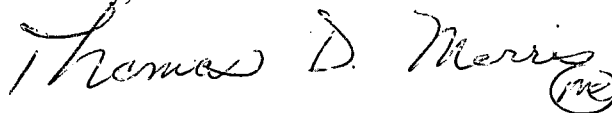
Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

Mr. Gerald Rider  
NYSDEC  
March 10, 2003

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

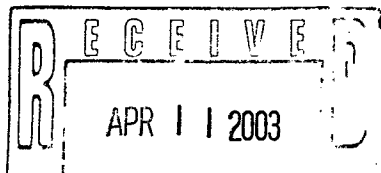
Sincerely,

Handwritten signature of Thomas D. Morris in cursive script, with a circled 'me' at the end.

Thomas D. Morris, P.E.  
Program Manager  
Corporate Environmental Programs

TM/mc

cc: George Momberger, NYSDEC  
Marc Moran, NYSDEC, Region III  
Denise D'Ambrosio, NYSDEC, Tarrytown  
Joe Tarsavage, URS  
Alison Spare, URS  
Bob Conley, Hill Environmental



*George*

Route 100  
Somers, NY 10589 0100

April 10, 2003

Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 82  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from March 1, 2003 through March 31, 2003. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (March 1, 2003 through March 31, 2003).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- Copies of two previously prepared reports (Quarterly Groundwater Monitoring Report, dated Feb 7, 2002, and Annual Groundwater Monitoring Report, dated May 28, 2002) were forwarded to George Momberger.

C. Actions Anticipated For April 2003 SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We will contact NYSDEC for follow up discussions to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.

- An annual groundwater sampling event is scheduled in April 2003. The event had been scheduled for February, but was delayed due to severe weather conditions. An annual report will be prepared and submitted to NYSDEC following the groundwater sampling event.

E. Proposed Modifications

- None



F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,



Tom Morris, P.E.  
Program Manager  
Corporate Environmental Programs

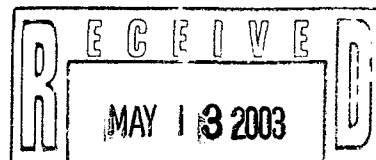
cc: George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Denise D'Ambrosio - NYSDEC, Tarrytown  
Joe Tarsavage - URS  
Alison Spare - URS  
Bob Conley - Hill Environmental



George M.  
5/16/03

Route 100  
Somers, NY 10589

May 12, 2003



Mr. Gerald Rider, Chief  
New York State Department of  
Environmental Conservation  
Operation and Maintenance Section  
Bureau of Hazardous Site Control  
Division of Environmental Remediation  
50 Wolf Road  
Albany, New York 12233-7010

Re: O&M Progress Report No. 83  
SVE and Groundwater Treatment Systems  
Mead Property Site  
Ulster County, New York  
NYSDEC Site Code No. 3-56-019

Dear Mr. Rider:

International Business Machines Corporation (IBM) is submitting this monthly progress report in accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent W3-0084-87-09, Section II. This progress report presents the work performed by URS at the Mead Property Site (Site) from April 1, 2003 through April 30, 2003. The format of this report follows the sequence presented in the Order with modifications as appropriate to present operations and maintenance data.

A. Actions During the Previous Month (April 1, 2003 through April 30, 2003).

SVE System Routine O&M

- The SVE system is shut down. It is anticipated that the SVE system will be decommissioned pending NYSDEC review of IBM's revised closure request.

Groundwater Treatment System (GWTS) Scheduled Maintenance

- The GWTS is shut down.

B. Deliverables

- None.

C. Actions Anticipated For April 2003  
SVE System

- None.

Groundwater Treatment System

- None

D. Schedule

- The Groundwater Treatment System was shut down on February 28, 2002. Post-closure groundwater monitoring is being performed in accordance with the Groundwater Monitoring Program. On August 15, 2002 IBM submitted a proposed scope of work for natural attenuation monitoring, as an alternative to the ongoing post-closure monitoring. We are reviewing NYSDEC's response to that submittal dated October 7, 2002. We will contact NYSDEC for follow up discussions to finalize the plan and to subsequently modify the Amended Remedial Action Work Plan to reflect natural attenuation monitoring.
- An annual groundwater sampling event is scheduled in May 2003. The event had been scheduled for February, but was delayed due to severe weather conditions. An annual report will be prepared and submitted to NYSDEC following the groundwater sampling event.

E. Proposed Modifications

- None.

F. Citizen Participation

Citizen participation activities during the reporting period included:

- Communication with team members regarding Site progress.

Citizen participation activities for the next reporting period are anticipated to include:

- Communication with team members regarding Site progress.

Mr. Gerald Rider  
NYSDEC  
May 12, 2003

If you have any questions or comments or require additional information, please contact Joe Tarsavage of URS Corporation at (215) 657-5000 or me at (914) 766-2739.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Morris". The signature is fluid and cursive, with a large initial "T" and "M".

Tom Morris, P.E.  
Program Manager  
Corporate Environmental Affairs

cc: Denise D'Ambrosio – NYSDEC, Tarrytown  
Bob Conley – Hill Environmental  
George Momberger, NYSDEC  
Marc Moran - NYSDEC, Region III  
Alison Spare - URS  
Joe Tarsavage - URS