WEEKLY PROGRESS UPDATE
FOR JUNE 26 – JUNE 30, 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 June 26 to June 30, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of June 30 is summarized in Table 1.

Table 1. Drilling progress as of June 30, 2000

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-108	Impact Area Response Well (P-22)	345	178	
MW-110	Impact Area Response Well (P-27)	310	134	

bgs = below ground surface
bwt = below water table

Drilling continued on MW-108 (P-22) and MW-110 (P-27). Down hole UXO clearance was completed at the supplemental Impact Area Response wells and the Demo 1 soil borings. The intrusive UXO clearance around the detonation craters on Turpentine Road and CS-19 was completed.

Samples collected during the reporting period are summarized in Table 2. Soil samples were collected from the UXO detonation crater at the P-24 drill pad and two craters in the J-2 Range. Groundwater sampling continued on the third round of the Group II new far field wells. Profile samples were collected during drilling at the borings for MW-108 and MW-110. Soil samples were collected from the nine additional borings in Demo 1. Deep soil samples were collected during drilling at the boring for MW-110.

The Guard, EPA, and MADEP had a meeting on June 29 to discuss technical issues, including the following:

- Jacobs presented an update of the CS-19 investigation. A copy of the Draft RI was distributed to Ogden. The draft RI is out for agency review with the comments due by July 12. Handouts of the revised schedule and investigation summary (section 8 of the draft RI) were distributed for review. The summary includes the ecorisk assessment and data gaps. The data gaps include the magnetic anomalies detected, down gradient extent of groundwater contamination, and the vadose zone investigation around 58MW0002. Jacobs indicated that there are two corrections needed for the draft RI which include the eco risk assessment does not include the rain water puddle pathway and the groundwater contours on Figure 3-5 are incorrect. DEP asked when these problems would be corrected. Jacobs indicated that they would be corrected by 7/3. EPA asked what was next on the CS-19 RI. Jacobs indicated that they need to discuss this with AFCEE.

- The Guard provided an update on the Water Supply Investigation. The pump tests for sites 1 and 3 have been completed and the pump test for site 2 is scheduled for next week.

- Tetra Tech provided an update on the Munitions Survey Investigation. A 1-page handout of the Munitions Survey update summary was distributed. The aerial geophysical survey commenced, with the HUTA, J-2 Range, and 60 lines completed. The preliminary results should be ready today. The responses to EPA's comments to the HUTA are being reviewed by the Guard. Tetra Tech is awaiting DEP's comments. Revisions for the REC for Tank Alley improvements, Turpentine Road improvements, HUTA investigation, and holding area have been made and are awaiting approval from the MMR Natural Resource Manager. The J-2 Range UXO clearance continues. UXO located on J-2 was detonated on Monday. The brush cutting in J-2 will commence by July 14 and will need to coordinate with Ogden. DEP asked the status of the J-2 Map. Tetra Tech indicated that some areas had to be added and the map is not complete yet. EPA and Tetra Tech will discuss the area of interest in the J1/J3 Ranges after the Tech Meeting. Working on a plan for an intrusive confirmation of the anomalies in Demo 1.

- Ogden provided an update of the Rapid Response Action. Awaiting DEP comments on the final work plan before distribution. Response to FEC comments and Public Comment Responsiveness Summary are in internal review. The public hearing for the J-3 Wetland NOI is scheduled for 7/5/00. A notice of the hearing was posted in the paper and letters were sent to the abutters. Awaiting preliminary data from the second round of delineation sampling. Need to have a site walk of the APC to review the lateral extent of contamination. EPA requested that a figure of the APC sampling be prepared showing the individual sampling points when results are available. Post-initial soil washing samples have been sent out for laboratory analysis to determine the "cut point". After the "cut point" is determined the soil fraction below this point will be sent for biotreatment. Containment pad site walk this week and surveying during the week of 7/3 or 7/10.

- Ogden provided an update of the Groundwater Investigation. Continue to drill on MW-108 (P-22) which would finish this week and on MW-110 which should finish next week. The next scheduled locations are P-23 and P-26. Commenced the drilling of the Demo 1 soil borings, which should finish this week. EPA expressed concern that this work commenced prior to their approval of the plan and asked what the soil was sampled for. Ogden indicated that they would have to get back to EPA on this. The groundwater sampling of the original Central Impact Area wells has been completed (up to MW-107). Continue with the groundwater sampling of the third round of the Group II New Far Field wells. Completed the UXO clearance of the interim supplemental Central Impact Area well pads and Demo 1 drilling area. Commenced the clearance of UXO around the detonation craters requiring excavation. EPA asked if the most recent UXO detonation craters with explosive detections would be addressed in a supplemental plan. The Guard indicated that they planned on using the standard procedure and providing an updated table of status. EPA asked if the soil samples from the Monday detonation have been collected. Ogden indicated that they would look into it. A draft Outer Transect cross section and the GS-6 explosives results table were distributed for review.

- The Demo 1 post excavation soil sample results table was distributed for review. The Guard indicated that the soil results are below the MCP standards and proposes to treat this soil as part of the Demo 1 soil issue.

- The Demo 2 C-4 soil sample results table was distributed for review. The Guard indicated that they removed the 6 inches of soil below each piece of C-4 prior to Ogden collecting the soil samples. EPA requested that the table be changed to indicate that the soil was collected from the 3 inches at the bottom of the excavation and not 3 inches from ground surface. The Guard proposed to go to location 6 and excavate more soil and collect an additional post excavation sample to get the concentration below the MADEP RCS1 standard. DEP asked if this would be treated as a new IRA. The Guard indicated that they would be treated as a limited removal action. The EPA suggested preparing a plan to supplement the visual inspection for C-4 in Demo 2.

- EPA asked the status of the schedule for the J-2 Range investigation. Ogden indicated that it is not done yet. EPA asked what work would start next week. Ogden indicated that they need to discuss this with the Guard. EPA asked for notification of the work via fax or email. EPA asked if the Guard was going to prepare a FSP for this work. Ogden indicated that they were going to work directly from the work plan.

- EPA needed to move the discussion of the August 99 Blow in Place Report comment resolution to next week. EPA suggested that the UXO discovery checklist be standardized and discussed at next weeks meeting.

- EPA needed to move the discussion of the 6/16 ILTGM Plan supplement to next week. Ogden indicated that the results of the third round of new wells should be distributed next week and that the selected wells will be added to the wells selected in the 6/16 plan. Ogden indicated that a letter to the agencies was sent requesting dropping PCB from the sampling program. EPA indicated that they were under the impression that any well that was sampled three times with no detections was dropped from the plan. Ogden indicated that the table in the plan includes pesticides. The method for pesticides includes PCBs and Ogden wanted to insure that the agencies were aware that PCB would not be analyzed. EPA also indicated that annual rounds should include all analysis.

- The IART Action Items were discussed.
  - EPA suggested that the Guard research plant uptake of explosives and determine how it may effect this site.
  - The Guard will provide LTC Bailey's response on the request to close the Greenway Road small arms ranges in writing to the IART.
  - The SAR plan will be distributed to the IART. There was a discussion of producing a final plan based on IART comments.
  - A site walk will be conducted on the reported debris pile east of well pad MW-40 by next week.
  - The CS-19 plume will be added to Ogden maps.
  - The EPA suggested that it is premature to come up with any conclusions on the Blow in Place explosive detections. Need to keep track of the explosives used and weather conditions.
  - Progress Reports will be produced in a timelier manner.
  - Guard/EPA will identify more information on the chemical agents and potential analytical methods.
  - Agreed to add a 100 ppb RDX contour to the Demo 1 plume.
  - The Guard will have MA Guard environmental personnel investigate the possibility of oil dripping from the equipment at the UTES.
  - EPA and DEP will look into AFCEE presentation of the CS-19 investigation at the IART.

- There was a discussion of the evolution of the press releases on the chemical weapons training at MMR. The Agencies expressed concern that the press release that was discussed in last weeks meeting was not distributed. There was a discussion of the April, 1999 AFCEE report on chemical training on MMR. The Guard indicated that they did not have a copy until this week and assumed the agencies did. The EPA indicated that they did not receive a copy until this week also. It was agreed that further investigation of the distribution of this report was required.

- Next week's tech meeting will start evaluation of Central Impact Area response well results with focus on delineation of extent of contamination. Goal is to prepare maps before the next public meeting. Ogden will work on NW-SE transects to supplement existing inner and outer transects. The evaluations will likely continue over several meetings.

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-105M1, MW-105M2, and MW-107M1 had detections of RDX. PDA spectra were not yet available for these detections at the time of this progress report.

- The groundwater sample from MW-107M2 had detections of RDX and HMX. PDA spectra were not yet available for these detections at the time of this progress report.

- The groundwater profile samples from MW-108 had detections of 2,6-dinitrotoluene (2,6-DNT; 3 intervals), picric acid (5 intervals), RDX (2 intervals), HMX (2 intervals), 3-nitrotoluene (3-NT; 1 interval), and 4-nitrotoluene (4-NT; 1 interval). The RDX and HMX were verified by PDA spectra.

- The groundwater profile samples from MW-110 had detections of picric acid (5 intervals), nitroglycerin (6 intervals), and PETN (1 interval). PDA spectra were not yet available for these detections at the time of this progress report.

- The sample collected from ash material outside the popper kettle had detections of 1,3,5-trinitrobenzene (1,3,5-TNB), 1,3-dinitrobenzene, TNT, 2,4-DNT, 2,6-DNT, 2-amino-4,6-dinitrotoluene (2A-DNT), 2-NT, 4A-DNT, 4-NT, RDX, HMX, and picric acid. The picric acid, HMX, RDX, 2A-DNT, 2,6-DNT, 2,4-DNT, TNT, and 1,3,5-TNB were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

The following deliverables were submitted during the reporting period.

Final PEP Analytical Report	06/26/00
Letter and Supporting Documents of 6/25/00 re: Scope for Revised ASR	06/26/00
Weekly Progress Update June 19 – June 23	06/30/00
Draft Supplemental Central Impact Area Response Plan	06/30/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of July 3 include the construction of monitoring wells at MW-108 (P-22); continue drilling on MW-110 (P-27); complete third round of groundwater sampling of Group II new far field wells; and collection of the wipe samples from the J-2 Range melt pour facility and the ammo supply magazine.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The regulatory agencies and other stakeholders are reviewing the draft FS Workplan for AO3 (including Demo 1) submitted 4/7/00 and the draft technical memorandum for the Demo 1 response actions submitted 6/8/00. UXO clearance and soil sampling of the nine additional deep soil boring locations in Demo 1 were completed.

TABLE 2
SAMPLING PROGRESS
06/25/2000-07/2/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HCJ240MM	HCJ240MM	06/30/2000	CRATER GRAB	0.00	0.25		
HCJ2CB	HCJ2CB	06/30/2000	CRATER GRAB	0.00	0.25		
HCP24105MM	HCP24105MM	06/30/2000	CRATER GRAB	0.00	0.25		
HDJ240MM	HDJ240MM	06/30/2000	CRATER GRAB	0.00	0.25		
HDJ2CB	HDJ2CB	06/30/2000	CRATER GRAB	0.00	0.25		
HDP24105MM	HDP24105MM	06/30/2000	CRATER GRAB	0.00	0.25		
ABB0010MAE	FIELDQC	06/29/2000	FIELDQC	0.00	0.00		
ABB0015AAE	FIELDQC	06/28/2000	FIELDQC	0.00	0.00		
ABB0017FAE	FIELDQC	06/27/2000	FIELDQC	0.00	0.00		
G108DCE	FIELDQC	06/26/2000	FIELDQC	0.00	0.00		
G108DKE	FIELDQC	06/27/2000	FIELDQC	0.00	0.00		
G108DOE	FIELDQC	06/29/2000	FIELDQC	0.00	0.00		
G108DSE	FIELDQC	06/30/2000	FIELDQC	0.00	0.00		
G110DBE	FIELDQC	06/28/2000	FIELDQC	0.00	0.00		
HCJ240MME	FIELDQC	06/30/2000	FIELDQC	0.00	0.00		
S110DPE	FIELDQC	06/27/2000	FIELDQC	0.00	0.00		
S110DRE	FIELDQC	06/28/2000	FIELDQC	0.00	0.00		
W48SST	FIELDQC	06/26/2000	FIELDQC	0.00	0.00		
W49SST	FIELDQC	06/27/2000	FIELDQC	0.00	0.00		
W56M1T	FIELDQC	06/29/2000	FIELDQC	0.00	0.00		
W56M3T	FIELDQC	06/28/2000	FIELDQC	0.00	0.00		
W57M3T	FIELDQC	06/30/2000	FIELDQC	0.00	0.00		
W48DAA	MW-48	06/26/2000	GROUNDWATER	221.00	231.00	118.00	128.00
W48SSA	MW-48	06/26/2000	GROUNDWATER	99.00	109.00	-3.80	6.20
W49DDA	MW-49	06/26/2000	GROUNDWATER	185.00	195.00	112.03	122.03
W49M2A	MW-49	06/27/2000	GROUNDWATER	130.00	140.00	57.47	67.47
W49M3A	MW-49	06/27/2000	GROUNDWATER	100.50	110.50	28.32	38.32
W49M3D	MW-49	06/27/2000	GROUNDWATER	100.50	110.50	28.32	38.32
W49SSA	MW-49	06/27/2000	GROUNDWATER	68.50	78.80	-3.90	6.40
W56DDA	MW-56	06/29/2000	GROUNDWATER	176.00	186.00	97.23	107.23
W56M1A	MW-56	06/29/2000	GROUNDWATER	156.00	166.00	77.37	87.37
W56M2A	MW-52	06/28/2000	GROUNDWATER	131.00	141.00	52.22	62.22
W56M3A	MW-56	06/28/2000	GROUNDWATER	106.00	116.00	27.45	37.45
W56SSA	MW-56	06/28/2000	GROUNDWATER	76.00	86.00	-2.49	7.51
W57M2A	MW-57	06/30/2000	GROUNDWATER	148.00	158.00	59.56	69.56
W57M3A	MW-57	06/30/2000	GROUNDWATER	117.00	127.00	28.40	38.40
W57SSA	MW-57	06/29/2000	GROUNDWATER	85.00	95.00	-3.67	6.33
G108DBA	MW-108	06/26/2000	PROFILE	180.00	180.00	13.10	13.10
G108DCA	MW-108	06/26/2000	PROFILE	190.00	190.00	23.10	23.10
G108DDA	MW-108	06/26/2000	PROFILE	200.00	200.00	33.10	33.10
G108DDD	MW-108	06/26/2000	PROFILE	200.00	200.00	33.10	33.10
G108DEA	MW-108	06/26/2000	PROFILE	210.00	210.00	43.10	43.10
G108DFA	MW-108	06/26/2000	PROFILE	220.00	220.00	53.10	53.10
G108DGA	MW-108	06/26/2000	PROFILE	230.00	230.00	63.10	63.10

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

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06/25/2000-07/2/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G108DHA	MW-108	06/27/2000	PROFILE	240.00	240.00	73.10	73.10
G108DIA	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10
G108DID	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10
G108DJA	MW-108	06/27/2000	PROFILE	260.00	260.00	93.10	93.10
G108DKA	MW-108	06/27/2000	PROFILE	270.00	270.00	103.10	103.10
G108DLA	MW-108	06/28/2000	PROFILE	280.00	280.00	113.10	113.10
G108DMA	MW-108	06/28/2000	PROFILE	290.00	290.00	123.10	123.10
G108DNA	MW-108	06/29/2000	PROFILE	300.00	300.00	133.10	133.10
G108DOA	MW-108	06/29/2000	PROFILE	310.00	310.00	143.10	143.10
G108DPA	MW-108	06/29/2000	PROFILE	320.00	320.00	153.10	153.10
G108DQA	MW-108	06/29/2000	PROFILE	330.00	330.00	163.10	163.10
G108DQD	MW-108	06/30/2000	PROFILE	330.00	330.00	163.10	163.10
G108DRA	MW-108	06/30/2000	PROFILE	340.00	340.00	173.10	173.10
G108DSA	MW-108	06/30/2000	PROFILE	345.00	345.00	178.10	178.10
G110DAA	MW-110	06/28/2000	PROFILE	180.00	180.00	4.50	4.50
G110DBA	MW-110	06/28/2000	PROFILE	190.00	190.00	14.50	14.50
G110DCA	MW-110	06/28/2000	PROFILE	200.00	200.00	24.50	24.50
G110DDA	MW-110	06/28/2000	PROFILE	210.00	210.00	34.50	34.50
G110DEA	MW-110	06/29/2000	PROFILE	220.00	220.00	44.50	44.50
G110DED	MW-110	06/29/2000	PROFILE	220.00	220.00	44.50	44.50
G110DFA	MW-110	06/29/2000	PROFILE	230.00	230.00	54.50	54.50
G110DGA	MW-110	06/29/2000	PROFILE	240.00	240.00	64.50	64.50
G110DHA	MW-110	06/29/2000	PROFILE	250.00	250.00	74.50	74.50
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50
G110DJA	MW-110	06/29/2000	PROFILE	270.00	270.00	94.50	94.50
G110DJD	MW-110	06/29/2000	PROFILE	270.00	270.00	94.50	94.50
G110DKA	MW-110	06/29/2000	PROFILE	280.00	280.00	104.50	104.50
G110DLA	MW-110	06/29/2000	PROFILE	290.00	290.00	114.50	114.50
G110DMA	MW-110	06/29/2000	PROFILE	300.00	300.00	124.50	124.50
ABB0010AAA	B-10	06/29/2000	SOIL BORING	3.00	4.00		
ABB0010BAA	B-10	06/29/2000	SOIL BORING	4.00	5.00		
ABB0010CAA	B-10	06/29/2000	SOIL BORING	5.00	6.00		
ABB0010DAA	B-10	06/29/2000	SOIL BORING	6.00	7.00		
ABB0010EAA	B-10	06/29/2000	SOIL BORING	7.00	8.00		
ABB0010FAA	B-10	06/29/2000	SOIL BORING	8.00	9.00		
ABB0010FAD	B-10	06/29/2000	SOIL BORING	8.00	9.00		
ABB0010GAA	B-10	06/29/2000	SOIL BORING	9.00	10.00		
ABB0010HAA	B-10	06/29/2000	SOIL BORING	10.00	11.00		
ABB0010IAA	B-10	06/29/2000	SOIL BORING	11.00	12.00		
ABB0010JAA	B-10	06/29/2000	SOIL BORING	12.00	13.00		
ABB0010KAA	B-10	06/29/2000	SOIL BORING	13.00	14.00		
ABB0010LAA	B-10	06/29/2000	SOIL BORING	14.00	15.00		
ABB0010LAD	B-10	06/29/2000	SOIL BORING	14.00	15.00		
ABB0010MAA	B-10	06/29/2000	SOIL BORING	15.00	16.00		

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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SED = Sample End Depth, measured in feet bgs
BWTS = Depth below water table, start depth, measured in feet
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06/25/2000-07/2/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
ABB0011AAA	B-11	06/29/2000	SOIL BORING	3.00	4.00		
ABB0011AAD	B-11	06/29/2000	SOIL BORING	3.00	4.00		
ABB0011BAA	B-11	06/29/2000	SOIL BORING	4.00	5.00		
ABB0011CAA	B-11	06/29/2000	SOIL BORING	5.00	6.00		
ABB0011DAA	B-11	06/29/2000	SOIL BORING	6.00	7.00		
ABB0011EAA	B-11	06/29/2000	SOIL BORING	7.00	8.00		
ABB0011FAA	B-11	06/29/2000	SOIL BORING	8.00	9.00		
ABB0011GAA	B-11	06/29/2000	SOIL BORING	9.00	10.00		
ABB0011HAA	B-11	06/29/2000	SOIL BORING	10.00	11.00		
ABB0011IAA	B-11	06/29/2000	SOIL BORING	11.00	12.00		
ABB0011JAA	B-11	06/29/2000	SOIL BORING	12.00	13.00		
ABB0012AAA	B-12	06/28/2000	SOIL BORING	3.00	4.00		
ABB0012BAA	B-12	06/28/2000	SOIL BORING	4.00	5.00		
ABB0012CAA	B-12	06/28/2000	SOIL BORING	5.00	6.00		
ABB0012CAD	B-12	06/28/2000	SOIL BORING	5.00	6.00		
ABB0012DAA	B-12	06/28/2000	SOIL BORING	6.00	7.00		
ABB0012EAA	B-12	06/29/2000	SOIL BORING	7.00	8.00		
ABB0012FAA	B-12	06/29/2000	SOIL BORING	8.00	9.00		
ABB0012GAA	B-12	06/29/2000	SOIL BORING	9.00	10.00		
ABB0012HAA	B-12	06/29/2000	SOIL BORING	10.00	11.00		
ABB0012IAA	B-12	06/29/2000	SOIL BORING	11.00	12.00		
ABB0012JAA	B-12	06/29/2000	SOIL BORING	12.00	13.00		
ABB0012KAA	B-12	06/29/2000	SOIL BORING	13.00	14.00		
ABB0012LAA	B-12	06/29/2000	SOIL BORING	14.00	15.00		
ABB0012LAD	B-12	06/29/2000	SOIL BORING	14.00	15.00		
ABB0012MAA	B-12	06/29/2000	SOIL BORING	15.00	16.00		
ABB0013AAA	B-13	06/28/2000	SOIL BORING	3.00	4.00		
ABB0013BAA	B-13	06/28/2000	SOIL BORING	4.00	5.00		
ABB0013CAA	B-13	06/28/2000	SOIL BORING	5.00	6.00		
ABB0013DAA	B-13	06/28/2000	SOIL BORING	6.00	7.00		
ABB0013DAD	B-13	06/28/2000	SOIL BORING	6.00	7.00		
ABB0014AAA	B-14	06/28/2000	SOIL BORING	3.00	4.00		
ABB0014BAA	B-14	06/28/2000	SOIL BORING	4.00	5.00		
ABB0014CAA	B-14	06/28/2000	SOIL BORING	5.00	6.00		
ABB0014DAA	B-14	06/28/2000	SOIL BORING	6.00	7.00		
ABB0015AAA	B-15	06/28/2000	SOIL BORING	3.00	4.00		
ABB0015BAA	B-15	06/28/2000	SOIL BORING	4.00	5.00		
ABB0015CAA	B-15	06/28/2000	SOIL BORING	5.00	6.00		
ABB0015DAA	B-15	06/28/2000	SOIL BORING	6.00	7.00		
ABB0015EAA	B-15	06/28/2000	SOIL BORING	7.00	8.00		
ABB0015FAA	B-15	06/28/2000	SOIL BORING	8.00	9.00		
ABB0015FAD	B-15	06/28/2000	SOIL BORING	8.00	9.00		
ABB0015GAA	B-15	06/28/2000	SOIL BORING	9.00	10.00		
ABB0015HAA	B-15	06/28/2000	SOIL BORING	10.00	11.00		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
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SAMPLING PROGRESS
06/25/2000-07/2/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
ABB0015IAA	B-15	06/28/2000	SOIL BORING	11.00	12.00		
ABB0015JAA	B-15	06/28/2000	SOIL BORING	12.00	13.00		
ABB0015KAA	B-15	06/28/2000	SOIL BORING	13.00	14.00		
ABB0015LAA	B-15	06/28/2000	SOIL BORING	14.00	15.00		
ABB0015MAA	B-15	06/28/2000	SOIL BORING	15.00	16.00		
ABB0015MAD	B-15	06/28/2000	SOIL BORING	15.00	16.00		
ABB0016AAA	B-16	06/28/2000	SOIL BORING	3.00	4.00		
ABB0016BAA	B-16	06/28/2000	SOIL BORING	4.00	5.00		
ABB0016BAD	B-16	06/28/2000	SOIL BORING	4.00	5.00		
ABB0016CAA	B-16	06/28/2000	SOIL BORING	5.00	6.00		
ABB0016DAA	B-16	06/28/2000	SOIL BORING	6.00	7.00		
ABB0016EAA	B-16	06/28/2000	SOIL BORING	7.00	8.00		
ABB0016FAA	B-16	06/28/2000	SOIL BORING	8.00	9.00		
ABB0016GAA	B-16	06/28/2000	SOIL BORING	9.00	10.00		
ABB0016HAA	B-16	06/28/2000	SOIL BORING	10.00	11.00		
ABB0016IAA	B-16	06/28/2000	SOIL BORING	11.00	12.00		
ABB0016IAD	B-16	06/28/2000	SOIL BORING	11.00	12.00		
ABB0016JAA	B-16	06/28/2000	SOIL BORING	12.00	13.00		
ABB0016KAA	B-16	06/28/2000	SOIL BORING	13.00	14.00		
ABB0016LAA	B-16	06/28/2000	SOIL BORING	14.00	15.00		
ABB0016MAA	B-16	06/28/2000	SOIL BORING	15.00	16.00		
ABB0017AAA	B-17	06/27/2000	SOIL BORING	3.00	4.00		
ABB0017BAA	B-17	06/27/2000	SOIL BORING	4.00	5.00		
ABB0017CAA	B-17	06/27/2000	SOIL BORING	5.00	6.00		
ABB0017DAA	B-17	06/27/2000	SOIL BORING	6.00	7.00		
ABB0017DAD	B-17	06/27/2000	SOIL BORING	6.00	7.00		
ABB0017EAA	B-17	06/27/2000	SOIL BORING	7.00	8.00		
ABB0017FAA	B-17	06/27/2000	SOIL BORING	8.00	9.00		
ABB0017GAA	B-17	06/27/2000	SOIL BORING	9.00	10.00		
ABB0017HAA	B-17	06/27/2000	SOIL BORING	10.00	11.00		
ABB0017IAA	B-17	06/27/2000	SOIL BORING	11.00	12.00		
ABB0017JAA	B-17	06/27/2000	SOIL BORING	12.00	13.00		
ABB0017KAA	B-17	06/27/2000	SOIL BORING	13.00	14.00		
ABB0017KAD	B-17	06/27/2000	SOIL BORING	13.00	14.00		
ABB0017LAA	B-17	06/27/2000	SOIL BORING	14.00	15.00		
ABB0017MAA	B-17	06/27/2000	SOIL BORING	15.00	16.00		
ABB0018AAA	B-18	06/27/2000	SOIL BORING	3.00	4.00		
ABB0018BAA	B-18	06/27/2000	SOIL BORING	4.00	5.00		
ABB0018CAA	B-18	06/27/2000	SOIL BORING	5.00	6.00		
ABB0018DAA	B-18	06/27/2000	SOIL BORING	6.00	7.00		
ABB0018EAA	B-18	06/27/2000	SOIL BORING	7.00	8.00		
ABB0018EAD	B-18	06/27/2000	SOIL BORING	7.00	8.00		
ABB0018FAA	B-18	06/27/2000	SOIL BORING	8.00	9.00		
ABB0018GAA	B-18	06/27/2000	SOIL BORING	9.00	10.00		

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
06/25/2000-07/2/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
ABB0018HAA	B-18	06/27/2000	SOIL BORING	10.00	11.00		
ABB0018IAA	B-18	06/27/2000	SOIL BORING	11.00	12.00		
ABB0018JAA	B-18	06/27/2000	SOIL BORING	12.00	13.00		
ABB0018KAA	B-18	06/27/2000	SOIL BORING	13.00	14.00		
ABB0018LAA	B-18	06/27/2000	SOIL BORING	14.00	15.00		
ABB0018LAD	B-18	06/27/2000	SOIL BORING	14.00	15.00		
ABB0018MAA	B-18	06/27/2000	SOIL BORING	15.00	16.00		
S110DPA	MW-110	06/27/2000	SOIL BORING	140.00	142.00		
S110DQA	MW-110	06/27/2000	SOIL BORING	150.00	152.00		
S110DRA	MW-110	06/28/2000	SOIL BORING	160.00	162.00	15.50	13.50
S110DSA	MW-110	06/28/2000	SOIL BORING	170.00	172.00	5.50	3.50

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 6/25/00-7/1/00

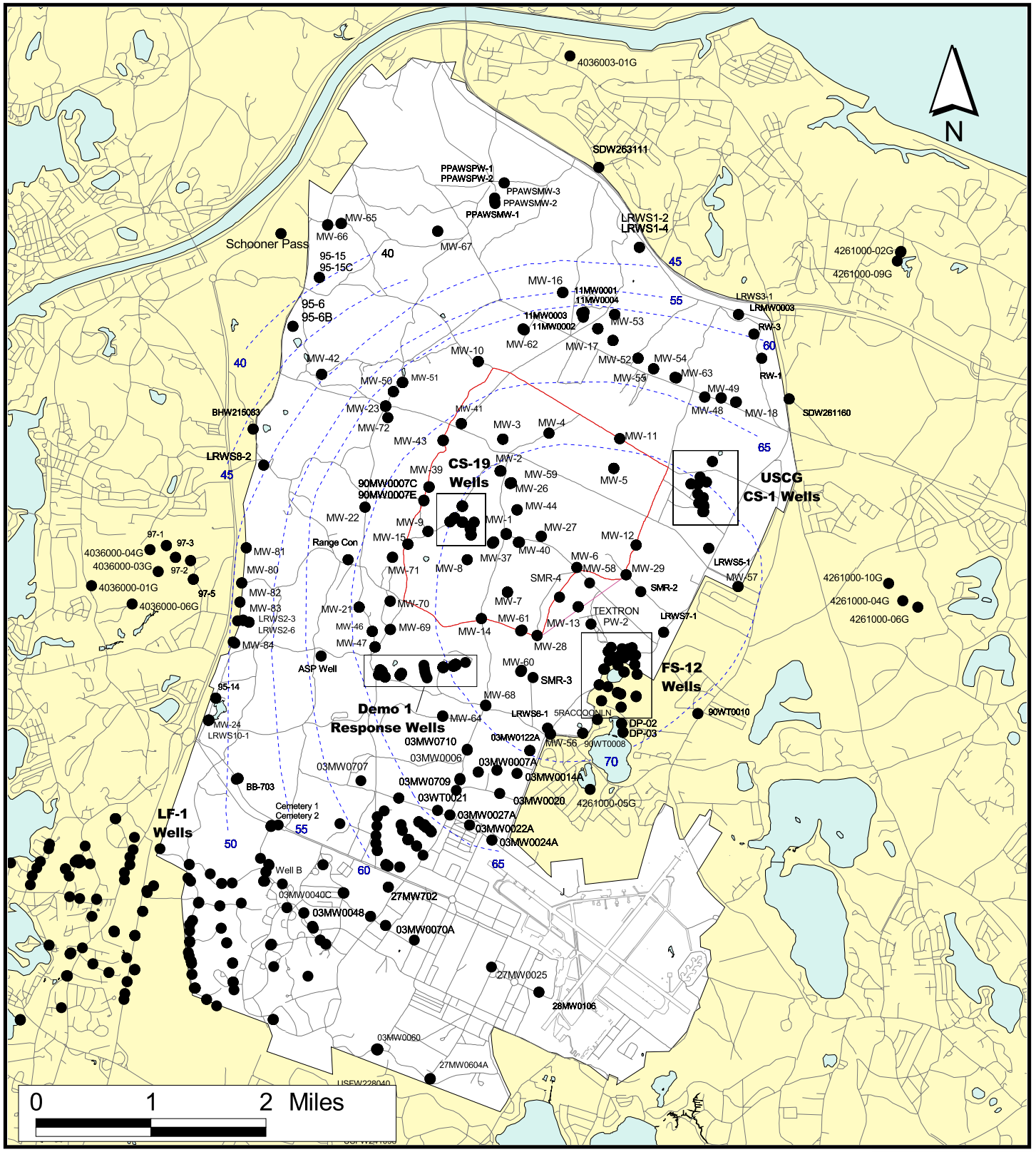
OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W105M1A	MW-105	06/21/2000	GROUNDWATER	205.00	215.00	75.08	85.08	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	
W105M2A	MW-105	06/21/2000	GROUNDWATER	165.00	175.00	35.04	45.04	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	
W107M1A	MW-107	06/21/2000	GROUNDWATER	155.00	165.00	33.11	43.11	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	
W107M2A	MW-107	06/21/2000	GROUNDWATER	125.00	135.00	3.17	13.17	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	
W107M2A	MW-107	06/21/2000	GROUNDWATER	125.00	135.00	3.17	13.17	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	
G108DAA	MW-108	06/23/2000	PROFILE	170.00	170.00	3.10	3.10	8330N	2,6-DINITROTOLUENE	NO
G108DCA	MW-108	06/26/2000	PROFILE	190.00	190.00	23.10	23.10	8330N	PICRIC ACID	NO
G108DGA	MW-108	06/26/2000	PROFILE	230.00	230.00	63.10	63.10	8330N	2,6-DINITROTOLUENE	NO
G108DGA	MW-108	06/26/2000	PROFILE	230.00	230.00	63.10	63.10	8330N	PICRIC ACID	NO
G108DHA	MW-108	06/27/2000	PROFILE	240.00	240.00	73.10	73.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G108DHA	MW-108	06/27/2000	PROFILE	240.00	240.00	73.10	73.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G108DIA	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G108DIA	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G108DID	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G108DID	MW-108	06/27/2000	PROFILE	250.00	250.00	83.10	83.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
G108DKA	MW-108	06/27/2000	PROFILE	270.00	270.00	103.10	103.10	8330N	3-NITROTOLUENE	NO
G108DKA	MW-108	06/27/2000	PROFILE	270.00	270.00	103.10	103.10	8330N	4-NITROTOLUENE	NO
G108DKA	MW-108	06/27/2000	PROFILE	270.00	270.00	103.10	103.10	8330N	PICRIC ACID	NO
G108DMA	MW-108	06/28/2000	PROFILE	290.00	290.00	123.10	123.10	8330N	2,6-DINITROTOLUENE	NO
G108DMA	MW-108	06/28/2000	PROFILE	290.00	290.00	123.10	123.10	8330N	PICRIC ACID	NO
G108DNA	MW-108	06/29/2000	PROFILE	300.00	300.00	133.10	133.10	8330N	PICRIC ACID	NO
G110DAA	MW-110	06/28/2000	PROFILE	180.00	180.00	4.50	4.50	8330N	PICRIC ACID	
G110DBA	MW-110	06/28/2000	PROFILE	190.00	190.00	14.50	14.50	8330N	NITROGLYCERIN	
G110DBA	MW-110	06/28/2000	PROFILE	190.00	190.00	14.50	14.50	8330N	PICRIC ACID	
G110DCA	MW-110	06/28/2000	PROFILE	200.00	200.00	24.50	24.50	8330N	NITROGLYCERIN	
G110DDA	MW-110	06/28/2000	PROFILE	210.00	210.00	34.50	34.50	8330N	NITROGLYCERIN	
G110DDA	MW-110	06/28/2000	PROFILE	210.00	210.00	34.50	34.50	8330N	PICRIC ACID	
G110DGA	MW-110	06/29/2000	PROFILE	240.00	240.00	64.50	64.50	8330N	NITROGLYCERIN	
G110DGA	MW-110	06/29/2000	PROFILE	240.00	240.00	64.50	64.50	8330N	PICRIC ACID	
G110DHA	MW-110	06/29/2000	PROFILE	250.00	250.00	74.50	74.50	8330N	NITROGLYCERIN	
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	NITROGLYCERIN	
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	PENTAERYTHRITOL TETRANITR	
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	PICRIC ACID	

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 6/25/00-7/1/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	1,3,5-TRINITROBENZENE	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	1,3-DINITROBENZENE	NO
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	2,4,6-TRINITROTOLUENE	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	2,4-DINITROTOLUENE	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	2,6-DINITROTOLUENE	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	2-NITROTOLUENE	NO
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	4-AMINO-2,6-DINITROTOLUENE	NO
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	4-NITROTOLUENE	NO
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
HCJ1KPAAA	HCJ1KPAAA	06/15/2000	SOIL GRID	0.00	0.25			8330N	PICRIC ACID	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



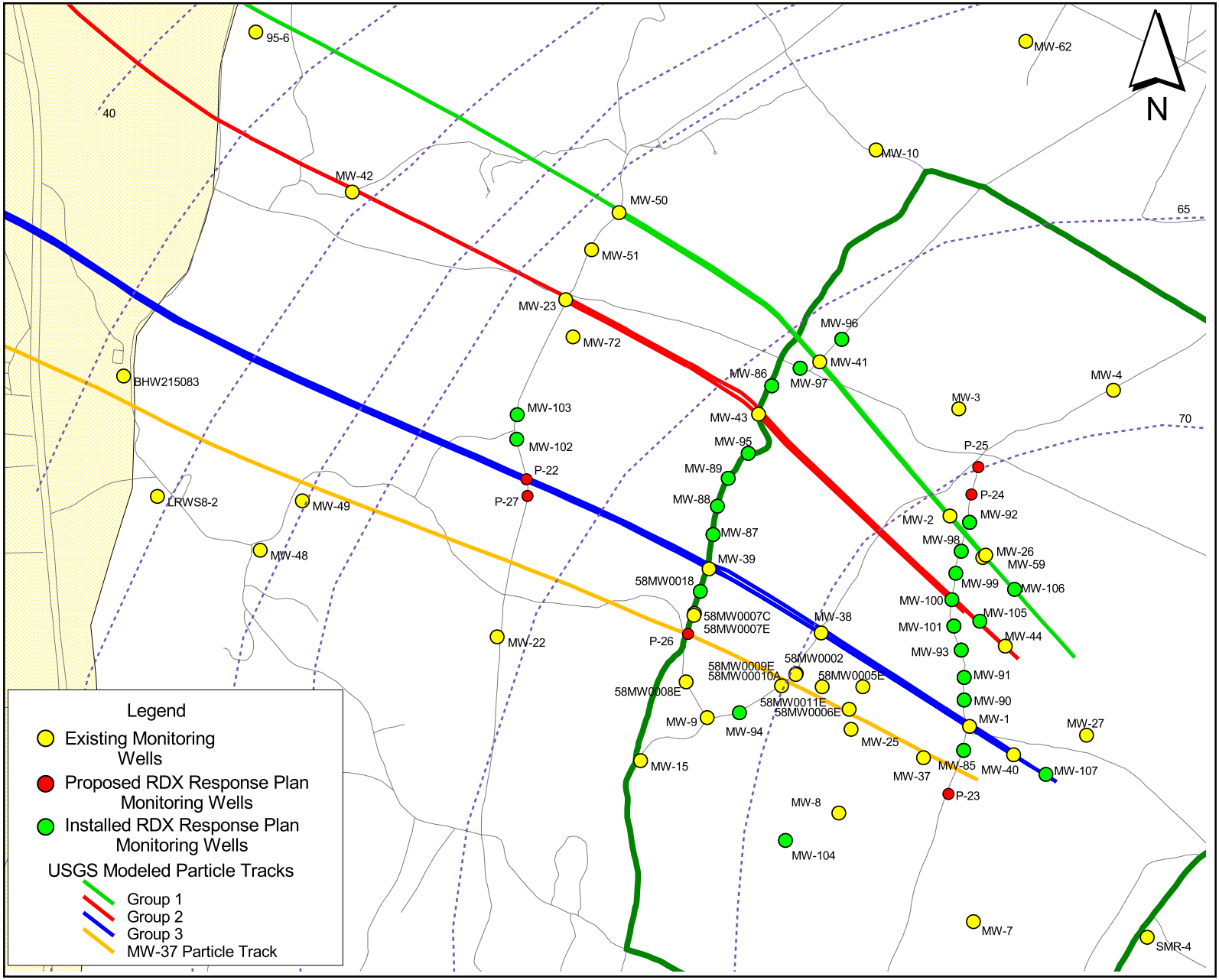
Sources & Notes

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