

**WEEKLY PROGRESS UPDATE  
FOR DECEMBER 1 – DECEMBER 5, 2003**

**EPA REGION I ADMINISTRATIVE ORDERS SDWA 1-97-1019 and 1-2000-0014**

**MASSACHUSETTS MILITARY RESERVATION  
TRAINING RANGE AND IMPACT AREA**

The following summary of progress is for the period from December 1 through December 5, 2003.

**1. SUMMARY OF ACTIONS TAKEN**

Drilling progress as of December 5 is summarized in Table 1.

<b>Table 1. Drilling progress as of December 5, 2003</b>				
<b>Boring Number</b>	<b>Purpose of Boring/Well</b>	<b>Total Depth (ft bgs)</b>	<b>Saturated Depth (ft bwt)</b>	<b>Completed Well Screens (ft bgs)</b>
IW-273	Demo Area 1 (IW-D1-3)	280	133	
MW-298	Northwest Corner (NWP-11)	248	163	83-93; 174-184; 191-201
MW-300	J-2 Range (J2P-31)	340	237	
MW-301	Northwest Corner (NWP-8ba)	10		
bgs = below ground surface bwt = below water table				

Completed well installation of MW-298 (NWP-11), completed drilling of MW-300 (J2P-31) and IW-273 (IW-D1-3), and commenced drilling of MW-301 (NWP-8ba). Well development continued for recently installed wells.

Samples collected during the reporting period are summarized in Table 2. Groundwater profile samples were collected from MW-300. Groundwater samples were collected from Bourne water supply and monitoring wells, and as part of the August round of the Draft 2003 Long-Term Groundwater Monitoring Plan. Samples were collected from well development water from EW-275. Soil samples were collected from J-2 Range Target Control Pits, from Gun and Mortar Positions near the western boundary, and from a soil grid in Demo Area 1. An Investigation-derived waste (IDW) sample was collected from the Granular Activated Carbon (GAC) treatment system.

**2. SUMMARY OF DATA RECEIVED**

Rush data are summarized in Table 3. These data are for analyses that are performed on a fast turn around time, typically 1-5 days. Perchlorate and explosive analyses for monitoring wells, and perchlorate, explosive and volatile organic compound (VOC) analyses for groundwater profile samples, are conducted in this timeframe, as well as any analyses pursuant to a special request. The rush data are not validated, but are provided as an indication of the most recent preliminary results. Table 3 summarizes only detects, and does not show samples with non-detects.

The status of the explosive detections with respect to confirmation using Photo Diode Array (PDA) spectra is indicated in Table 3. PDA is a procedure that has been implemented for the explosive analysis, to reduce the likelihood of false positive identifications. Where the PDA status is "YES" in Table 3, the detected compound is verified as properly identified. Where the status is "NO", the identification of an explosive has been determined to be a false positive. Where the status is blank, PDA has not yet been used to evaluate the detection, or PDA is not applicable because the analyte is a VOC or perchlorate. Most explosive detections verified by PDA are confirmed to be present upon completion of validation. Table 3 includes the following detections:

Table 3 includes detections from the following areas:

#### Western Boundary

- A groundwater sample from supply well 4036000-03G had a detection of perchlorate. This is the first perchlorate detection in this well since December 2002.
- Groundwater samples from MW-80M1 and M2 had detections of perchlorate. The results were similar to previous sampling rounds.

#### Northwest Corner

- Groundwater samples from 4036009DC and RSNW03 had detections of perchlorate. The results were similar to previous sampling rounds.

#### Southeast Ranges

- Profile results from MW-300 (J2P-31) had detections of perchlorate and explosives. Perchlorate was detected in four intervals between 97 and 127 feet below the water table. Of the explosive compounds, only RDX was confirmed by PDA spectra at two intervals (37 and 97 ft bwt) but with interference at the shallower interval. Well screens will be set at the depth (32 to 42 ft bwt) corresponding to the shallowest RDX detection, at the depth (195 to 205 ft bwt) corresponding to the highest perchlorate detection, and the depth (293 to 303 ft bwt) corresponding to the screened interval at MW-293M1.

### **DELIVERABLES SUBMITTED**

Final J-2 Range Supplemental Groundwater Workplan	12/02/2003
Weekly Progress Update for November 17 – November 21, 2003	12/03/2003
Weekly Progress Update for November 24 – November 28, 2003	12/04/2003

### **3. SCHEDULED ACTIONS**

Scheduled actions for the week of December 8 include commence well installation IW-271 (IW-D1-1) and IW-272 (IW-D1-2), continue drilling of MW-301 (NWP-8ba), and commence drilling of MW-302 (J2P-32) and MW-303 (J1P-21). Groundwater sampling of Bourne water supply and monitoring wells and recently installed wells will continue. Groundwater sampling as part of the August round of the Draft 2003 Long-Term Groundwater Monitoring Plan will conclude. Demo Area 1 UXO anomaly removal, anomaly excavation at Gun Position GP-16, and soil sampling at Gun and Mortar Positions near the western boundary will continue.

#### **4. SUMMARY OF ACTIVITIES FOR DEMO AREA 1**

The Response to Comments for the Draft Groundwater Report Addendum for the Demo Area 1 Groundwater Operable Unit will be finalized pending the receipt of DEP comments. Installation of extraction and injection wells for the Groundwater RRA is ongoing. Installation of subsurface piping and well vaults for the Frank Perkins Road Extraction, Treatment and Recharge System continues. Modeling activities in support of the Feasibility Study are ongoing.

Geophysical anomaly and soil excavation within the Demo Area 1 depression continues. Responses to EPA and DEP comments on the Soil Treatment Plan were submitted on December 4, 2003. Site preparation activities for the Thermal Treatment of excavated soils was initiated at the H Range just north of Demo Area 1.

**TABLE 2  
SAMPLING PROGRESS  
11/30/2003 - 12/06/2003**

<b>SAMPLE_ID</b>	<b>GIS_LOCID</b>	<b>LOGDATE</b>	<b>SAMP_TYPE</b>	<b>SBD</b>	<b>SED</b>	<b>BWTS</b>	<b>BWTE</b>
27MW2061-A	27MW2061	12/01/2003	GROUNDWATER	66	76	0	10
4036000-01G-A	4036000-01G	12/01/2003	GROUNDWATER	38	69.8	6	12
4036000-03G-A	4036000-03G	12/01/2003	GROUNDWATER	50	60	6	12
4036000-04G-A	4036000-04G	12/01/2003	GROUNDWATER	54.6	64.6	6	12
4036000-06G-A	4036000-06G	12/01/2003	GROUNDWATER	108	128	6	12
58MW0016B-A	58MW0016B	12/01/2003	GROUNDWATER	151.09	160.74	28.5	38.5
LRWS1-4-A	LRWS1-4	12/05/2003	GROUNDWATER				
TW1-88B-A	1-88	12/01/2003	GROUNDWATER	105.5	105.5	69.6	69.6
USCGANTST-A	USCGANTST	12/02/2003	GROUNDWATER	0	0		
W02-01M1A	02-01	12/02/2003	GROUNDWATER	95	105	42.9	52.9
W02-01M2A	02-01	12/01/2003	GROUNDWATER	83	93	30.9	40.9
W02-02M1A	02-02	12/02/2003	GROUNDWATER	114.5	124.5	63.5	73.5
W02-02M1D	02-02	12/02/2003	GROUNDWATER	114.5	124.5	63.5	73.5
W02-02M2A	02-02	12/02/2003	GROUNDWATER	94.5	104.5	42.65	52.65
W02-02SSA	02-02	12/02/2003	GROUNDWATER	49.5	59.5	0	10
W02-04M1A	02-04	12/02/2003	GROUNDWATER	123	133	73.97	83.97
W02-04M2A	02-04	12/02/2003	GROUNDWATER	98	108	48.93	58.93
W02-04M3A	02-04	12/02/2003	GROUNDWATER	83	93	34.01	44.01
W02-07M2A	02-07	12/02/2003	GROUNDWATER	107	117	72.86	82.86
W02-12M1A	02-12	12/01/2003	GROUNDWATER	109	119	58.35	68.35
W02-12M1D	02-12	12/01/2003	GROUNDWATER	109	119	58.35	68.35
W02-12M2A	02-12	12/01/2003	GROUNDWATER	94	104	43.21	53.21
W02-12M3A	02-12	12/01/2003	GROUNDWATER	79	89	28.22	38.22
W02-13M1A	02-13	12/01/2003	GROUNDWATER	98	108	58.33	68.33
W02-13M2A	02-13	12/01/2003	GROUNDWATER	83	93	44.2	54.2
W02-13M3A	02-13	12/01/2003	GROUNDWATER	68	78	28.3	38.3
W213M3A	MW-213	12/05/2003	GROUNDWATER	77	82	29.38	34.38
W213M3D	MW-213	12/05/2003	GROUNDWATER	77	82	29.38	34.38
W219M1A	MW-219	12/03/2003	GROUNDWATER	357	367	178	188
W219M2A	MW-219	12/03/2003	GROUNDWATER	332	342	153.05	163.05
W219M3A	MW-219	12/03/2003	GROUNDWATER	315	325	135.8	145.8
W219M4A	MW-219	12/03/2003	GROUNDWATER	225	235	45.7	55.7
W229M4A	MW-229	12/02/2003	GROUNDWATER	117	127	4.18	14.18
W253DDA	MW-253	12/02/2003	GROUNDWATER	305	315	176.83	186.83
W253M1A	MW-253	12/02/2003	GROUNDWATER	265	275	136.72	146.72

**Profiling methods may include: Volatiles, Explosives, and Perchlorate**  
**Groundwater methods include: Volatiles, Semivolatiles, Explosives,**  
**Pesticides, Herbicides, Metals, Perchlorate and Wet Chemistry**  
**Other Sample Types methods are variable**  
**SBD = Sample Begin Depth, measured in feet bgs**  
**SED = Sample End Depth, measured in feet bgs**  
**BWTS = Depth below water table, start depth, measured in feet**  
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**TABLE 2  
SAMPLING PROGRESS  
11/30/2003 - 12/06/2003**

<b>SAMPLE_ID</b>	<b>GIS_LOCID</b>	<b>LOGDATE</b>	<b>SAMP_TYPE</b>	<b>SBD</b>	<b>SED</b>	<b>BWTS</b>	<b>BWTE</b>
W253SSA	MW-253	12/03/2003	GROUNDWATER	127	137	0	10
W255M1A	MW-255	12/03/2003	GROUNDWATER	206	216	96.3	106.3
W255M2A	MW-255	12/03/2003	GROUNDWATER	170	180	60.43	70.43
W259M1A	MW-259	12/04/2003	GROUNDWATER	189	199	7.62	17.62
W260M1A	MW-260	12/04/2003	GROUNDWATER	171	181	1.55	11.55
W262M1A	MW-262	12/04/2003	GROUNDWATER	226	236	9.42	19.42
W262M1D	MW-262	12/04/2003	GROUNDWATER	226	236	9.42	19.42
W265M1A	MW-265	12/01/2003	GROUNDWATER	265	275	137.65	147.65
W265M2A	MW-265	12/01/2003	GROUNDWATER	225	235	97.6	107.6
W265M3A	MW-265	12/01/2003	GROUNDWATER	200	210	72.44	82.44
W276M1A	MW-276	12/05/2003	GROUNDWATER	295	305	114	124
W276M2A	MW-276	12/05/2003	GROUNDWATER	234	244	52.88	62.88
W276M3A	MW-276	12/04/2003	GROUNDWATER	185	195	0	10
W277M1A	MW-277	12/05/2003	GROUNDWATER	130	140	26.3	36.3
W278M1A	MW-278	12/03/2003	GROUNDWATER	113	123	25.76	35.76
W278M2A	MW-278	12/03/2003	GROUNDWATER	97	102	9.79	14.79
W278M2D	MW-278	12/03/2003	GROUNDWATER	97	102	9.79	14.79
W283M1A	MW-283	12/02/2003	GROUNDWATER	38	48	29.12	29.12
W284M1A	MW-284	12/02/2003	GROUNDWATER	115	125	90.55	100.55
W284M2A	MW-284	12/02/2003	GROUNDWATER	45	55	21.2	31.2
W286M1A	MW-286	12/01/2003	GROUNDWATER	259	269	135.61	145.61
W286M2A	MW-286	12/02/2003	GROUNDWATER	205	215	81.42	91.42
W286SSA	MW-286	12/02/2003	GROUNDWATER	122	132	0	10
W288M1A	MW-288	12/01/2003	GROUNDWATER	190	200	102.19	112.19
W288M1D	MW-288	12/01/2003	GROUNDWATER	190	200	102.19	112.19
W33DDA	MW-33	12/03/2003	GROUNDWATER	181.5	186.5	85	90
W33MMA	MW-33	12/03/2003	GROUNDWATER	161.5	171.5	65	75
W33SSA	MW-33	12/03/2003	GROUNDWATER	146.5	151.5	50	55
W56M2A	MW-56	12/02/2003	GROUNDWATER	131	141	56	66
W56M3A	MW-56	12/01/2003	GROUNDWATER	106	116	31	41
W74M1A	MW-74	12/03/2003	GROUNDWATER	170	180	76	86
W74M2A	MW-74	12/04/2003	GROUNDWATER	125	135	31	41
W74M2D	MW-74	12/04/2003	GROUNDWATER	125	135	31	41
W74M3A	MW-74	12/04/2003	GROUNDWATER	100	110	6	16
W75M1A	MW-75	12/03/2003	GROUNDWATER	140	150	59	69

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W75M1A-QA	MW-75	12/03/2003	GROUNDWATER	140	150	59	69
W75M2A	MW-75	12/04/2003	GROUNDWATER	115	125	34	44
W75M2A-QA	MW-75	12/04/2003	GROUNDWATER	115	125	34	44
W75SSA	MW-75	12/04/2003	GROUNDWATER	81	91	0	10
W76M2A	MW-76	12/03/2003	GROUNDWATER	105	115	38	48
W78M1A	MW-78	12/04/2003	GROUNDWATER	135	145	58	68
W78M2A	MW-78	12/04/2003	GROUNDWATER	115	125	38	48
W78M3A	MW-78	12/04/2003	GROUNDWATER	85	95	8	18
DW120303-NV	GAC WATER	12/03/2003	IDW	0	0		
EW275EFF2-A	EW-275	12/03/2003	OTHER				
EW275INF2-A	EW-275	12/03/2003	OTHER				
EW275INF2-D	EW-275	12/03/2003	OTHER				
EW275MID2-A	EW-275	12/03/2003	OTHER				
MW-300-07	MW-300	12/01/2003	Profile	180	180	77	77
MW-300-07	MW-300	12/01/2003	Profile	180	180	77	77
MW-300-08	MW-300	12/01/2003	Profile	190	190	87	87
MW-300-08	MW-300	12/01/2003	Profile	190	190	87	87
MW-300-09	MW-300	12/01/2003	Profile	200	200	97	97
MW-300-10	MW-300	12/02/2003	Profile	210	210	107	107
MW-300-11	MW-300	12/02/2003	Profile	220	220	117	117
MW-300-12	MW-300	12/02/2003	Profile	230	230	127	127
MW-300-13	MW-300	12/02/2003	Profile	240	240	137	137
MW-300-13FD	MW-300	12/02/2003	Profile	240	240	137	137
MW-300-14	MW-300	12/02/2003	Profile	250	250	147	147
MW-300-15	MW-300	12/02/2003	Profile	260	260	157	157
MW-300-16	MW-300	12/02/2003	Profile	270	270	167	167
MW-300-17	MW-300	12/02/2003	Profile	280	280	177	177
MW-300-18	MW-300	12/02/2003	Profile	290	290	187	187
MW-300-19	MW-300	12/02/2003	Profile	300	300	197	197
MW-300-20	MW-300	12/03/2003	Profile	310	310	207	207
MW-300-21	MW-300	12/03/2003	Profile	320	320	217	217
MW-300-22	MW-300	12/03/2003	Profile	330	330	227	227
MW-300-23	MW-300	12/03/2003	Profile	340	340	237	237
PIT3B-01	TR1-A	12/03/2003	Soil Composite	4	4.5		
PIT3B-02	TR1-A	12/03/2003	Soil Composite	6	7		

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PIT3C-01	TR2-A	12/04/2003	Soil Composite	5	6		
PIT3C-02	TR2-A	12/04/2003	Soil Composite	6	7		
PIT4D-01	TR4-A	12/03/2003	Soil Composite	1.5	2		
PIT4D-02	TR4-A	12/05/2003	Soil Composite	7	8		
PIT4J-01	TR5-A	12/03/2003	Soil Composite	1.5	2		
D1_E4-SW	TBD	12/05/2003	Soil Grid	0	0.5		
HC20D1AAA	20D	12/04/2003	SOIL GRID	0	0.5		
HC20D1AAD	20D	12/04/2003	SOIL GRID	0	0.5		
HC20D1BAA	20D	12/04/2003	SOIL GRID	1.5	2		
HC20E1AAA	20E	12/04/2003	SOIL GRID	0	0.5		
HC20E1BAA	20E	12/04/2003	SOIL GRID	1.5	2		
HC20F1AAA	20F	12/04/2003	SOIL GRID	0	0.5		
HC20F1BAA	20F	12/04/2003	SOIL GRID	1.5	2		
HC20G1AAA	20G	12/03/2003	SOIL GRID	0	0.5		
HC20G1BAA	20G	12/03/2003	SOIL GRID	1.5	2		
HC21F1AAA	21F	12/03/2003	SOIL GRID	0	0.5		
HC21F1BAA	21F	12/03/2003	SOIL GRID	1.5	2		
HC21G1AAA	21G	12/03/2003	SOIL GRID	0	0.5		
HC21G1BAA	21G	12/03/2003	SOIL GRID	1.5	2		
HC21H1AAA	21H	12/03/2003	SOIL GRID	0	0.5		
HC21H1BAA	21H	12/03/2003	SOIL GRID	1.5	2		
HC21I1AAA	21I	12/03/2003	SOIL GRID	0	0.5		
HC21I1BAA	21I	12/03/2003	SOIL GRID	1.5	2		
HC69L1AAA	69L	12/05/2003	SOIL GRID	0	0.5		
HC69L1AAD	69L	12/05/2003	SOIL GRID	0	0.5		
HC69L1BAA	69L	12/05/2003	SOIL GRID	1.5	2		
HC71D1AAA	71D	12/04/2003	SOIL GRID	0	0.5		
HC71D1BAA	71D	12/04/2003	SOIL GRID	1.5	2		
HC76D1AAA	76D	12/05/2003	SOIL GRID	0	0.5		
HC76D1BAA	76D	12/05/2003	SOIL GRID	1.5	2		
HC76E1AAA	76E	12/04/2003	SOIL GRID	0	0.5		
HC76E1AAD	76E	12/04/2003	SOIL GRID	0	0.5		
HC76E1BAA	76E	12/04/2003	SOIL GRID	1.5	2		
HC76F1AAA	76F	12/04/2003	SOIL GRID	0	0.5		
HC76F1BAA	76F	12/04/2003	SOIL GRID	1.5	2		

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HC76G1AAA	76G	12/05/2003	SOIL GRID	0	0.5		
HC76G1BAA	76G	12/05/2003	SOIL GRID	1.5	2		

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**TABLE 3  
DETECTED COMPOUNDS-UNVALIDATED  
SAMPLES COLLECTED 11/07/03 - 12/06/03**

<b>SAMPLE ID</b>	<b>LOCID OR WELL</b>	<b>SAMPLED</b>	<b>SAMP TYPE</b>	<b>SBD</b>	<b>SED</b>	<b>BWTS</b>	<b>BWTE</b>	<b>METHOD</b>	<b>ANALYTE</b>	<b>PDA</b>
4036000-03G-A	4036000-03G	12/01/2003	GROUNDWATER	50	60	6	12	E314.0	PERCHLORATE	
4036009DC-A	4036009DC	11/24/2003	GROUNDWATER	0	0			E314.0	PERCHLORATE	
RSNW03-A	RSNW03	11/26/2003	GROUNDWATER	0	0			E314.0	PERCHLORATE	
W80M1A	MW-80	11/22/2003	GROUNDWATER	130	140	86	96	E314.0	PERCHLORATE	
W80M2A	MW-80	11/22/2003	GROUNDWATER	100	110	56	66	E314.0	PERCHLORATE	
MW-300-01	MW-300 (J2P-WRE)	11/25/2003	PROFILE	120	120	17	17	8330N	RDX	NO
MW-300-02	MW-300 (J2P-WRE)	11/25/2003	PROFILE	130	130	27	27	8330N	RDX	NO
MW-300-03	MW-300 (J2P-WRE)	11/26/2003	PROFILE	140	140	37	37	8330N	RDX	YES+
MW-300-03FD	MW-300 (J2P-WRE)	11/26/2003	PROFILE	140	140	37	37	8330N	RDX	YES+
MW-300-09	MW-300 (J2P-WRE)	12/01/2003	PROFILE	200	200	97	97	8330N	RDX	YES
MW-300-09	MW-300 (J2P-WRE)	12/01/2003	PROFILE	200	200	97	97	E314.0	Perchlorate	
MW-300-10	MW-300 (J2P-WRE)	12/02/2003	PROFILE	210	210	107	107	8330N	Picric Acid	NO+
MW-300-10	MW-300 (J2P-WRE)	12/02/2003	PROFILE	210	210	107	107	E314.0	Perchlorate	
MW-300-11	MW-300 (J2P-WRE)	12/02/2003	PROFILE	220	220	117	117	E314.0	Perchlorate	
MW-300-12	MW-300 (J2P-WRE)	12/02/2003	PROFILE	230	230	127	127	E314.0	Perchlorate	

**DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.**

**SBD = SAMPLE COLLECTION BEGIN DEPTH IN FEET BELOW GROUND SURFACE**

**SED = SAMPLE COLLECTION END DEPTH IN FEET BELOW GROUND SURFACE**

**BWTS = DEPTH BELOW WATER TABLE, START DEPTH, MEASURED IN FEET**

**BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET**

**PDA/YES = Photo Diode Array, Detect Confirmed**

**PDA/NO = Photo Diode Array, Detect Not Confirmed**

**\* = Interference in sample**

**+ = PDAs are not good matches**