WEEKLY PROGRESS UPDATE
FOR DECEMBER 24 – DECEMBER 28, 2001

EPA REGION I ADMINISTRATIVE ORDERS SDWA 1-97-1019 & 1-2000-0014
MASSACHUSETTS MILITARY RESERVATION
TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period from December 24 to December 28, 2001.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of December 28 is summarized in Table 1.

Table 1. Drilling progress as of December 28, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-193	J-3 Range Well (J3P-12)	85	53	
MW-194	J-3 Range Well (J3P-13)	60	3	
MW-195	J-3 Range Well (J3P-14)	120	85	
MW-196	J-3 Range Well (J3P-15)	140	107	
MW-197	J-3 Range Well (J3P-11)	165	145	
MW-198	J-3 Range Well (J3P-16)	155	135	
MW-200	Central Impact Area Well (CIAP-8)	330	130	

bgs = below ground surface
bwt = below water table

No drilling was conducted the week of December 24 – December 28.

Samples collected during the reporting period are summarized in Table 2. Groundwater samples were collected as part of the December Long Term Groundwater Monitoring round. As part of the Munitions Survey Project pre-detonation and post-detonation soil samples were collected from Transect 5 in the Central Impact Area HUTA2 zone. Soil samples were also collected at J-1 Range and from Transect 1 in the Central Impact Area HUTA2 zone.

The weekly technical meeting held by the Guard, EPA, and MADEP was postponed for the holidays until January 3, 2002.

2. SUMMARY OF DATA RECEIVED

Rush data are summarized in Table 3. These data are for analyses that are performed on a fast turnaround time, typically 1-5 days. Explosive analyses for monitoring wells, and explosive and VOC analyses for groundwater profile samples, are conducted in this timeframe. 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 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. Most explosive detections verified by PDA are confirmed to be present upon completion of validation. Table 3 includes the following detections:

- Groundwater samples from 58MW0006E (CS-19), 58MW0011D (CS-19), 58MW0016B (CS-19), 90MW0054 (FS-12), and MW-18M1 (northwest corner) had detections of RDX that were confirmed by PDA spectra. These detections were similar to detections in previous sampling rounds.

- Groundwater samples from 58MW0015B and 58MW0018B (CS-19) had detections of RDX that were confirmed by PDA spectra. This is the first time these AFCEE wells have been sampled under the IAGWSP.

- Groundwater samples from 90WT0004 (FS-12) had a detection of HMX that was confirmed by PDA spectra. This detection is similar to detections in previous sampling rounds.

- Groundwater samples from 58MW0016C (CS-19), MW-132S (J-3 Range), MW-136S (J-1 Range), and MW-58S (J-1 Range) had detections of HMX and RDX that were confirmed by PDA spectra. These detections are similar to previous sampling rounds, except that HMX was not detected in the previous sampling round of 58MW0016C.

- Groundwater samples from 58MW0009E (CS-19) had detections of 2A-DNT, 4A-DNT, RDX, MNX, and HMX that were confirmed by PDA spectra. This is the first time this well has been sampled using method 8330NX and the first time that MNX has been detected. The other explosives have been detected in previous sampling rounds.

- Groundwater samples from MW-130S (J-2 Range) and a duplicate sample had detections of 4A-DNT, RDX, and HMX that were confirmed by PDA spectra. These detections are similar to previous sampling rounds.

- Groundwater samples from 90WT0019 (CS-19) had detections of 1,3,5-trinitrobenzene, 1,3-dinitrobenzene, TNT, 2,6-DNT, 2-nitrotoluene, 3-nitrotoluene, 4-nitrotoluene, 4A-DNT, RDX, picric acid, and tetryl. The detection of RDX was confirmed by PDA spectra, but with interference. The detection of 1,3-dinitrobenzene was not confirmed by PDA spectra, but with interference. 2,6-DNT is the only explosive compound that has been confirmed as a validated detect for this well in prior sampling rounds.

- Groundwater profile samples from MW-200 (CIAP-8) had detections of 1,3,5-trinitrobenzene (2 intervals); 1,3-dinitrobenzene (2 intervals); 2,4-DANT (4 intervals); 2,4-DNT (2 intervals); 2A-DNT (1 interval); 2-nitrotoluene (2 intervals); 3-nitrotoluene (1 interval), 4-nitrotoluene (2 intervals), nitrobenzene (1 interval); RDX (6 intervals), picric acid (4 intervals), and nitroglycerin (6 intervals). The RDX and 2,4-DANT detections were confirmed by PDA spectra, although there was interference encountered in the RDX detections.

3. DELIVERABLES SUBMITTED

No deliverables were submitted the week of December 24 – December 28.

4. SCHEDULED ACTIONS

Continue Third Quarter 2001 Long Term Groundwater Monitoring. Complete well installation of MW-193 (J3P-12) and MW-196 (J3P-15), and continue drilling of MW-194 (J3P-13).

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The next monitoring well (D1P-9) will be located approximately 600 feet west of Frank Perkins Road at the projected centerline of the plume. Discussions are ongoing regarding the approach to finalize the Groundwater Feasibility Study. Responses to EPA comments on the Draft Feasibility Study for the Groundwater Operable Unit were submitted on December 10th. A comment resolution meeting is scheduled for early January.

TABLE 2
SAMPLING PROGRESS
12/22/2001-12/28/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
T5.A.AA.013.1.0	T5.AA.013.R	12/21/2001	CRATER GRID	0.00	0.25		
T5.A.AA.013.2.0	T5.AA.013.R	12/21/2001	CRATER GRID	0.00	0.25		
T5.A.AA.013.3.0	T5.AA.013.R	12/21/2001	CRATER GRID	0.00	0.25		
W108M1A	MW-108	12/27/2001	GROUNDWATER	297.00	307.00	133.00	143.00
W108M1D	MW-108	12/27/2001	GROUNDWATER	297.00	307.00	133.00	143.00
W108M3A	MW-108	12/27/2001	GROUNDWATER	262.00	272.00	98.00	108.00
W108M4A	MW-108	12/27/2001	GROUNDWATER	240.00	250.00	76.00	86.00
W110M1A	MW-110	12/28/2001	GROUNDWATER	315.50	325.50	142.00	152.00
W110M2A	MW-110	12/28/2001	GROUNDWATER	248.50	258.50	75.00	85.00
W139M1A	MW-139	12/27/2001	GROUNDWATER	194.00	204.00	110.00	120.00
W139M2A	MW-139	12/27/2001	GROUNDWATER	154.00	164.00	70.00	80.00
W139M3A	MW-139	12/27/2001	GROUNDWATER	119.00	129.00	35.00	45.00
W19SSA	MW-19	12/27/2001	GROUNDWATER	38.00	48.00	0.00	10.00
W33DDA	MW-33	12/26/2001	GROUNDWATER	181.50	186.50	85.00	90.00
W33MMA	MW-33	12/26/2001	GROUNDWATER	161.50	171.50	65.00	75.00
W34M1A	MW-34	12/26/2001	GROUNDWATER	151.00	161.00	73.00	83.00
W34M2A	MW-34	12/26/2001	GROUNDWATER	131.00	141.00	53.00	63.00
W34M3A	MW-34	12/26/2001	GROUNDWATER	111.00	121.00	33.00	43.00
W76M1A	MW-76	12/28/2001	GROUNDWATER	125.00	135.00	58.00	68.00
W76SSA	MW-76	12/28/2001	GROUNDWATER	85.00	95.00	18.00	28.00
W77M1A	MW-77	12/26/2001	GROUNDWATER	180.00	190.00	98.00	108.00
W77M2A	MW-77	12/26/2001	GROUNDWATER	120.00	130.00	38.00	48.00
W77SSA	MW-77	12/26/2001	GROUNDWATER	83.00	93.00	1.00	11.00
W78M1A	MW-78	12/27/2001	GROUNDWATER	135.00	145.00	58.00	68.00
W78M2A	MW-78	12/28/2001	GROUNDWATER	115.00	125.00	38.00	48.00
W78M3A	MW-78	12/28/2001	GROUNDWATER	85.00	95.00	8.00	18.00
J1.F.T16.001.1.0	J1.T16.001.O	12/19/2001	SOIL GRID	1.50	1.75		
J1.F.T16.002.1.0	J1.T16.002.O	12/17/2001	SOIL GRID	1.50	1.75		
J1.F.T16.002.2.0	J1.T16.002.O	12/17/2001	SOIL GRID	4.00	4.58		
J1.F.T16.003.1.0	J1.T16.003.O	12/17/2001	SOIL GRID	2.17	2.50		
J1.F.T16.003.2.0	J1.T16.003.O	12/17/2001	SOIL GRID	1.50	2.00		
T1.I.0P.026.1.0	T1.0P.026.O	12/21/2001	SOIL GRID	0.50	0.75		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, 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
BWTE = Depth below water table, end depth, measured in feet

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 12/8/01-12/28/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
58MW0006E	58MW0006E	12/13/2001	GROUNDWATER	109.00	119.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0009E	58MW0009E	12/11/2001	GROUNDWATER	133.40	138.40	6.50	11.50	8330NX	2-AMINO-4,6-DINITROTOLUENE	YES
58MW0009E	58MW0009E	12/11/2001	GROUNDWATER	133.40	138.40	6.50	11.50	8330NX	4-AMINO-2,6-DINITROTOLUENE	YES
58MW0009E	58MW0009E	12/11/2001	GROUNDWATER	133.40	138.40	6.50	11.50	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0009E	58MW0009E	12/11/2001	GROUNDWATER	133.40	138.40	6.50	11.50	8330NX	HEXAHYDRO-1-MONONITROSO	YES
58MW0009E	58MW0009E	12/11/2001	GROUNDWATER	133.40	138.40	6.50	11.50	8330NX	OCTAHYDRO-1,3,5,7-TETRANITR	YES
58MW0011D	58MW0011D	12/11/2001	GROUNDWATER	175.40	180.40	49.50	54.50	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0015B	58MW0015B	12/12/2001	GROUNDWATER	130.00	140.00	12.70	22.70	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0016B	58MW0016B	12/11/2001	GROUNDWATER	150.00	160.00	28.50	38.50	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0016C	58MW0016C	12/11/2001	GROUNDWATER	116.00	126.00	0.00	10.00	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0016C	58MW0016C	12/11/2001	GROUNDWATER	116.00	126.00	0.00	10.00	8330NX	OCTAHYDRO-1,3,5,7-TETRANITR	YES
58MW0018B	58MW0018B	12/13/2001	GROUNDWATER	176.00	186.00	34.55	44.55	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
90MW0054	90MW0054	12/08/2001	GROUNDWATER	107.00	112.00	91.83	96.83	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
90WT0004	90WT0004	12/10/2001	GROUNDWATER	35.00	45.00	3.00	13.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	1,3,5-TRINITROBENZENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	1,3-DINITROBENZENE	NO+
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	2,4,6-TRINITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	2,6-DINITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	2-NITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	3-NITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	4-NITROTOLUENE	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES+
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	PICRIC ACID	NO
90WT0019	90WT0019	12/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00	8330N	TETRYL	NO
W130SSA	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W130SSA	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W130SSA	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W130SSD	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W130SSD	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W130SSD	MW-130	12/13/2001	GROUNDWATER	103.00	113.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W132SSA	MW-132	12/12/2001	GROUNDWATER	37.00	47.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
SBD = SAMPLE COLLECTION BEGIN DEPTH IN FEET BGS
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS
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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 12/8/01-12/28/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W132SSA	MW-132	12/12/2001	GROUNDWATER	37.00	47.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W136SSA	MW-136	12/12/2001	GROUNDWATER	107.00	117.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W136SSA	MW-136	12/12/2001	GROUNDWATER	107.00	117.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W18M1A	MW-18	12/10/2001	GROUNDWATER	171.00	176.00	128.00	133.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W58SSA	MW-58	12/12/2001	GROUNDWATER	100.00	110.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W58SSA	MW-58	12/12/2001	GROUNDWATER	100.00	110.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G200DDA	MW-200	12/19/2001	PROFILE	230.00	230.00			8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G200DDA	MW-200	12/19/2001	PROFILE	230.00	230.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES*
G200DDA	MW-200	12/19/2001	PROFILE	230.00	230.00			8330N	NITROGLYCERIN	NO
G200DDA	MW-200	12/19/2001	PROFILE	230.00	230.00			8330N	PICRIC ACID	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	1,3,5-TRINITROBENZENE	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	1,3-DINITROBENZENE	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	2,4-DINITROTOLUENE	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES*
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	NITROBENZENE	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	NITROGLYCERIN	NO
G200DEA	MW-200	12/19/2001	PROFILE	240.00	240.00			8330N	PICRIC ACID	NO
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	2-NITROTOLUENE	NO
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	4-NITROTOLUENE	NO
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES*
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	NITROGLYCERIN	NO
G200DFA	MW-200	12/20/2001	PROFILE	250.00	250.00			8330N	PICRIC ACID	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	1,3,5-TRINITROBENZENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	1,3-DINITROBENZENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	2,4-DINITROTOLUENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	2-NITROTOLUENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	3-NITROTOLUENE	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	4-NITROTOLUENE	NO

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* = Interference in sample

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 12/8/01-12/28/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	NITROGLYCERIN	NO
G200DGA	MW-200	12/20/2001	PROFILE	260.00	260.00			8330N	PICRIC ACID	NO
G200DHA	MW-200	12/20/2001	PROFILE	270.00	270.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G200DHA	MW-200	12/20/2001	PROFILE	270.00	270.00			8330N	NITROGLYCERIN	NO
G200DIA	MW-200	12/20/2001	PROFILE	280.00	280.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G200DIA	MW-200	12/20/2001	PROFILE	280.00	280.00			8330N	NITROGLYCERIN	NO

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
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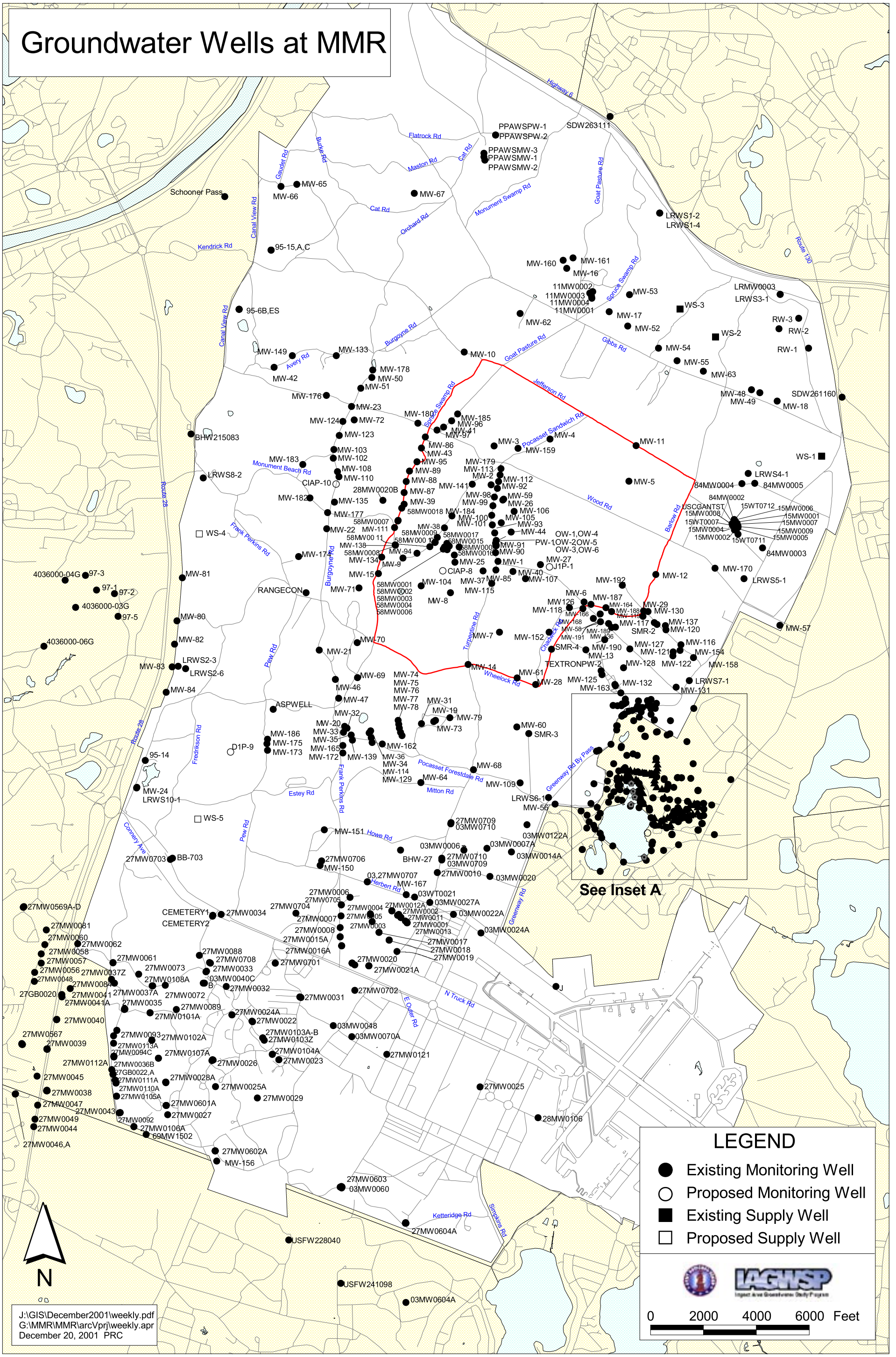
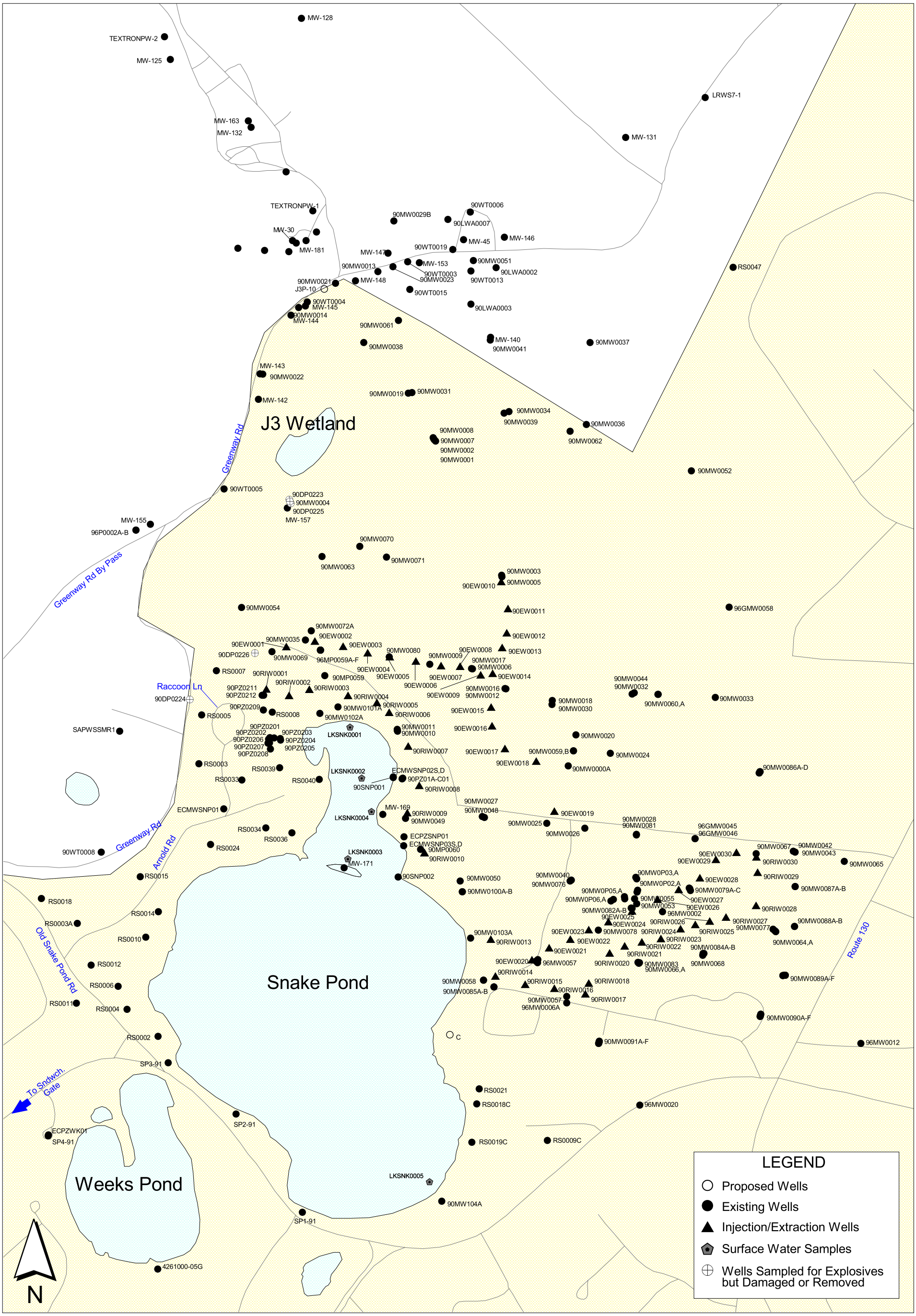
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS
BWTS = DEPTH BELOW WATER TABLE, START DEPTH, MEASURED IN FEET
BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET
PDA/YES = Photo Diode Array, Detect Confirmed
PDA/NO = Photo Diode Array, Detect Not Confirmed
* = Interference in sample

Groundwater Wells at MMR





0 600 1200 Feet

Inset A

J:\GIS\December2001\weekly_a.pdf
G:\MMR\MMR\arcvprj\weekly.apr
December 20, 2001 PRC