WEEKLY PROGRESS UPDATE
FOR JANUARY 10 – JANUARY 14, 2000

EPA REGION I ADMINISTRATIVE ORDER SDWA I-97-1019
MASSACHUSETTS MILITARY RESERVATION
TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period from January 10 to January 14, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of January 14 is summarized in Table 1.

Table 1. Drilling progress as of January 14, 1999

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-74	Demo 1 Response Well	15		
MW-78	Demo 1 Response Well	195	115	85-95 115-125 135-145

bgs = below ground surface
bwt = below water table

Well development continued for MW-75 and development of MW-48S commenced. UXO clearance continued along Turpentine Road for the RDX response well pads. UXO avoidance was completed on mortar targets.

Samples collected during the reporting period are summarized in Table 2. The third round of groundwater sampling was initiated for the Supplemental IRP well (including 03MW0024A, SMR-3, and SMR-4). The second round of groundwater sampling was completed for Group 2 far field wells (including MW-81, 82, and 83). Performance Evaluation (PE) samples were submitted for soil and groundwater. Soil sampling continued on the following Gun and Mortar positions: GP-2 (Area 51), GP-5 (Area 57), GP-6 (Area 58), GP-12 (Area 62), GP-17 (Area 65), GP-20 (Area 67), and GP-22 (Area 68). Soil sampling was completed on the following Mortar Targets: Target 5 (Area 83) and Target 7 (Area 85). Soil sampling at the rest of the mortar targets was postponed due to the identification of UXO at Target 9.

The Guard, EPA, and MADEP had a meeting on January 13 to discuss technical issues, including the following:

- A handout on perchlorate analysis was distributed for review.

- EPA requested the status of the CS-19 bunker and cleared area sampling. Ogden indicated that it is on the schedule but has not started. EPA requested that this work be scheduled so that it proceeds simultaneous with AFCEE's work.

- An update of the munitions survey field activities was given by Tetra Tech. Crews continue to clear brush and UXO at Demo 1 and the gun and mortar positions. The Geophysical subcontractor is scheduled to start next week at the calibration area and the gun and mortar positions.

- Ogden gave an update of the groundwater study field activities. Two crews are continuing with soil sampling at gun and mortar positions and the mortar targets. One crew is working on the groundwater sampling of IRP monitoring wells. The drill rig is currently installing monitoring wells at a Demo 1 response well location (MW-78). The rig is scheduled to move to the last response well location (MW-74) next week.

- Resolution of comment responses on Demo 1 Remedial Technologies Report was discussed. EPA had the following comments on the responses and change pages:
  - General Comment 2, add initial screening of technologies.
  - Specific Comment 5, add more information to text.
  - Specific Comment 9, regarding hydraulic containment check the wording against the CERCLA guidance.
  - Page 2 the soil concentration "3.9" should be "9.3".
  - Page 18 delete the words "surface soil" under recommendations (different depths are cited).
  - What is "bioslurping" and why is it not in this document? This term was mentioned by the Guard to EPA.

  There were no MADEP comments on responses and change pages. Ogden will prepare additional change pages and the MOR.

- A 23-page table of the Preliminary Summary of Gun and Mortar Soil Results and 4 pages of figures were distributed for review. The status of detections, availability of analytical data, and schedule for completion were discussed. Propellants have been detected in soil at three of the four areas, and several detections exceed the RCS1. The distributions of data are difficult to visualize in the current format, and it was agreed to display the results weekly (as they become available) using concentration maps.

- A 26-page table and 3 pages of figures of the RDX source area soil samples were distributed for review. Results indicate RDX, HMX, TNT, and TNT breakdown products at the ring grids around the tank on Tank Alley, and a TNT breakdown product at another grid nearby. The grids along Greenway Road had detections of nitroglycerin, 2,4-DNT, dieldrin, and PAHs. These data will be considered in the Phase II Report, and if necessary in any response plans preceding the report.

- A 1-page handout of the Power Probe demonstration results and the MW-77 profile results along with the pros and cons of both the Power Probe and the Barber drilling were distributed for review. It was agreed that the rest of the demonstration would be required before a decision on this method could be determined. The Guard asked that the drilling subcontractor be requested to finish the demonstration soon.

- A 1-page handout of the steel-lined pit well results and a summary of the ordnance detected in the area was distributed for review. It does not appear that live ordnance was discovered in this area. The Guard indicated that, considering other initiatives underway for this area, a separate response plan for the steel-lined pit would not be proposed at this time. EPA agreed this can be addressed through regulatory programs and work plans currently in place or being developed for this area.

- Dioxin background sampling was discussed. EPA suggested that a background dioxin value be requested from IRP. EPA will also look for relevant data, and sampling at the original background locations could be considered.

- A 1-page handout of the Small Arms Range Investigation Proposal was distributed for review. The Guard requested MADEP and EPA comments prior to the Review Team Meeting. EPA indicated

that metals should be added to the analytes, as there is an issue of munition jacket abrasion in addition to the propellant issue.

- EPA requested the status of the APC soil results. Ogden indicated that they have not received the results from the lab but will distribute it when it is available. EPA asked if an inventory was done. The Guard indicated that the inventory was done and was sent to the EPA.

- EPA requested the status of the CS-19 open detonation soil samples. Ogden indicated that they would be available next week.

- EPA requested the status of the MW-57 groundwater results. Ogden indicated that they have not received the data from the lab but it should be available soon.

- EPA requested the status of the groundwater and profile splits for the CHPPM and 8321 methods. Ogden will check into the status. EPA suggests that MW-41M1 should be among the wells tested.

- EPA indicated that the perchlorate comments well be ready next week.

- The Guard indicated that there are posted no trespassing signs for the Training Ranges. They are trying to increase security but do not have any idea if the guard gates will be manned.

- The Guard indicated that four items (two 105mm, one 4.2 inch, and one 3.5 inch rocket) have been detected that need to be disposed of by blowing in place and will get a letter to the EPA by Friday 1/14.

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:

- The samples from the December 28 UXO detonation air monitoring had detections of 2-nitrotoluene and 4-nitrotoluene, which were verified with the PDA spectra. These two compounds were also detected in the field blank associated with these samples. Therefore, the detections in the samples do not appear to be related to the air quality during sampling.

- The composite and discrete soil samples from the 105mm detonation crater at CS-19 had detections of TNT, which were verified by PDA spectra.

- The discrete soil sample from the 6-inch (155mm) detonation area at CS-19 had detections of 2,6-dinitrotoluene, 2-nitrotoluene, nitroglycerine, and picric acid. The detections of 2,6-dinitrotoluene and 2-nitrotoluene were verified by the PDA spectra.

- The discrete soil sample from the 37mm detonation crater at Target 5 had detections of 2-nitrotoluene, picric acid, and tetryl. The 2-nitrotoluene detection was verified by the PDA spectra.

- The discrete soil sample from one of the 6-inch rounds at the APC had a detection of picric acid, which was not verified by PDA spectra.

- A groundwater profile sample from MW-78 had a detection of nitroglycerin, which was not verified by PDA spectra.

- The soil samples from three grab locations at the APC had detections of 2-amino-4,6-dinitrotoluene (3 samples), 4-amino-2,6-dinitrotoluene (1 sample), RDX (3 samples), and HMX (2 samples) which were verified by the PDA spectra.

3. DELIVERABLES SUBMITTED

Monthly Progress Report (December)	1/10/2000
Weekly Progress Update (Jan 3-7)	1/14/2000
Final Phase II (a) Field Sampling Plan for the Gun and Mortar Positions	1/14/2000

4. SCHEDULED ACTIONS

Scheduled actions for the week of January 17 include the continued development of newly installed wells, the continued soil sampling of Gun and Mortar positions and mortar targets, groundwater sampling of the third round of supplemental IRP wells, completion of MW-74, and the detonation of UXO located at Target 9, Turpentine Road, Drill Pad P-9, and Demo 1.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

Monitoring wells were installed on MW-78 (southernmost response well). The drill rig was moved to next location to be drilled, MW-74 (the northernmost response well), where the drilling commenced on Friday. It is anticipated that drilling will be completed by the end of the following week. Development of the Demo 1 response wells commenced. The UXO located during the munitions survey at Demo 1 will be detonated next week.

Brush cutting and UXO clearance continued in preparation for the geophysics survey.

TABLE 2
SAMPLING PROGRESS
1/10/00-1/14/00

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HC51A1AAE	FIELDQC	1/12/2000	FIELDQC	0.00	0.00		
HC51A1AAT	FIELDQC	1/12/2000	FIELDQC	0.00	0.00		
HC51J1BAE	FIELDQC	1/14/2000	FIELDQC	0.00	0.00		
HC51J1BAT	FIELDQC	1/14/2000	FIELDQC	0.00	0.00		
HC58B1BAE	FIELDQC	1/10/2000	FIELDQC	0.00	0.00		
HC58B1BAT	FIELDQC	1/10/2000	FIELDQC	0.00	0.00		
HC68A1AAE	FIELDQC	1/13/2000	FIELDQC	0.00	0.00		
HC68A1AAT	FIELDQC	1/13/2000	FIELDQC	0.00	0.00		
HC85B1AAE	FIELDQC	1/11/2000	FIELDQC	0.00	0.00		
HC85B1AAT	FIELDQC	1/11/2000	FIELDQC	0.00	0.00		
WSRM2E	FIELDQC	1/14/2000	FIELDQC	0.00	0.00		
03MW0024A	03MW0024A	1/14/2000	GROUNDWATER	136.00	146.00		
W81DDA	MW-81	1/10/2000	GROUNDWATER	184.00	194.00		
W81M2A	MW-81	1/10/2000	GROUNDWATER	83.00	93.00		
W81SSA	MW-81	1/11/2000	GROUNDWATER	25.00	35.00		
W82DDA	MW-82	1/11/2000	GROUNDWATER	125.00	135.00		
W82DDD	MW-82	1/11/2000	GROUNDWATER	125.00	135.00		
W82M1A	MW-82	1/12/2000	GROUNDWATER	104.00	114.00		
W82M2A	MW-82	1/11/2000	GROUNDWATER	78.00	88.00		
W82M3A	MW-82	1/12/2000	GROUNDWATER	54.00	64.00		
W82SSA	MW-82	1/11/2000	GROUNDWATER	25.00	35.00		
W83DDA	MW-83	1/12/2000	GROUNDWATER	142.00	152.00		
W83M1A	MW-83	1/12/2000	GROUNDWATER	110.00	120.00		
W83M2A	MW-83	1/12/2000	GROUNDWATER	85.00	95.00		
W83M3A	MW-83	1/13/2000	GROUNDWATER	60.00	70.00		
W83M3D	MW-83	1/13/2000	GROUNDWATER	60.00	70.00		
W83SSA	MW-83	1/13/2000	GROUNDWATER	33.00	43.00		
WSRM3A	SMR-3	1/14/2000	GROUNDWATER	113.00	98.37		
WSRM4A	SMR-4	1/14/2000	GROUNDWATER	112.00	96.50		
WSRM4D	SMR-4	1/14/2000	GROUNDWATER	112.00	96.50		
HP01A1AAA	PE SAMPLE	1/13/2000	PE SAMPLE				
HP01A1BAA	PE SAMPLE	1/13/2000	PE SAMPLE				
WP01AA	PESAMPLE	1/13/2000	PESAMPLE				
WP01BA	PESAMPLE	1/13/2000	PESAMPLE				
HC51A1AAA	51A	1/12/2000	SOIL GRID	0.00	0.50		
HC51A1AAD	51A	1/12/2000	SOIL GRID	0.00	0.50		
HC51A1BAA	51A	1/12/2000	SOIL GRID	1.50	2.00		
HC51B1AAA	51B	1/12/2000	SOIL GRID	0.00	0.50		
HC51B1BAA	51B	1/12/2000	SOIL GRID	1.50	2.00		
HC51C1AAA	51C	1/12/2000	SOIL GRID	0.00	0.50		
HC51C1BAA	51C	1/13/2000	SOIL GRID	1.50	2.00		
HC51E1AAA	51E	1/13/2000	SOIL GRID	0.00	0.50		
HC51E1BAA	51E	1/13/2000	SOIL GRID	1.50	2.00		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
Other Sample Types methods are variable
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TABLE 2
SAMPLING PROGRESS
1/10/00-1/14/00

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HC51F1AAA	51F	1/13/2000	SOIL GRID	0.00	0.50		
HC51F1BAA	51F	1/13/2000	SOIL GRID	1.50	2.00		
HC51G1AAA	51G	1/13/2000	SOIL GRID	0.00	0.50		
HC51G1BAA	51G	1/13/2000	SOIL GRID	1.50	2.00		
HC51I1AAA	51I	1/12/2000	SOIL GRID	0.00	0.50		
HC51I1BAA	51I	1/12/2000	SOIL GRID	1.50	2.00		
HC51J1AAA	51J	1/13/2000	SOIL GRID	0.00	0.50		
HC51J1BAA	51J	1/14/2000	SOIL GRID	1.50	2.00		
HC51L1AAA	51L	1/12/2000	SOIL GRID	0.00	0.50		
HC51L1BAA	51L	1/12/2000	SOIL GRID	1.50	2.00		
HC51M1AAA	51M	1/12/2000	SOIL GRID	0.00	0.50		
HC51M1BAA	51M	1/12/2000	SOIL GRID	1.50	2.00		
HC57A1AAA	57A	1/12/2000	SOIL GRID	0.00	0.50		
HC57A1BAA	57A	1/12/2000	SOIL GRID	1.50	2.00		
HC58B1BAA	58B	1/10/2000	SOIL GRID	1.50	2.00		
HC58C1AAA	58C	1/10/2000	SOIL GRID	0.00	0.50		
HC58C1AAD	58C	1/10/2000	SOIL GRID	0.00	0.50		
HC58C1BAA	58C	1/10/2000	SOIL GRID	1.50	2.00		
HC58D1AAA	58D	1/10/2000	SOIL GRID	0.00	0.50		
HC58D1BAA	58D	1/10/2000	SOIL GRID	1.50	2.00		
HC58E1AAA	58E	1/10/2000	SOIL GRID	0.00	0.50		
HC58E1BAA	58E	1/10/2000	SOIL GRID	1.50	2.00		
HC58F1AAA	58F	1/10/2000	SOIL GRID	0.00	0.50		
HC58F1BAA	58F	1/10/2000	SOIL GRID	1.50	2.00		
HC58H1AAA	58H	1/12/2000	SOIL GRID	0.00	0.50		
HC58H1BAA	58H	1/12/2000	SOIL GRID	1.50	2.00		
HC62A1AAA	62A	1/13/2000	SOIL GRID	0.00	0.50		
HC62A1BAA	62A	1/13/2000	SOIL GRID	1.50	2.00		
HC65A1AAA	65A	1/12/2000	SOIL GRID	0.00	0.50		
HC65A1BAA	65A	1/12/2000	SOIL GRID	1.50	2.00		
HC65B1AAA	65B	1/12/2000	SOIL GRID	0.00	0.50		
HC65B1BAA	65B	1/12/2000	SOIL GRID	1.50	2.00		
HC67A1AAA	67A	1/11/2000	SOIL GRID	0.00	0.50		
HC67A1BAA	67A	1/11/2000	SOIL GRID	1.50	2.00		
HC67B1AAA	67B	1/11/2000	SOIL GRID	0.00	0.50		
HC67B1BAA	67B	1/11/2000	SOIL GRID	1.50	2.00		
HC67C1AAA	67C	1/11/2000	SOIL GRID	0.00	0.50		
HC67C1BAA	67C	1/11/2000	SOIL GRID	1.50	2.00		
HC67D1AAA	67D	1/11/2000	SOIL GRID	0.00	0.50		
HC67D1BAA	67D	1/11/2000	SOIL GRID	1.50	2.00		
HC67E1AAA	67E	1/11/2000	SOIL GRID	0.00	0.50		
HC67E1BAA	67E	1/11/2000	SOIL GRID	1.50	2.00		
HC67F1AAA	67F	1/12/2000	SOIL GRID	0.00	0.50		
HC67F1AAD	67F	1/12/2000	SOIL GRID	0.00	0.50		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
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TABLE 2
SAMPLING PROGRESS
1/10/00-1/14/00

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HC67F1BAA	67F	1/12/2000	SOIL GRID	1.50	2.00		
HC68A1AAA	68A	1/13/2000	SOIL GRID	0.00	0.50		
HC68A1BAA	68A	1/13/2000	SOIL GRID	1.50	2.00		
HC68B1AAA	68B	1/13/2000	SOIL GRID	0.00	0.50		
HC68B1BAA	68B	1/13/2000	SOIL GRID	1.50	2.00		
HC68C1AAA	68C	1/13/2000	SOIL GRID	0.00	0.50		
HC68C1BAA	68C	1/13/2000	SOIL GRID	1.50	2.00		
HC68D1AAA	68D	1/13/2000	SOIL GRID	0.00	0.50		
HC68D1BAA	68D	1/13/2000	SOIL GRID	1.50	2.00		
HC68E1AAA	68E	1/13/2000	SOIL GRID	0.00	0.50		
HC68E1AAD	68E	1/13/2000	SOIL GRID	0.00	0.50		
HC68E1BAA	68E	1/13/2000	SOIL GRID	1.50	2.00		
HC83B1AAA	83B	1/10/2000	SOIL GRID	0.00	0.25		
HC83B1BAA	83B	1/10/2000	SOIL GRID	0.25	0.50		
HC83B1CAA	83B	1/10/2000	SOIL GRID	0.50	1.00		
HC85A1AAA	85A	1/10/2000	SOIL GRID	0.00	0.25		
HC85A1AAD	85A	1/10/2000	SOIL GRID	0.00	0.25		
HC85A1BAA	85A	1/10/2000	SOIL GRID	0.25	0.50		
HC85A1CAA	85A	1/11/2000	SOIL GRID	0.50	1.00		
HC85B1AAA	85B	1/11/2000	SOIL GRID	0.00	0.25		
HC85B1BAA	85B	1/11/2000	SOIL GRID	0.00	0.25		
HC85B1CAA	85B	1/11/2000	SOIL GRID	0.50	1.00		
HD83B1BAA	83B	1/10/2000	SOIL GRID	0.25	0.50		
HD83B1CAA	83B	1/10/2000	SOIL GRID	0.50	1.00		
HD83B3BAA	83B	1/10/2000	SOIL GRID	0.25	0.50		
HD83B3CAA	83B	1/10/2000	SOIL GRID	0.50	1.00		
HD83B5BAA	83B	1/10/2000	SOIL GRID	0.25	0.50		
HD83B5CAA	83B	1/10/2000	SOIL GRID	0.50	1.00		
HD83B7BAA	83B	1/10/2000	SOIL GRID	0.25	0.50		
HD83B7CAA	83B	1/10/2000	SOIL GRID	0.50	1.00		
HD85A1AAA	85A	1/10/2000	SOIL GRID	0.00	0.25		
HD85A1BAA	85A	1/10/2000	SOIL GRID	0.25	0.50		
HD85A1CAA	85A	1/11/2000	SOIL GRID	0.50	1.00		
HD85A3AAA	85A	1/10/2000	SOIL GRID	0.00	0.25		
HD85A3BAA	85A	1/10/2000	SOIL GRID	0.25	0.50		
HD85A3CAA	85A	1/11/2000	SOIL GRID	0.50	1.00		
HD85A5AAA	85A	1/10/2000	SOIL GRID	0.00	0.25		
HD85A5BAA	85A	1/10/2000	SOIL GRID	0.25	0.50		
HD85A5CAA	85A	1/11/2000	SOIL GRID	0.50	1.00		
HD85A7AAA	85A	1/10/2000	SOIL GRID	0.00	0.25		
HD85A7BAA	85A	1/10/2000	SOIL GRID	0.25	0.50		
HD85A7CAA	85A	1/11/2000	SOIL GRID	0.50	1.00		
HD85B1AAA	85B	1/11/2000	SOIL GRID	0.00	0.25		
HD85B1BAA	85B	1/11/2000	SOIL GRID	0.25	0.50		

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SAMPLING PROGRESS
1/10/00-1/14/00

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HD85B1CAA	85B	1/11/2000	SOIL GRID	0.50	1.00		
HD85B3AAA	85B	1/11/2000	SOIL GRID	0.00	0.25		
HD85B3BAA	85B	1/11/2000	SOIL GRID	0.25	0.50		
HD85B3CAA	85B	1/11/2000	SOIL GRID	0.50	1.00		
HD85B5AAA	85B	1/11/2000	SOIL GRID	0.25	0.50		
HD85B5BAA	85B	1/11/2000	SOIL GRID	0.25	0.50		
HD85B5CAA	85B	1/11/2000	SOIL GRID	0.50	1.00		
HD85B7AAA	85B	1/11/2000	SOIL GRID	0.00	0.25		
HD85B7BAA	85B	1/11/2000	SOIL GRID	0.25	0.50		
HD85B7BAD	85B	1/11/2000	SOIL GRID	0.25	0.50		
HD85B7CAA	85B	1/11/2000	SOIL GRID	0.50	1.00		

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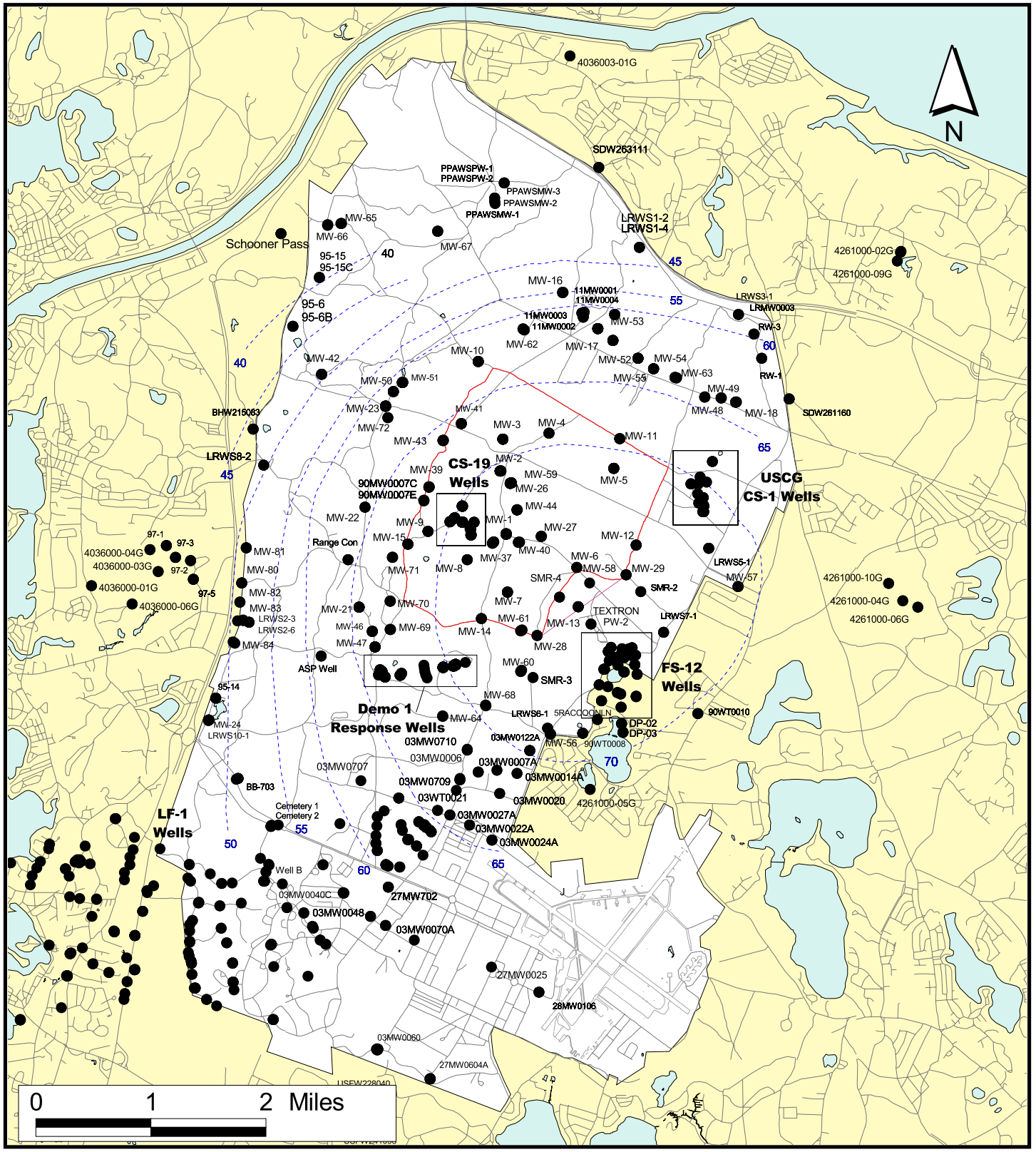
TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 12/27/99-1/14/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
ASCS19APC	ASCS19APC	12/28/1999	AIR	0.00	0.00			8330N	2-NITROTOLUENE	YES
ASCS19APC	ASCS19APC	12/28/1999	AIR	0.00	0.00			8330N	4-NITROTOLUENE	YES
ASCS19APCF	ASCS19APC	12/28/1999	AIR	0.00	0.00			8330N	2-NITROTOLUENE	YES
ASCS19APCF	ASCS19APC	12/28/1999	AIR	0.00	0.00			8330N	4-NITROTOLUENE	YES
G78MLA	MW-78	1/6/2000	PROFILE	195.00	195.00	115.00	115.00	8330N	NITROGLYCERIN	NO
HCCS19105MM	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	2,4,6-TRINITROTOLUENE	YES
HDAPC13AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HDAPC13AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	4-AMINO-2,6-DINITROTOLUENE	YES
HDAPC13AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HDAPC13AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
HDAPC14AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HDAPC14AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HDAPC15AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	2,4,6-TRINITROTOLUENE	YES
HDAPC15AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HDAPC15AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HDAPC15AA	APC	12/29/1999	SOIL GRID	0.00	0.50			8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
HDAPC2537MM	APC	12/30/1999	SOIL GRID	0.00	0.25			8330N	2-NITROTOLUENE	YES
HDAPC2537MM	APC	12/30/1999	SOIL GRID	0.00	0.25			8330N	PICRIC ACID	NO
HDAPC2537MM	APC	12/30/1999	SOIL GRID	0.00	0.25			8330N	TETRYL	NO
HDAPCTR6INN	APC	12/30/1999	SOIL GRID	0.00	0.25			8330N	PICRIC ACID	NO
HDCS19105MM	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	2,4,6-TRINITROTOLUENE	YES
HDCS196INCH	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	2,6-DINITROTOLUENE	YES
HDCS196INCH	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	2-NITROTOLUENE	YES
HDCS196INCH	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	NITROGLYCERIN	NO
HDCS196INCH	CS-19	12/30/1999	SOIL GRID	0.00	0.25			8330N	PICRIC ACID	NO

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



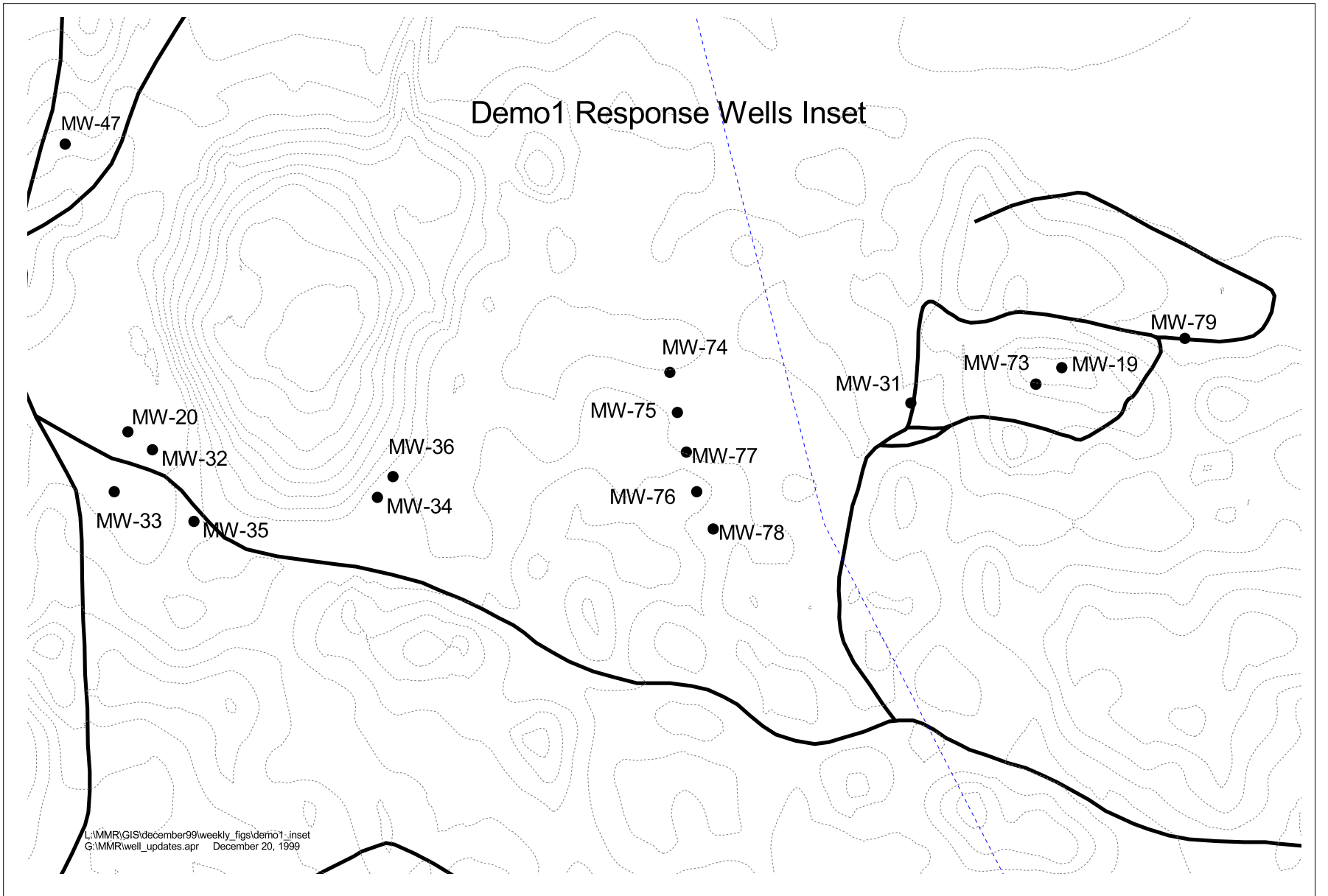
Sources & Notes

Map Coordinates: Stateplane,
NAD83, Zone 4151, Meters
Source: MASSGIS

Location of Existing and Proposed Groundwater Monitoring Wells As Of 12/16/99

L:\MMR\GIS\december99\weekly_figs\dec1699_wells
G:\MMR\well_updates.apr December 20, 1999

December 16, 1999 DRAFT


Demo1 Response Wells Inset
MW-47
MW-79
MW-74
MW-73
MW-19
MW-31
MW-75
MW-20
MW-32
MW-36
MW-77
MW-34
MW-76
MW-33
MW-35
MW-78
L:\MMR\GIS\december99\weekly_figs\demo1_inset
G:\MMR\well_updates.apr December 20, 1999