WEEKLY PROGRESS UPDATE
FOR MAY 1 – MAY 5, 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 May 1 to May 5, 2000.

1. SUMMARY OF ACTIONS TAKEN

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

Table 1. Drilling progress as of May 5, 2000

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-99	Impact Area Response Well (P-3)	220	85	133-143 195-205
MW-100	Impact Area Response Well (P-4)	214	80	
MW-101	Impact Area Response Well (P-5)	220	87	

bgs = below ground surface
bwt = below water table

Well installation was completed at MW-99 (Impact Area response well P-3). Drilling was completed on MW-100 (Impact Area response well P-4). Drilling continued on MW-101 (Impact Area response well P-5). UXO clearance continued for the three remaining Impact Area response well pads, the KD well pad, and the ground scars, bunkers, and trenches. The UXO located on P-18, P-19, P-20, the J2 Range, and Bunker 3 were detonated on 5/2/00. The development of newly installed wells continued.

Samples collected during the reporting period are summarized in Table 2. Soil samples were collected from the craters of the UXO detonated on 5/2/00 at the P-18 pad, P-19 pad, P-20 pad, Bunker 3, and the J-Range. Groundwater sampling continued for the third round of Gun and Mortar Position wells. Groundwater sampling commenced for the second round of the Demo 1 wells and the quarterly sampling of water supply wells. Groundwater split samples were collected from Jacobs from the four Snake Pond drive points and wells 90MW0080 and 90MW0003. Groundwater profile samples were collected from MW-100 (P-4) and MW-101 (P-5). Deep soil samples were collected during drilling at the borings for MW-100 and MW-101. A sample of chipped brush from the Demo 1 vegetation clearance was collected.

The Guard, EPA, and MADEP had a meeting on May 4 to discuss technical issues, including the following:

- There was no CS-19 Investigation update.
- There was no Water Supply Investigation Update.
- Tetra Tech presented an update of the Munitions Survey Investigation. UXO personnel continue working in the J-2 Range. The J Range workplan Record of Environmental Consideration (REC) has been approved, and the vegetation clearance is ready to begin. EPA indicated that they should have comments on Appendix C by next week and on the work plan the following week. Surveyors will be

back on Friday to do the slit trench and one remaining water body. Geophysical contractor to start the water bodies next week and the slit trench after.

- Ogden presented an update of the Rapid Response Action. Responses to comments, revised schedule, and the Field Sampling Plan will be delivered to the agencies electronically today. UXO avoidance was completed at J-3 Wetland, KD Range, and the APC. The draft Notice of Intent for J-3 Wetland will be delivered to the Guard on Monday to discuss with the Sandwich Conservation Commission. The Guard asked if the EPA would like to attend the meeting. The EPA indicated that they would if the Guard thought it would help. The current schedule shows the soil sampling starts May 15th. There was a discussion of revised cleanup standards for 2,4-DNT and metals. Ogden indicated that the cleanup standard for 2,4-DNT is still proposed to be 700 ppb based on the MCP standard and the apparent lack of groundwater impacts. Ogden estimated that lowering the standard to the Method 2 calculation (52 ppb) would result in a cleanup volume of 10,000 CY for the RRA gun positions, plus more for other gun positions. Ogden suggested that if additional cleanup of 2,4-DNT needs to be done it could be handled under the FS/RD/RA, rather than the RRA. Ogden indicated that the proposed cleanup standard for lead will be 300 ppm, copper will be 1,000 ppm, cadmium will be 30 ppm, and barium will be 1,000 ppm. The EPA indicated that they would evaluate the proposed cleanup standards and respond as soon as possible. EPA asked the Guard to consider using an XRF in the field for the metals analysis.

- Ogden presented an update of the Groundwater investigation. Currently drilling on MW-100 (P-4) and MW101 (P-5). The next scheduled locations for drilling are Target 9 and P-21. Continue to develop the newly installed monitoring wells. Groundwater sampling of the remaining round 3 Gun and Mortar Wells, the Long Term Monitoring wells, round 2 of the Demo 1 wells, and the Impact Area Response wells. UXO contractor has finished the trenches and Impact Area Response well pads. EPA asked for the status of the survey and backtracks from the response wells. Ogden indicated that the surveyor was on site last week and is scheduled to provide data next week. Once the ground surface elevation is received the information will be provided to the USGS for backtracking. EPA asked the status of the popper kettle. The Guard indicated that they are going to clean out the contents next week and are trying to decide if they will remove the kettle.

- The IART agenda items were discussed. The agenda will include the IAGS Update, the J Range Workplans, the CDC, the Public Information Team, and the SAR Firing Investigation. There will be an inventory of the items for disposal in the CDC. EPA requested a technical person from Demil to be at the IART meeting. The Guard requested that they move the 3rd party facilitator discussion to the beginning.

- The Small Arms Range revised sampling plan was sent to agencies last Thursday and included air monitoring during a firing event, soil sampling after a firing event, and metals added to the analyte list. EPA suggested that the well installation and groundwater sampling be put on hold until after the results of the soil sampling are received. EPA indicated that the plan needs to state that one of the ranges to be investigated will be a M-16 Range. EPA indicated that Dr. Feigenbaum requested that soil samples be collected prior to live firing. It was agreed that the contaminants of concern are not mobile and if they were the result of firing they would be there regardless of the duration from the last firing event.

- The responses to the PEP Report comments were discussed. EPA indicated that the use of the white phosphorus method was acceptable. EPA noted several changes on the proposed change pages. EPA asked if there was an update on procuring standards for new analytes. Ogden indicated that the laboratory was having trouble locating a standard for di-nitroglycerols (1,2- and 1,3-dinitroglycerol) and 1- and 2-mono-nitroglycerol. In the worst case these compounds would be treated as a TIC where the data validator could compare the spectra.

- The responses to KD and U Range comments were discussed. EPA suggested that they agree to disagree on EPA General Comments 1, 2, and 3. EPA noted the following regarding responses to specific comments:

  Specific Comment 5 - The last sentence of paragraph 2 needs to be revised to reflect uncertainty.
  Specific Comment 13 - EPA indicated that the first statement in the response answers the question and all the other information is unnecessary. Ogden indicated that the other information was provided because EPA asked the Guard to "rewrite this section". EPA would like to review the revised text section when it has been prepared. The Guard will provide this in the MOR.
  Specific Comment 15 - EPA is looking for a discussion of possible origins of the SVOCs (e.g., from propellants) as was provided elsewhere in the document.
  Specific Comment 16 - EPA indicated that the response is OK if more TIC information is provided in the text. Ogden distributed 3 handouts on the TICs for various areas. There was a discussion of TIC identification problems, including standards and background noise.
  Specific Comment 21 - The EPA stated that the text should indicate whether the referenced cleanup standards address leaching threats.
  Specific Comment 22 - EPA asked that the response be consistent with the response to specific comment 5. The conclusion should indicate the limited HE history and the limited wells at this location.
  Specific Comment 26 - EPA suggested that any delineation sampling around grids that had detections of dieldrin in the KD and U Ranges should include pesticide samples.

- The lab is ready to analyze water samples using Method 8321, as agreed in the PEP response to comments. EPA requested 8321 analysis on some profile samples from the drill rig that has consistent high interference and on the P-21 boring. The 8321 method has a 7-day holding time so the results of the rush 8330 analysis can be used to determine which 8321 samples to analyze.

- EPA indicated that they would like some of the long term monitoring wells sampled for field filtered inorganics, total suspended solids, total dissolved solids, and turbidity. EPA will provide a list of wells to the Guard.

- EPA had suggested that next weeks Tech Meeting include response wells, J-2 Range, FS Workplan, J Range groundwater samples (FS-12 wells), and the Demo 1 plume. The J Range and Central Impact Area (CIA) response well results, and the Demo 1 plume map and CIA map need to be e-mailed to EPA as soon as they are ready.

- EPA indicated that the comments to the August BIP Report will be ready on Friday or Monday.

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 groundwater samples from MW-86S, -86M2, -87M1, and -87M2 had detections of RDX, which were verified by PDA spectra. The detections confirmed results of profile samples for these Impact Area Response Wells.

- The groundwater profile samples from MW-100 had detections of 2,6-dinitrotoluene (1 interval), nitroglycerin (5 intervals), RDX (4 intervals), PETN (2 intervals), picric acid (2 intervals), and HMX (1 interval). The 2,6-dinitrotoluene (2,6-DNT), RDX, and HMX were verified by PDA spectra.

- The groundwater profile samples from MW-101 had detections of 2,6-DNT (4 intervals), 3-nitrotoluene (5 intervals), 4-nitrotoluene (5 intervals), nitroglycerin (2 intervals), tetryl (4 intervals), PETN (7 intervals), HMX (2 intervals), and RDX (4 intervals). The RDX, HMX, and 2,6-DNT were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

Weekly progress update (4/17 to 4/21)	5/2/00
Weekly progress update (4/24 to 4/28)	5/4/00
Draft Rapid Response Action FSP	5/5/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of May 8 include the construction of monitoring wells at MW-100 (P-4) and MW-101 (P-5); commencement of the drilling of P-21, P-17, and the Target 9 well; the continued groundwater sampling of round 2 of the demo 1 wells; the commencement of sampling of the Long Term Monitoring wells; continued soil sampling of the UXO detonation craters; and the commencement of the soil sampling of the Gun and Mortar control grids.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The geophysical data for Demo 1 are being processed for evaluation of anomalies. Preparation of the draft technical memorandum for the Demo 1 response actions is underway. The draft FS Workplan for AO3 (including Demo 1) is under review by the regulatory agencies and other stakeholders.

TABLE 2
SAMPLING PROGRESS
5/1/00-5/5/00

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HCJ2LAW5	HCJ2LAW5	05/04/2000	CRATER GRAB	0.00	0.25		
HCP18105MM	HCP18105MM	05/05/2000	CRATER GRAB	0.00	0.25		
HCP18155MM	HCP18155MM	05/05/2000	CRATER GRAB	0.00	0.25		
HCP19105MM4	HCP19105MM4	05/05/2000	CRATER GRAB	0.00	0.25		
HCP19105MM5	HCP19105MM5	05/05/2000	CRATER GRAB	0.00	0.25		
HCP19155MM2	HCP19155MM2	05/05/2000	CRATER GRAB	0.00	0.25		
HCP1975MM	HCP1975MM	05/05/2000	CRATER GRAB	0.00	0.25		
HCP20155MMLT	HCP20155MMLT	05/05/2000	CRATER GRAB	0.00	0.25		
HCT2-3155MM	HCT2-3155MM	05/05/2000	CRATER GRAB	0.00	0.25		
HDB32.36RKT1	HDB32.36RKT1	05/05/2000	CRATER GRAB	0.00	0.25		
HDB32.36RKT2	HDB32.36RKT2	05/05/2000	CRATER GRAB	0.00	0.25		
HDJ281MM	HDJ281MM	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ281MMD	HDJ281MMD	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW10	HDJ2LAW10	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW11	HDJ2LAW11	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW5	HDJ2LAW5	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW6	HDJ2LAW6	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW7	HDJ2LAW7	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW8	HDJ2LAW8	05/04/2000	CRATER GRAB	0.00	0.25		
HDJ2LAW9	HDJ2LAW9	05/04/2000	CRATER GRAB	0.00	0.25		
HDP18105MM	HDP18105MM	05/05/2000	CRATER GRAB	0.00	0.25		
HDP18155MM	HDP18155MM	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19105MM1	HDP19105MM1	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19105MM2	HDP19105MM2	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19105MM3	HDP19105MM3	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19105MM4	HDP19105MM4	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19105MM5	HDP19105MM5	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19155MM1	HDP19155MM1	05/05/2000	CRATER GRAB	0.00	0.25		
HDP19155MM2	HDP19155MM2	05/05/2000	CRATER GRAB	0.00	0.25		
HDP1975MM	HDP1975MM	05/05/2000	CRATER GRAB	0.00	0.25		
HDP20155MMLT	HDP20155MMLT	05/05/2000	CRATER GRAB	0.00	0.25		
HDT2-3155MM	HDT2-3155MM	05/05/2000	CRATER GRAB	0.00	0.25		
HDT2-3155MMD	HDT2-3155MMD	05/05/2000	CRATER GRAB	0.00	0.25		
G100DAE	FIELDQC	05/04/2000	FIELDQC	0.00	0.00		
G101DCE	FIELDQC	05/05/2000	FIELDQC	0.00	0.00		
HDP1975MME	FIELDQC	05/05/2000	FIELDQC	0.00	0.00		
HDP1975MMT	FIELDQC	05/05/2000	FIELDQC	0.00	0.00		
LOC-4ER	FIELDQC	05/02/2000	FIELDQC	0.00	0.00		
LOC-4FB	FIELDQC	05/02/2000	FIELDQC	0.00	0.00		
LOC-4TB	FIELDQC	05/02/2000	FIELDQC	0.00	0.00		
LOC-5TB	FIELDQC	05/02/2000	FIELDQC	0.00	0.00		
S100DHE	FIELDQC	05/03/2000	FIELDQC	0.00	0.00		
S101DIE	FIELDQC	05/04/2000	FIELDQC	0.00	0.00		
W69M1T	FIELDQC	05/01/2000	FIELDQC	0.00	0.00		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
Other Sample Types methods are variable
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 2
SAMPLING PROGRESS
5/1/00-5/5/00

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
W70SST	FIELDQC	05/02/2000	FIELDQC	0.00	0.00		
W71M1T	FIELDQC	05/04/2000	FIELDQC	0.00	0.00		
4036000-01G	4036000-01G	05/01/2000	GROUNDWATER				
4036000-03G	4036000-03G	05/01/2000	GROUNDWATER				
4036000-04G	4036000-04G	05/01/2000	GROUNDWATER				
4036000-06G	4036000-06G	05/01/2000	GROUNDWATER				
4036003-01G	4036003-01G	05/01/2000	GROUNDWATER				
4261000-02G	4261000-02G	05/03/2000	GROUNDWATER				
4261000-03G	4261000-03G	05/03/2000	GROUNDWATER				
4261000-04G	4261000-04G	05/03/2000	GROUNDWATER				
4261000-05G	4261000-05G	05/03/2000	GROUNDWATER				
4261000-06G	4261000-06G	05/03/2000	GROUNDWATER				
4261000-09G	4261000-09G	05/03/2000	GROUNDWATER				
4261000-10G	4261000-10G	05/03/2000	GROUNDWATER				
4261000-11G	4261000-11G	05/03/2000	GROUNDWATER				
90MW0003	90MW0003	05/04/2000	GROUNDWATER				
90MW0080	90MW0080	05/03/2000	GROUNDWATER				
ECMWSNP02D	ECMWSNP02S	05/02/2000	GROUNDWATER				
ECMWSNP02S	ECMWSNP02S	05/02/2000	GROUNDWATER				
ECMWSNP03D	ECMWSNP03D	05/03/2000	GROUNDWATER				
ECMWSNP03S	ECMWSNP03S	05/03/2000	GROUNDWATER				
USCGANTST	USCGANTST	05/01/2000	GROUNDWATER				
W66SSA	MW-66	05/01/2000	GROUNDWATER	126.00	136.00	-3.40	6.60
W69M1A	MW-69	05/02/2000	GROUNDWATER	190.00	200.00	75.21	85.21
W69M2A	MW-69	05/02/2000	GROUNDWATER	153.00	163.00	38.15	48.15
W69M2D	MW-69	05/02/2000	GROUNDWATER	153.00	163.00	38.15	48.15
W69SSA	MW-69	05/01/2000	GROUNDWATER	110.00	120.00	-4.80	5.20
W70M1A	MW-70	05/02/2000	GROUNDWATER	257.00	267.00	126.79	136.79
W70SSA	MW-70	05/02/2000	GROUNDWATER	132.00	142.00	1.87	11.87
W71M1A	MW-71	05/04/2000	GROUNDWATER	180.00	190.00	17.75	27.75
W71SSA	MW-71	05/04/2000	GROUNDWATER	158.00	168.00	-4.51	5.49
W74M1A	MW-74	05/01/2000	GROUNDWATER	170.00	180.00	72.86	82.86
W74M2A	MW-74	05/01/2000	GROUNDWATER	125.00	135.00	27.88	37.88
W74M3A	MW-74	05/01/2000	GROUNDWATER	100.00	110.00	2.78	12.78
W75M1A	MW-75	05/01/2000	GROUNDWATER	140.00	150.00	55.73	65.73
W75M2A	MW-75	05/01/2000	GROUNDWATER	115.00	125.00	30.65	40.65
W75SSA	MW-75	05/02/2000	GROUNDWATER	81.00	91.00	-3.35	6.65
W76M1A	MW-76	05/02/2000	GROUNDWATER	125.00	135.00	54.76	64.76
W76M2A	MW-76	05/02/2000	GROUNDWATER	105.00	115.00	34.67	44.67
W76SSA	MW-76	05/02/2000	GROUNDWATER	85.00	95.00	14.72	24.72
W77M1A	MW-77	05/02/2000	GROUNDWATER	180.00	190.00	94.12	104.12
W77M2A	MW-77	05/02/2000	GROUNDWATER	120.00	130.00	34.14	44.14
W77SSA	MW-77	05/02/2000	GROUNDWATER	83.00	93.00	-2.86	7.14
LOC-4	HERBERT RD.	05/02/2000	IDW				

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 2
SAMPLING PROGRESS
5/1/00-5/5/00

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
LOC-4PS	BFSAND	05/02/2000	IDW				
LOC-5	HERBERT RD.	05/02/2000	IDW				
LOC-5TB	FIELDQC	05/02/2000	IDW	0.00	0.00		
G100DAA	MW-100	05/04/2000	PROFILE	140.00	140.00	6.00	6.00
G100DBA	MW-100	05/04/2000	PROFILE	150.00	150.00	16.00	16.00
G100DCA	MW-100	05/04/2000	PROFILE	160.00	160.00	26.00	26.00
G100DDA	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00
G100DDD	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00
G100DFA	MW-100	05/05/2000	PROFILE	190.00	190.00	56.00	56.00
G100DGA	MW-100	05/05/2000	PROFILE	200.00	200.00	66.00	66.00
G100DHA	MW-100	05/05/2000	PROFILE	210.00	210.00	76.00	76.00
G100DIA	MW-100	05/05/2000	PROFILE	214.00	214.00	80.00	80.00
G101DAA	MW-101	05/04/2000	PROFILE	140.00	140.00	7.10	7.10
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10
G101DDA	MW-101	05/05/2000	PROFILE	170.00	170.00	37.10	37.10
G101DEA	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10
G101DHA	MW-101	05/05/2000	PROFILE	210.00	210.00	77.10	77.10
S100DHA	MW-100	05/03/2000	SOIL BORING	60.00	62.00		
S100DIA	MW-100	05/03/2000	SOIL BORING	70.00	72.00		
S100DJA	MW-100	05/03/2000	SOIL BORING	80.00	82.00		
S100DKA	MW-100	05/03/2000	SOIL BORING	90.00	92.00		
S100DLA	MW-100	05/03/2000	SOIL BORING	100.00	104.00		
S100DMA	MW-100	05/03/2000	SOIL BORING	110.00	112.00		
S100DMD	MW-100	05/03/2000	SOIL BORING	110.00	112.00		
S100DNA	MW-100	05/03/2000	SOIL BORING	120.00	122.00		
S100DOA	MW-100	05/03/2000	SOIL BORING	130.00	132.00		
S101DFA	MW-101	05/03/2000	SOIL BORING	40.00	42.00		
S101DGA	MW-101	05/03/2000	SOIL BORING	50.00	52.00		
S101DHA	MW-101	05/03/2000	SOIL BORING	60.00	62.00		
S101DIA	MW-101	05/03/2000	SOIL BORING	70.00	72.00		
S101DJA	MW-101	05/03/2000	SOIL BORING	80.00	82.00		
S101DJD	MW-101	05/03/2000	SOIL BORING	80.00	82.00		
S101DKA	MW-101	05/03/2000	SOIL BORING	90.00	92.00		
S101DLA	MW-101	05/04/2000	SOIL BORING	100.00	102.00		
S101DMA	MW-101	05/04/2000	SOIL BORING	110.00	112.00		
S101DMD	MW-101	05/04/2000	SOIL BORING	110.00	112.00		
S101DNA	MW-101	05/04/2000	SOIL BORING	120.00	122.00		
S101DOA	MW-101	05/04/2000	SOIL BORING	130.00	132.00		
WOOD CHIPS	WOOD CHIPS	05/02/2000	WOOD CHIPS				

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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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 5/1/00-5/6/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W86M2A	MW-86	04/28/2000	GROUNDWATER	158.00	168.00	12.37	22.37	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W86SSA	MW-86	04/28/2000	GROUNDWATER	143.00	153.00	-2.59	7.41	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W87M1A	MW-87	04/28/2000	GROUNDWATER	194.00	204.00	59.53	69.53	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W87M1A	MW-87	04/28/2000	GROUNDWATER	194.00	204.00	59.53	69.53	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W87M2A	MW-87	04/28/2000	GROUNDWATER	169.00	179.00	34.42	44.42	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G100DAA	MW-100	05/04/2000	PROFILE	140.00	140.00	6.00	6.00	8330N	2,6-DINITROTOLUENE	YES
G100DAA	MW-100	05/04/2000	PROFILE	140.00	140.00	6.00	6.00	8330N	NITROGLYCERIN	NO
G100DBA	MW-100	05/04/2000	PROFILE	150.00	150.00	16.00	16.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	NO
G100DBA	MW-100	05/04/2000	PROFILE	150.00	150.00	16.00	16.00	8330N	NITROGLYCERIN	NO
G100DCA	MW-100	05/04/2000	PROFILE	160.00	160.00	26.00	26.00	8330N	NITROGLYCERIN	NO
G100DDA	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G100DDA	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	NITROGLYCERIN	NO
G100DDA	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G100DDA	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	PICRIC ACID	NO
G100DDD	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G100DDD	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	NITROGLYCERIN	NO
G100DDD	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G100DDD	MW-100	05/04/2000	PROFILE	170.00	170.00	36.00	36.00	8330N	PICRIC ACID	NO
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00	8330N	NITROGLYCERIN	NO
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G100DEA	MW-100	05/04/2000	PROFILE	180.00	180.00	46.00	46.00	8330N	PICRIC ACID	NO
G100DFA	MW-100	05/05/2000	PROFILE	190.00	190.00	56.00	56.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G101DAA	MW-101	05/04/2000	PROFILE	140.00	140.00	7.10	7.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G101DAA	MW-101	05/04/2000	PROFILE	140.00	140.00	7.10	7.10	8330N	NITROGLYCERIN	NO
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10	8330N	2,6-DINITROTOLUENE	YES
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10	8330N	3-NITROTOLUENE	NO
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10	8330N	4-NITROTOLUENE	NO
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10	8330N	NITROGLYCERIN	NO
G101DBA	MW-101	05/04/2000	PROFILE	150.00	150.00	17.10	17.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	2,6-DINITROTOLUENE	YES
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	3-NITROTOLUENE	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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 5/1/00-5/6/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	4-NITROTOLUENE	NO
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DCA	MW-101	05/05/2000	PROFILE	160.00	160.00	27.10	27.10	8330N	TETRYL	NO
G101DDA	MW-101	05/05/2000	PROFILE	170.00	170.00	37.10	37.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DEA	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	4-NITROTOLUENE	NO
G101DEA	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DEA	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	TETRYL	NO
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	2,6-DINITROTOLUENE	YES
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	3-NITROTOLUENE	NO
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	4-NITROTOLUENE	NO
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DED	MW-101	05/05/2000	PROFILE	180.00	180.00	47.10	47.10	8330N	TETRYL	NO
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	3-NITROTOLUENE	NO
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	4-NITROTOLUENE	NO
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DFA	MW-101	05/05/2000	PROFILE	190.00	190.00	57.10	57.10	8330N	TETRYL	NO
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	2,6-DINITROTOLUENE	YES
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	3-NITROTOLUENE	NO
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	4-NITROTOLUENE	NO
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	PENTAERYTHRITOL TETRANITR	NO
G101DGA	MW-101	05/05/2000	PROFILE	200.00	200.00	67.10	67.10	8330N	TETRYL	NO
G101DHA	MW-101	05/05/2000	PROFILE	210.00	210.00	77.10	77.10	8330N	PENTAERYTHRITOL TETRANITR	NO

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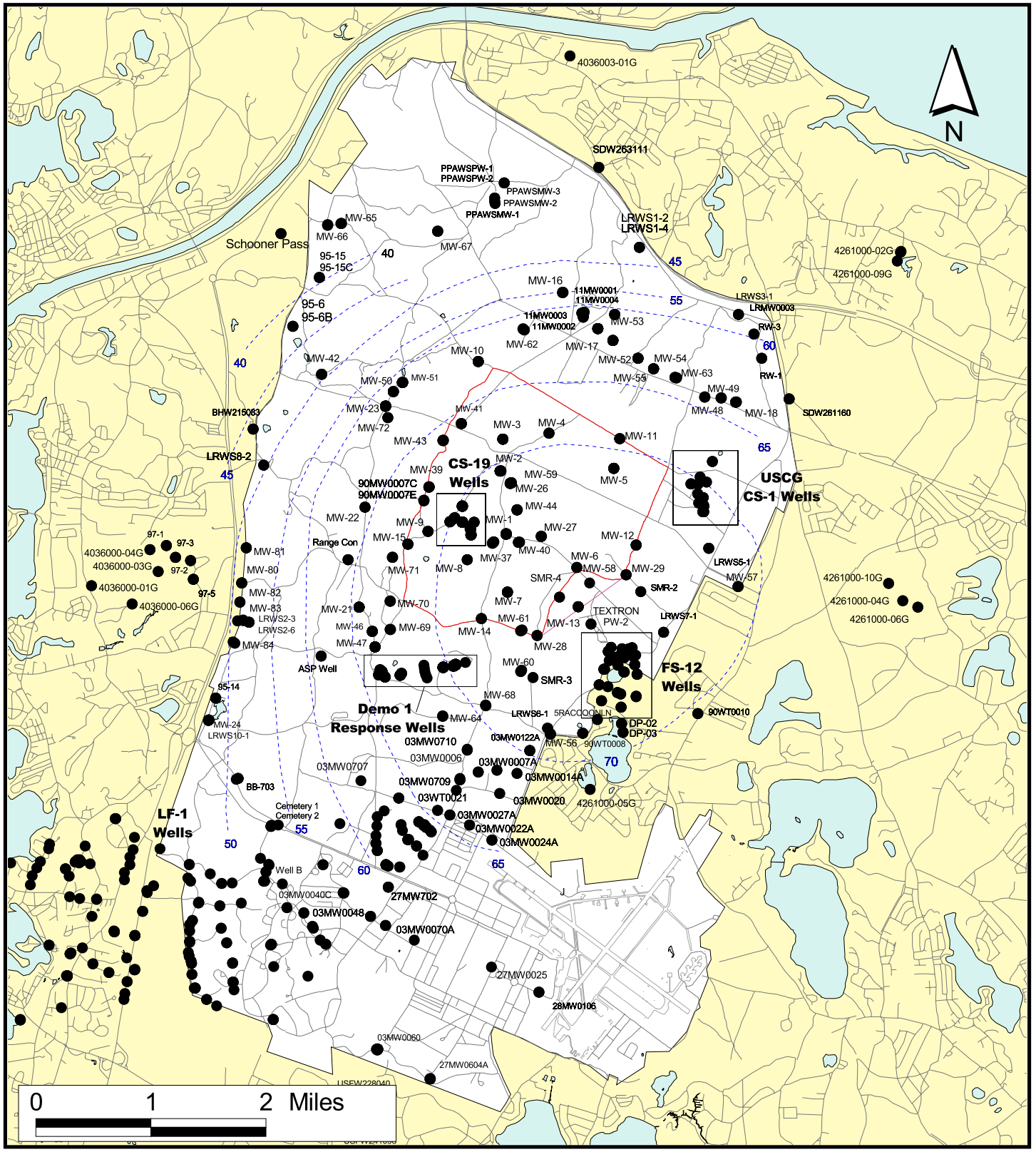
BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET
PDA/YES = Photo Diode Array, Detect Confirmed
PDA/NO = Photo Diode Array, Detect Not Confirmed



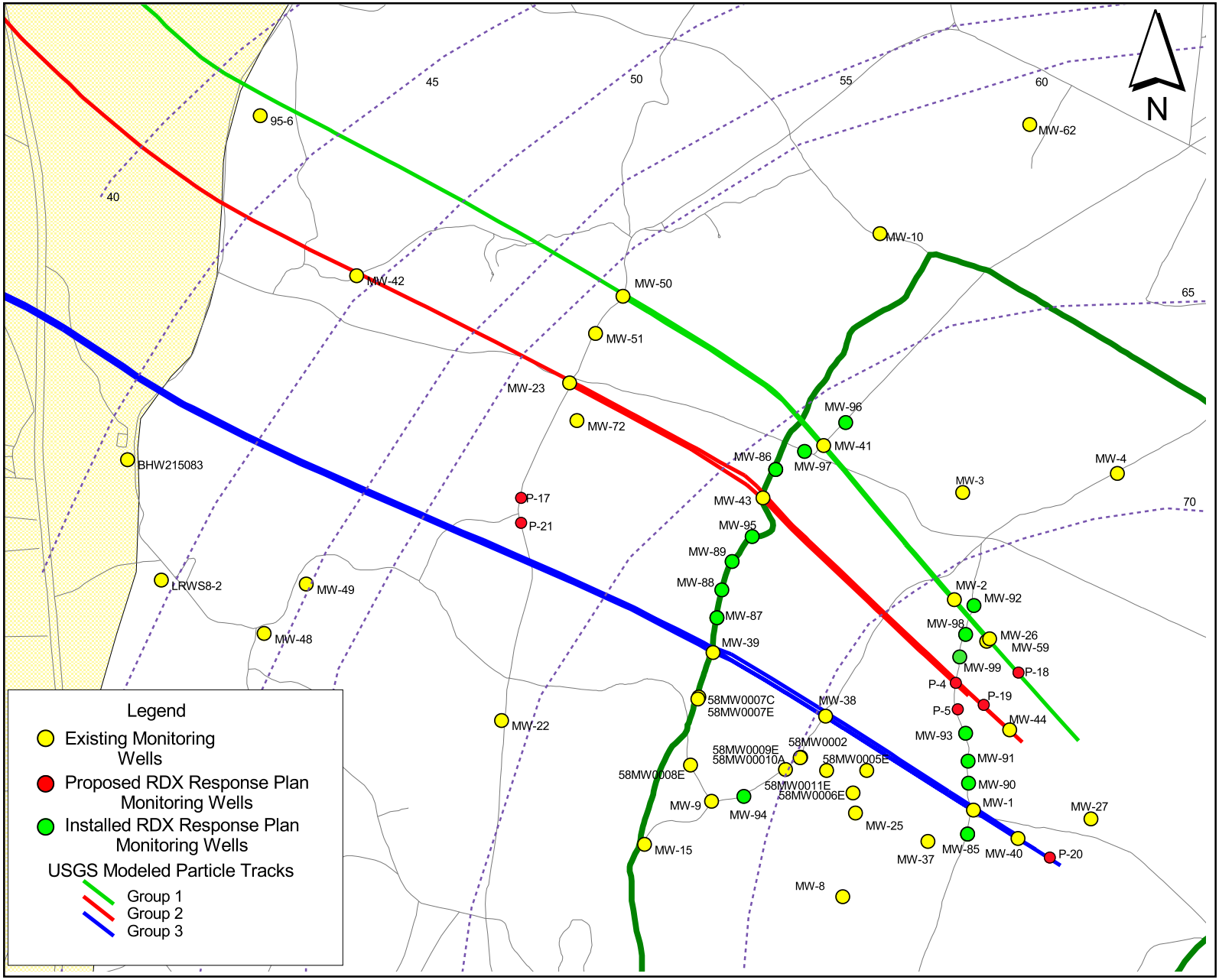
Sources & Notes

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



Proposed RDX Response Plan Wells In The Impact Area

Figure A