WEEKLY PROGRESS UPDATE
FOR AUGUST 14 – AUGUST 18, 2000

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 August 14 to August 18, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of August 18 is summarized in Table 1.

Table 1. Drilling progress as of August 18, 2000

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-114	Demo 1 Response Well	220	138	120-130 177-187
MW-115	Impact Area Response Well P-23	220	102	
MW-116	J-2 Range (J2P3)	113		101-111
MW-117	J-2 Range (J2P6)	22		

bgs = below ground surface
bwt = below water table

Completed well installation on MW-114 (Demo 1 Response well) and MW-116 (J2P3). Continued drilling on MW-115 (P-23). Commenced drilling on MW-117 (J2P6). UXO clearance continued for the J-2 Range drill pads, P28, P-29, and J-3 Range access roads. UXO located on the J-2 Range were detonated on 8/15/00. 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 UXO detonated in the J-2 Range. Groundwater samples were collected from the August Long Term Monitoring wells. Groundwater profile samples were collected during the drilling of MW-114 and MW-115. Deep soil samples were collected during the drilling of MW-115, MW-116, and MW-117. Soil samples were collected for the High Use Target Area (HUTA) study at target 0.E.0.00001 (an APC) and at the material screening pad (Area 7.F). Soil samples were collected from grids in the J-3 Range (Area 101) and at Target 41 (Area 105).

The Guard, EPA, and MADEP had a meeting on August 17 to discuss technical issues, including the following:

- There was a discussion of the request for an AFCEE presentation of the CS-19 investigation at the next IART Meeting. AFCEE indicated that they would support the Guard in the CS-19 presentation. The Guard would have Ogden give the CS-19 investigation presentation and AFCEE would be at the table to answer any questions that Ogden could not answer. EPA indicated that the IART is an EPA meeting and they have invited AFCEE to do the presentation. They do not believe that having the Guard give the presentation is the best way to go forward.
- Jacobs indicated that they are preparing a response to comment letter on the CS-19 report, which should be ready before the 8/22/00 JPAT meeting.

- The USACE provided an update on the Water Supply Investigation. The final ZOCs and Zone IIs should be ready by August 31. A meeting was held with DEP on the water management permitting. USACE will apply for an amendment to the existing base permit. The chemical monitoring well proposal will be submitted with the pump test results. EPA asked for an update on the EA comment period. JPO will not extend the comment period deadline but indicated that they would take the additional comments and incorporate them into the plan. EPA asked if there was an automatic extension to the deadline required by MEPA. DEP indicated that they looked into it and were not able to find this requirement. There will be a public meeting on Monday 8/21/00 to receive additional comments.
- Tetra Tech provided an update of the Munitions Survey. A 1-page handout of the investigation summary was distributed. All 16 grids in the HUTA have been cleared of vegetation. Have identified approximately 800 objects with a dimension greater than 3". All appropriate objects have been cataloged and currently being entered in the data base. Will begin sampling of testable items on Monday. Brush cutting continues in the J-2 Range and some additional UXO items have been discovered. J1/J3 Ranges land survey and UXO survey have commenced. Some UXO items have been detected in J-1 Range. The Guard asked when the water bodies validation study will occur. Tetra Tech indicated that it will be done at the same time as the gun position and Demo 1 validation study. A plan is currently being prepared which should be ready for review next week. EPA requested an update on the validation schedule for next week's Technical Meeting. EPA asked if the magnetic anomalies at the end of the J-2 Range are caused by surface features. Tetra Tech indicated that some of the anomalies are the result of tracked vehicles but others do not have surface features. EPA asked Ogden for an update on the UXO clearance and the soil sampling on the J2P7 drill pad (Disposal Area 2). Ogden indicated that they would look into it. After the meeting it was determined that the drill pad at J2P7 has been intrusively cleared with the exception of the locations of the soil grids, which will require assistance from the UXO contractor to sample due to the anomalies. Ogden asked for the status of the explosive field screening method. Lab equipment is arriving next week. When the system is up and running, CRREL will visit to review the method with Tetra Tech.
- Ogden provided an update of the Rapid Response Action. A 1-page summary was distributed. Awaiting DEP approval of the RAM Plan and EPA approval of the final RRA Work Plan. The data validation of the delineation sampling is complete and started working on a draft report. There are 29 grids requiring soil removal to a maximum depth of 3 feet, which will produce up to 750 cubic yards of soil for treatment. Soil washing report will be distributed to the agencies next week. Treatability study continues and the report should be ready by mid September. Containment pad design is complete and was distributed to contractors for cost estimate.
- Ogden provided an update of the Groundwater Investigation. A 1-page summary and 2 maps were distributed. Completed the well installation at MW-114 (Demo 1 response well) and MW-116 (J2P3). Should complete drilling on MW-115 (P-23) this week and need to select screens next week. Next scheduled well locations are P-28, P-29, J2P6, and J2P8. The groundwater sampling of the August LTM round continues. Distributed a letter with the Uranium analysis method and proposed laboratory for agency review. Continue to develop newly installed wells. Intrusive UXO clearance continues on the J-2 Range well pads and avoidance flagging on the J-2 soil grids. Intrusive clearances on drill pads P-28 and P-29 will be completed by early next week. UXO clearance of the J-3 access roads and J3P9 and J3P1 commenced this week. Avoidance flagging of soil grids will start next week. Need to confirm that the well pad for J3P1 will not interfere with the soil grids in the detonation pit. EPA asked the status of moving the concrete targets in J-3 and Dave McCabe indicated that he would look into it. Soil sampling continues on J-2 Range. EPA asked when the soil data would come in. Ogden indicated that the samples are on a 30-day turn around time. EPA asked Ogden and the USGS to come up with a location for an additional well for Demo 1 because the particle track and plume do not match exactly. It was agreed that there needs to be a discussion on the location of an additional Demo 1 response well next week.
- A table and map of the Demo 1 deep soil samples was distributed. B-17 was the only boring with detections below 9 feet. B-13 and B-14 had refusals at 7 feet due to a magnetic anomaly. B-11 had a

physical refusal at 13 feet. It was agreed to discuss the results of the sampling at next weeks Technical Meeting. Ogden will look into what analysis can still be done on the existing soil samples. EPA asked for an update on the MW-19 perchlorate groundwater results.

- The action items from the previous Technical Meetings were discussed:
  - A schedule for the J Ranges drilling is currently being prepared.
  - Currently working on the Tier classification of the MCP sites.
  - Wipe sample results from the J-2 Range will be available later in the meeting.
  - 8321 results should be ready this week. Ogden will prepare a report comparing 8330, CHPPM and 8321 results.
  - Dyes analysis method development is ongoing. A request for extension to the deadline for the Training Areas investigation was submitted to EPA.
  - Continue preparing summary of biota analysis methods.
  - Recon of J-1 was performed to address the slag question with none observed. Need to have Mr. Zanis show the location he observed.
  - ASR kick off meeting is August 22nd at 1:00 (later corrected to 10:00), which will require that the FS Work Plan meeting be rescheduled (later scheduled for 2:00).
- EPA requested that next week's Technical Meeting be changed to Wednesday at 9:00.
- DEP asked that Tetra Tech documents be included in the update tables. Tetra Tech will discuss with the Guard.
- EPA indicated that the maps that the Guard is using for the Town Meetings needs to be updated, consistent with the IART, including the Demo 1 plume and the Central Impact Area area of contamination.
- DPH requested concentration maps focusing on the Snake Pond area. Ogden indicated that concentration maps in the format of the Phase I Completion of Work Report could be prepared. However, the majority of wells sampled by IAGS are for explosives only. Therefore, DPH would also need maps from IRP to evaluate the distribution of other analytes. The explosive results have validated detects at five wells as indicated in the public meeting maps.
- The Guard indicated that the Safe Holding Area (SHA) has exceeded its capacity and newly discovered UXO could not be moved there. The CDC has been put on hold waiting for the air monitoring. The EPA suggested starting using the CDC but a sufficient amount of UXO would be set aside for the air monitoring. The Guard would check with the USACE and have an answer next week. The Guard also indicated that many of the Items in the SHA can not be detonated in the CDC, therefore, a plan is required for their disposal. EPA suggested the Guard prepare a plan for their disposal and submit it to the agencies. The HUTA investigation will likely require numerous detonations each day when excavation starts and a revised plan for detonation notifications will be required to keep on schedule. EPA suggested that the Guard submit a proposal to the agencies. EPA requested the status of the supplemental detonation crater sampling. EPA asked that additional crater sampling be set as a higher priority.
- A copy of the draft agenda for the IART Meeting was distributed for review. The Munitions Update will include the aerial magnetometer survey and a HUTA summary. The Phase IIb Field Sampling Plan under the Investigations Update will consist of a summary update. The Rapid Response Action will consist of an update of the study and a discussion of the upcoming work.
- A 2-page handout of the Action Items from the July 27 IART meeting was distributed and discussed:
  - 1. The Guard will follow up on the status of the SAR/Greenway Road letter.
  - 2. A letter was sent out on 8-15-00 on the inventory of equipment. DEP indicated that they did inspect the equipment at the UTES for releases of oil. The Guard will check to see if this information can be summarized for the meeting.
  - 3. The Guard will follow up on the status of the ASP inventory.
  - 4. IRP proposes that the Guard present the CS-19 investigation as indicated above.
  - 5. See 4.
  - 6. EPA is evaluating this issue.

- 7. EPA to invite Mr. Zanis on-site to identify area. The reconnaissance of the area near the popper kettle was done.
- 8. The Guard will discuss the Small Arms Ranges sampling.
- 9. The Guard is looking into funding options to support the TOSC program.
- 10. The DEP notified the IART of the next funding round for the Technical Assistance Grants.
- 11. EPA has drafted a letter to Bill Librizzi to offer agency continued support for the TOSC services to the Citizen members.
- 12. The IART agenda will contain more information on items that will be discussed during the updates.

- EPA requested that the Guard check with AFCEE to see if during installation of the treatment system in the Kittridge Road Grenade Courts anything was observed.
- A 1-page summary of the proposed discussion topics for the FS Workplan meeting (8/22 @ 2:00) was provided. These include Contaminants of Concern (COCs), remediation goals, UXO FS, and Remedial Action Objectives. It was agreed that a process to identify COCs is needed; the Guard will provide a proposal for agency review. Regarding remediation goals, EPA indicated that cleanup to background is required except where technically or economically infeasible. An evaluation of feasibility can consider whether there are impacts to groundwater, based on the fate/transport properties of the COCs. Regarding UXO, the topic will be discussed at the 8/22 meeting and ultimately the Guard will prepare a proposal on the FS process for UXO. Regarding Remedial Action Objectives (EPA Specific Comment 42), EPA will review this issue internally in order to provide further guidance.
- The Central Impact Area Response Plan response to comment letter was discussed. DEP had previously sent an approval. The issue of whether additional drilling will be needed following the current proposed wells was discussed. It was agreed that this issue can be revisited as information becomes available from the current phase of drilling.
- A hand out of the J-2 Range wipe samples analysis without PDA results was distributed.

There was a discussion after the Technical Meeting on Textron's RCRA response and its implications for the J Range investigations.

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 sample from MW-23M1, MW-27S, MW34M1, and MW-34M2 had detections of RDX, which were verified by PDA spectra. These detections were similar to the previous sampling rounds.

- The groundwater sample from MW-31D had detections of RDX, HMX, TNT, 2,4-DNT, 2-amino-4,6-dinitrotoluene (2A-DNT), and 4-amino-2,6-dinitrotoluene (4A-DNT), which were verified by the PDA spectra. The previous rounds did not have explosive detections at this well.

- The groundwater sample from MW-31M1 had detections of RDX, HMX, 2A-DNT, and 4A-DNT, which were verified by PDA spectra. Previous sampling rounds had similar detections.

- The groundwater sample from MW-31S had detections of RDX, HMX, TNT, 2,4-DNT, 2A-DNT, and 4A-DNT, which were verified by PDA spectra. The previous sampling rounds had similar detections.

- The groundwater sample from MW-50M1 had a detection of 4A-DNT, which was verified by the PDA spectra. Previous rounds had detections of RDX and 4A-DNT.

- The groundwater profile samples from MW-114 had detections of RDX (5 intervals), HMX (3 interval), nitroglycerin (7 intervals), PETN (1 interval), and 2A-DNT (1 interval). The RDX and HMX were verified by the PDA spectra.

- The groundwater profile samples from MW-115 had detections of picric acid (1 interval), PETN (2 intervals, and 2,6-DNT (3 intervals), which were not verified by PDA spectra.

3. DELIVERABLES SUBMITTED

The following deliverables were submitted during the reporting period.

Draft Phase II (b) FSP for Training Area BA-1	08/16/00
Draft Phase II (b) FSP for Former Ammunition Supply Point	08/16/00
Draft Phase II (b) FSP for Mock Village	08/16/00
Final Interim Long Term Groundwater Monitoring Plan	08/18/00
Supplemental Berm Maintenance Report	08/18/00
Weekly Progress Update (Aug 7-Aug 11)	08/18/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of August 21 include the well installation at MW-115 (P-23); drilling and well installation at MW-117 (J2P6) and commence drilling at P-28, P-29, and J2P8; the continued UXO clearance of the drilling pads and soil grids in the J-3 Range; continued groundwater sampling of the August LTM wells; and development of newly installed wells.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The regulatory agencies have provided comments on the draft FS Workplan for AO3 (including Demo 1), and responses to comments are being prepared. The regulatory agencies have provided comments on the draft technical memorandum for the Demo 1 response actions, and responses to comments are being prepared. Results of the second round of deep soil borings were presented and discussed at the technical meeting on 8/17/00 (see minutes in Section 1 above). Results of profile samples for response well MW-114 at the southern toe of the plume were discussed on 8/16/00 and monitoring well screens were positioned accordingly. The RDX results in the profile samples indicate that the centerline of the plume is south of the current particle track, and the leading edge of the plume is further west than the current estimate. The Guard will propose supplemental response wells at the 8/23/00 technical meeting.

TABLE 2
SAMPLING PROGRESS
08/13/2000-08/19/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HDJ260MM02	HDJ260MM02	08/18/2000	CRATER GRAB	0.00	0.25		
HDJ260MM03	HDJ260MM03	08/18/2000	CRATER GRAB	0.00	0.25		
HDJ281MM28	HDJ281MM28	08/18/2000	CRATER GRAB	0.00	0.25		
HDJ281MM29	HDJ281MM29	08/18/2000	CRATER GRAB	0.00	0.25		
HDJ281MM30	HDJ281MM30	08/18/2000	CRATER GRAB	0.00	0.25		
HDJ281MM31	HDJ281MM31	08/18/2000	CRATER GRAB	0.00	0.25		
0.G.0.00001.0.T	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
0.G.0.00002.0.F	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
90WT0003E	FIELDQC	08/18/2000	FIELDQC	0.00	0.00		
90WT0013E	FIELDQC	08/17/2000	FIELDQC	0.00	0.00		
G114DDE	FIELDQC	08/14/2000	FIELDQC	0.00	0.00		
G115DAE	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
G115DGE	FIELDQC	08/17/2000	FIELDQC	0.00	0.00		
G115DKE	FIELDQC	08/18/2000	FIELDQC	0.00	0.00		
HC101AA1AAE	FIELDQC	08/17/2000	FIELDQC	0.00	0.00		
HC101AA1AAT	FIELDQC	08/17/2000	FIELDQC	0.00	0.00		
HC101GA1AAE	FIELDQC	08/14/2000	FIELDQC	0.00	0.00		
HC101GA1AAT	FIELDQC	08/14/2000	FIELDQC	0.00	0.00		
HC101NA1AAE	FIELDQC	08/15/2000	FIELDQC	0.00	0.00		
HC101NA1CAE	FIELDQC	08/17/2000	FIELDQC	0.00	0.00		
HC101NA1CAT	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
HC101OA1AAE	FIELDQC	08/18/2000	FIELDQC	0.00	0.00		
HC101OA1AAT	FIELDQC	08/18/2000	FIELDQC	0.00	0.00		
S115DCE	FIELDQC	08/14/2000	FIELDQC	0.00	0.00		
S115DEE	FIELDQC	08/15/2000	FIELDQC	0.00	0.00		
S115DME	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
S116DAE	FIELDQC	08/14/2000	FIELDQC	0.00	0.00		
S116DAT	FIELDQC	08/15/2000	FIELDQC	0.00	0.00		
S116DCE	FIELDQC	08/15/2000	FIELDQC	0.00	0.00		
S116DEE	FIELDQC	08/16/2000	FIELDQC	0.00	0.00		
S117DCE	FIELDQC	08/18/2000	FIELDQC	0.00	0.00		
90MW0034	90MW0034	08/18/2000	GROUNDWATER	96.00	101.00	30.99	35.99
90MW0041	90MW0041	08/17/2000	GROUNDWATER	127.00	133.00	34.23	40.23
90WT0003	90WT0003	08/18/2000	GROUNDWATER	91.50	101.50	-0.73	9.27
90WT0005	90WT0005	08/18/2000	GROUNDWATER	51.00	61.00	-0.36	9.64
90WT0006	90WT0006	08/17/2000	GROUNDWATER	98.00	108.00	-0.39	9.61
90WT0013	90WT0013	08/17/2000	GROUNDWATER	115.00	125.00	19.15	29.15
W38M4A	MW-38	08/14/2000	GROUNDWATER	132.00	142.00	10.15	20.15
W38SSA	MW-38	08/14/2000	GROUNDWATER	115.00	125.00	-6.85	3.15
W42M1A	MW-42	08/14/2000	GROUNDWATER	206.00	216.00	135.19	145.19
W42M2A	MW-42	08/14/2000	GROUNDWATER	186.00	196.00	115.70	125.70
W42M3A	MW-42	08/14/2000	GROUNDWATER	166.00	176.00	95.67	105.67
W43M1A	MW-43	08/14/2000	GROUNDWATER	223.00	233.00	85.80	95.80

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
08/13/2000-08/19/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
W43M2A	MW-43	08/15/2000	GROUNDWATER	200.00	210.00	62.99	72.99
W43SSA	MW-43	08/14/2000	GROUNDWATER	129.00	139.00	-8.00	2.00
W50DDA	MW-50	08/14/2000	GROUNDWATER	237.00	247.00	116.40	126.40
W50M1A	MW-50	08/14/2000	GROUNDWATER	207.00	217.00	86.27	96.27
W50M2A	MW-50	08/14/2000	GROUNDWATER	177.00	187.00	56.37	66.37
W50M3A	MW-50	08/14/2000	GROUNDWATER	147.00	157.00	26.40	36.40
W51M3A	MW-51	08/14/2000	GROUNDWATER	173.00	183.00	24.85	34.85
W52DDA	MW-52	08/17/2000	GROUNDWATER	369.00	379.00	213.68	223.68
W52M1A	MW-52	08/16/2000	GROUNDWATER	290.00	300.00	134.90	144.90
W52M2A	MW-52	08/16/2000	GROUNDWATER	225.00	235.00	69.95	79.95
W52M3A	MW-52	08/16/2000	GROUNDWATER	210.00	215.00	55.72	60.72
W52SSA	MW-52	08/16/2000	GROUNDWATER	150.00	160.00	-4.00	6.00
W53DDA	MW-53	08/17/2000	GROUNDWATER	283.00	293.00	153.30	163.30
W53M1A	MW-53	08/16/2000	GROUNDWATER	224.00	234.00	96.36	106.36
W53M2A	MW-53	08/17/2000	GROUNDWATER	194.00	204.00	66.37	76.37
W53M3A	MW-53	08/16/2000	GROUNDWATER	164.00	174.00	36.48	46.48
W53SSA	MW-53	08/17/2000	GROUNDWATER	121.00	131.00	-8.99	1.01
W54DDA	MW-54	08/15/2000	GROUNDWATER	278.00	288.00	124.30	134.30
W54DDA	MW-54	08/17/2000	GROUNDWATER	255.00	265.00	101.30	111.30
W54M1A	MW-54	08/15/2000	GROUNDWATER	230.00	240.00	76.70	86.70
W54M2A	MW-54	08/16/2000	GROUNDWATER	210.00	220.00	56.61	66.61
W54M3A	MW-54	08/16/2000	GROUNDWATER	180.00	190.00	26.56	36.56
W54SSA	MW-54	08/17/2000	GROUNDWATER	148.00	158.00	-5.55	4.45
W55DDA	MW-55	08/15/2000	GROUNDWATER	255.00	265.00	116.58	126.58
W55M1A	MW-55	08/16/2000	GROUNDWATER	225.00	235.00	86.68	96.68
W55M2A	MW-55	08/15/2000	GROUNDWATER	195.00	205.00	56.74	66.74
W55M3A	MW-55	08/15/2000	GROUNDWATER	164.50	174.50	26.27	36.27
W64M1A	MW-64	08/14/2000	GROUNDWATER	129.00	139.00	-8.00	2.00
W64M2A	MW-64	08/15/2000	GROUNDWATER	100.00	105.00	5.98	10.98
W80M1A	MW-80	08/18/2000	GROUNDWATER	130.00	140.00	83.26	93.26
W80M2A	MW-80	08/18/2000	GROUNDWATER	100.00	110.00	53.15	63.15
W81DDA	MW-81	08/17/2000	GROUNDWATER	184.00	194.00	156.12	166.12
W81M1A	MW-81	08/17/2000	GROUNDWATER	128.00	138.00	97.59	107.59
W81M1A	MW-81	08/18/2000	GROUNDWATER	128.00	138.00	97.56	107.56
W81M3A	MW-81	08/18/2000	GROUNDWATER	53.00	58.00	22.86	27.86
DCM0815	GAC WATER	08/15/2000	IDW				
DW0815	GAC WATER	08/15/2000	IDW				
G114DDA	MW-114	08/14/2000	PROFILE	110.00	110.00	28.30	28.30
G114DEA	MW-114	08/14/2000	PROFILE	120.00	120.00	38.30	38.30
G114DFA	MW-114	08/14/2000	PROFILE	130.00	130.00	48.30	48.30
G114DGA	MW-114	08/14/2000	PROFILE	140.00	140.00	58.30	58.30
G114DHA	MW-114	08/14/2000	PROFILE	150.00	150.00	68.30	68.30
G114DIA	MW-114	08/14/2000	PROFILE	160.00	160.00	78.30	78.30
G114DJA	MW-114	08/14/2000	PROFILE	170.00	170.00	88.30	88.30

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08/13/2000-08/19/2000

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G114DKA	MW-114	08/14/2000	PROFILE	180.00	180.00	98.30	98.30
G114DLA	MW-114	08/14/2000	PROFILE	190.00	190.00	108.30	108.30
G114DMA	MW-114	08/14/2000	PROFILE	200.00	200.00	118.30	118.30
G114DMD	MW-114	08/14/2000	PROFILE	200.00	200.00	118.30	118.30
G114DNA	MW-114	08/14/2000	PROFILE	210.00	210.00	128.30	128.30
G114DOA	MW-114	08/14/2000	PROFILE	220.00	220.00	138.30	138.30
G115DAA	MW-115	08/16/2000	PROFILE	124.00	124.00	6.00	6.00
G115DBA	MW-115	08/16/2000	PROFILE	130.00	130.00	12.00	12.00
G115DCA	MW-115	08/16/2000	PROFILE	140.00	140.00	22.00	22.00
G115DCD	MW-115	08/16/2000	PROFILE	140.00	140.00	22.00	22.00
G115DDA	MW-115	08/16/2000	PROFILE	150.00	150.00	32.00	32.00
G115DEA	MW-115	08/17/2000	PROFILE	160.00	160.00	42.00	42.00
G115DFA	MW-115	08/17/2000	PROFILE	170.00	170.00	52.00	52.00
G115DGA	MW-115	08/17/2000	PROFILE	180.00	180.00	62.00	62.00
G115DHA	MW-115	08/17/2000	PROFILE	190.00	190.00	72.00	72.00
G115DIA	MW-115	08/17/2000	PROFILE	200.00	200.00	82.00	82.00
G115DJA	MW-115	08/18/2000	PROFILE	210.00	210.00	92.00	92.00
G115DKA	MW-115	08/18/2000	PROFILE	220.00	220.00	102.00	102.00
S115DCA	MW-115	08/14/2000	SOIL BORING	10.00	12.00		
S115DDA	MW-115	08/14/2000	SOIL BORING	20.00	22.00		
S115DEA	MW-115	08/15/2000	SOIL BORING	30.00	32.00		
S115DED	MW-115	08/15/2000	SOIL BORING	30.00	32.00		
S115DFA	MW-115	08/15/2000	SOIL BORING	40.00	42.00		
S115DGA	MW-115	08/15/2000	SOIL BORING	50.00	52.00		
S115DHA	MW-115	08/15/2000	SOIL BORING	60.00	62.00		
S115DIA	MW-115	08/15/2000	SOIL BORING	70.00	72.00		
S115DJA	MW-115	08/15/2000	SOIL BORING	80.00	82.00		
S115DKA	MW-115	08/15/2000	SOIL BORING	90.00	92.00		
S115DLA	MW-115	08/15/2000	SOIL BORING	100.00	102.00		
S115DMA	MW-115	08/16/2000	SOIL BORING	110.00	112.00		
S115DNA	MW-115	08/16/2000	SOIL BORING	120.00	122.00		
S116DAA	MW-116	08/14/2000	SOIL BORING	0.00	0.50		
S116DAA	MW-116	08/15/2000	SOIL BORING	0.00	0.50		
S116DBA	MW-116	08/14/2000	SOIL BORING	1.50	2.00		
S116DBA	MW-116	08/15/2000	SOIL BORING	1.50	2.00		
S116DCA	MW-116	08/14/2000	SOIL BORING	10.00	12.00		
S116DCA	MW-116	08/15/2000	SOIL BORING	10.00	12.00		
S116DDA	MW-116	08/15/2000	SOIL BORING	20.00	22.00		
S116DDD	MW-116	08/15/2000	SOIL BORING	20.00	22.00		
S116DEA	MW-116	08/16/2000	SOIL BORING	30.00	32.00		
S116DFA	MW-116	08/16/2000	SOIL BORING	40.00	42.00		
S116DGA	MW-116	08/16/2000	SOIL BORING	50.00	52.00		
S116DHA	MW-116	08/16/2000	SOIL BORING	60.00	62.00		
S116DIA	MW-116	08/16/2000	SOIL BORING	70.00	72.00		

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
08/13/2000-08/19/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
S116DJA	MW-116	08/16/2000	SOIL BORING	80.00	82.00		
S116DKA	MW-116	08/16/2000	SOIL BORING	90.00	92.00		
S116DLA	MW-116	08/16/2000	SOIL BORING	100.00	102.00		
S117DCA	MW-117	08/18/2000	SOIL BORING	10.00	12.00		
S117DDA	MW-117	08/18/2000	SOIL BORING	20.00	22.00		
0.E.0.00001.2.0	0.E.0.00001.2.0	08/16/2000	SOIL GRID				
0.E.0.00001.3.0	0.E.0.00001.3.0	08/16/2000	SOIL GRID				
0.E.0.00001.4.0	0.E.0.00001.4.0	08/16/2000	SOIL GRID				
0.E.0.00001.5.0	0.E.0.00001.5.0	08/16/2000	SOIL GRID				
0.E.0.00001.6.0	0.E.0.00001.6.0	08/16/2000	SOIL GRID				
0.E.0.00001.7.0	0.E.0.00001.7.0	08/16/2000	SOIL GRID				
0.E.0.00001.8.0	0.E.0.00001.8.0	08/16/2000	SOIL GRID				
0.E.0.00001.9.0	0.E.0.00001.9.0	08/16/2000	SOIL GRID				
7.F.0.00001.0.0	7.F.0.00001.0.0	08/16/2000	SOIL GRID				
7.F.0.00002.0.0	7.F.0.00002.0.0	08/16/2000	SOIL GRID				
7.F.0.00003.0.0	7.F.0.00003.0.0	08/16/2000	SOIL GRID				
7.F.0.00004.0.0	7.F.0.00004.0.0	08/16/2000	SOIL GRID				
7.F.0.00005.0.0	7.F.0.00005.0.0	08/16/2000	SOIL GRID				
7.F.0.00006.0.0	7.F.0.00006.0.0	08/16/2000	SOIL GRID				
7.F.0.00007.0.0	7.F.0.00007.0.0	08/16/2000	SOIL GRID				
7.F.0.00008.0.0	7.F.0.00008.0.0	08/16/2000	SOIL GRID				
7.F.0.00009.0.0	7.F.0.00009.0.0	08/16/2000	SOIL GRID				
7.F.0.00009.0.S	7.F.0.00009.0.	08/16/2000	SOIL GRID				
7.F.0.00010.0.0	7.F.0.00010.0.0	08/16/2000	SOIL GRID				
7.F.0.00010.0.D	7.F.0.00010.0.	08/16/2000	SOIL GRID				
HC101AA1AAA	101AA	08/17/2000	SOIL GRID	0.00	0.50		
HC101AA1BAA	101AA	08/17/2000	SOIL GRID	1.50	2.00		
HC101GA1AAA	101GA	08/14/2000	SOIL GRID	0.00	0.25		
HC101GA1BAA	101GA	08/14/2000	SOIL GRID	0.25	0.50		
HC101GA1CAA	101GA	08/14/2000	SOIL GRID	0.50	1.00		
HC101NA1AAA	101NA	08/15/2000	SOIL GRID	0.00	0.25		
HC101NA1BAA	101NA	08/15/2000	SOIL GRID	0.25	0.50		
HC101NA1CAA	101NA	08/17/2000	SOIL GRID	0.50	1.00		
HC101NB1AAA	101NB	08/17/2000	SOIL GRID	0.00	0.25		
HC101NB1BAA	101NB	08/17/2000	SOIL GRID	0.25	0.50		
HC101NB1CAA	101NB	08/17/2000	SOIL GRID	0.50	1.00		
HC101NC1AAA	101NC	08/17/2000	SOIL GRID	0.00	0.25		
HC101NC1BAA	101NC	08/17/2000	SOIL GRID	0.25	0.50		
HC101NC1CAA	101NC	08/17/2000	SOIL GRID	0.50	1.00		
HC101NC1CAD	101NC	08/17/2000	SOIL GRID	0.50	1.00		
HC101OA1AAA	101OA	08/18/2000	SOIL GRID	0.00	0.25		
HC101OA1BAA	101OA	08/18/2000	SOIL GRID	0.25	0.50		
HC101OA1CAA	101OA	08/18/2000	SOIL GRID	0.50	1.00		
HC101OB1AAA	101OB	08/18/2000	SOIL GRID	0.00	0.25		

Profiling methods include: Volatiles and Explosives
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BWTE = Depth below water table, end depth, measured in feet

TABLE 2
SAMPLING PROGRESS
08/13/2000-08/19/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HC101OB1BAA	101OB	08/18/2000	SOIL GRID	0.25	0.50		
HC101OB1CAA	101OB	08/18/2000	SOIL GRID	0.50	1.00		
HC101OC1AAA	101OC	08/18/2000	SOIL GRID	0.00	0.25		
HC101OC1BAA	101OC	08/18/2000	SOIL GRID	0.25	0.50		
HC101OC1CAA	101OC	08/18/2000	SOIL GRID	0.50	1.00		
HC105A1AAA	105A	08/16/2000	SOIL GRID	0.00	0.25		
HC105A1BAA	105A	08/16/2000	SOIL GRID	0.25	0.50		
HC105A1CAA	105A	08/16/2000	SOIL GRID	0.50	1.00		
HC105B1AAA	105B	08/16/2000	SOIL GRID	0.00	0.25		
HC105B1BAA	105B	08/16/2000	SOIL GRID	0.25	0.50		
HC105B1CAA	105B	08/16/2000	SOIL GRID	0.50	1.00		
HD101OC2BAA	101OC	08/18/2000	SOIL GRID	0.25	0.50		
HD101OC5BAA	101OC	08/18/2000	SOIL GRID	0.25	0.50		
HD105A1AAA	105A	08/16/2000	SOIL GRID	0.00	0.25		
HD105A1BAA	105A	08/16/2000	SOIL GRID	0.25	0.50		
HD105A1CAA	105A	08/16/2000	SOIL GRID	0.50	1.00		
HD105A3AAA	105A	08/16/2000	SOIL GRID	0.00	0.25		
HD105A3BAA	105A	08/16/2000	SOIL GRID	0.25	0.50		
HD105A3CAA	105A	08/16/2000	SOIL GRID	0.50	1.00		
HD105A5AAA	105A	08/16/2000	SOIL GRID	0.00	0.25		
HD105A5BAA	105A	08/16/2000	SOIL GRID	0.25	0.50		
HD105A5CAA	105A	08/16/2000	SOIL GRID	0.50	1.00		
HD105A7AAA	105A	08/16/2000	SOIL GRID	0.00	0.25		
HD105A7BAA	105A	08/16/2000	SOIL GRID	0.25	0.50		
HD105A7CAA	105A	08/16/2000	SOIL GRID	0.50	1.00		
HD105B1AAA	105B	08/16/2000	SOIL GRID	0.00	0.25		
HD105B1BAA	105B	08/16/2000	SOIL GRID	0.25	0.50		
HD105B1CAA	105B	08/16/2000	SOIL GRID	0.50	1.00		
HD105B3AAA	105B	08/16/2000	SOIL GRID	0.00	0.25		
HD105B3BAA	105B	08/16/2000	SOIL GRID	0.25	0.50		
HD105B3CAA	105B	08/16/2000	SOIL GRID	0.50	1.00		
HD105B5AAA	105B	08/16/2000	SOIL GRID	0.00	0.25		
HD105B5BAA	105B	08/16/2000	SOIL GRID	0.25	0.50		
HD105B5CAA	105B	08/16/2000	SOIL GRID	0.50	1.00		
HD105B7AAA	105B	08/16/2000	SOIL GRID	0.00	0.25		
HD105B7BAA	105B	08/16/2000	SOIL GRID	0.25	0.50		
HD105B7CAA	105B	08/16/2000	SOIL GRID	0.50	1.00		

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
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TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 7/29/00-8/19/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W23M1A	MW-23	08/08/2000	GROUNDWATER	225.00	235.00	95.85	105.85	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W27SSA	MW-27	08/09/2000	GROUNDWATER	117.00	127.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	2,4,6-TRINITROTOLUENE	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	2,4-DINITROTOLUENE	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W31DDA	MW-31	08/09/2000	GROUNDWATER	133.00	138.00	43.10	48.10	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
W31M1A	MW-31	08/09/2000	GROUNDWATER	113.00	123.00	22.85	32.85	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
W31M1A	MW-31	08/09/2000	GROUNDWATER	113.00	123.00	22.85	32.85	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W31M1A	MW-31	08/09/2000	GROUNDWATER	113.00	123.00	22.85	32.85	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W31M1A	MW-31	08/09/2000	GROUNDWATER	113.00	123.00	22.85	32.85	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	2,4,6-TRINITROTOLUENE	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	2,4-DINITROTOLUENE	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W31SSA	MW-31	08/09/2000	GROUNDWATER	98.00	103.00	7.76	12.76	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
W34M1A	MW-34	08/11/2000	GROUNDWATER	151.00	161.00	71.00	81.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W34M2A	MW-34	08/10/2000	GROUNDWATER	131.00	141.00	49.20	59.20	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W50M1A	MW-50	08/14/2000	GROUNDWATER	207.00	217.00	86.27	96.27	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
G114DCA	MW-114	08/11/2000	PROFILE	100.00	100.00	18.30	18.30	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G114DCD	MW-114	08/11/2000	PROFILE	100.00	100.00	18.30	18.30	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G114DCD	MW-114	08/11/2000	PROFILE	100.00	100.00	18.30	18.30	8330N	NITROGLYCERIN	NO
G114DDA	MW-114	08/14/2000	PROFILE	110.00	110.00	28.30	28.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DDA	MW-114	08/14/2000	PROFILE	110.00	110.00	28.30	28.30	8330N	NITROGLYCERIN	NO
G114DDA	MW-114	08/14/2000	PROFILE	110.00	110.00	28.30	28.30	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
G114DEA	MW-114	08/14/2000	PROFILE	120.00	120.00	38.30	38.30	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
G114DEA	MW-114	08/14/2000	PROFILE	120.00	120.00	38.30	38.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DEA	MW-114	08/14/2000	PROFILE	120.00	120.00	38.30	38.30	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
G114DFA	MW-114	08/14/2000	PROFILE	130.00	130.00	48.30	48.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DFA	MW-114	08/14/2000	PROFILE	130.00	130.00	48.30	48.30	8330N	NITROGLYCERIN	NO
G114DFA	MW-114	08/14/2000	PROFILE	130.00	130.00	48.30	48.30	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 7/29/00-8/19/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G114DGA	MW-114	08/14/2000	PROFILE	140.00	140.00	58.30	58.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DGA	MW-114	08/14/2000	PROFILE	140.00	140.00	58.30	58.30	8330N	NITROGLYCERIN	NO
G114DGA	MW-114	08/14/2000	PROFILE	140.00	140.00	58.30	58.30	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
G114DHA	MW-114	08/14/2000	PROFILE	150.00	150.00	68.30	68.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DHA	MW-114	08/14/2000	PROFILE	150.00	150.00	68.30	68.30	8330N	NITROGLYCERIN	NO
G114DIA	MW-114	08/14/2000	PROFILE	160.00	160.00	78.30	78.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DIA	MW-114	08/14/2000	PROFILE	160.00	160.00	78.30	78.30	8330N	NITROGLYCERIN	NO
G114DJA	MW-114	08/14/2000	PROFILE	170.00	170.00	88.30	88.30	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G114DKA	MW-114	08/14/2000	PROFILE	180.00	180.00	98.30	98.30	8330N	NITROGLYCERIN	NO
G114DNA	MW-114	08/14/2000	PROFILE	210.00	210.00	128.30	128.30	8330N	PENTAERYTHRITOL TETRANITR	NO
G115DAA	MW-115	08/16/2000	PROFILE	124.00	124.00	6.00	6.00	8330N	2,6-DINITROTOLUENE	NO
G115DBA	MW-115	08/16/2000	PROFILE	130.00	130.00	12.00	12.00	8330N	2,6-DINITROTOLUENE	NO
G115DCA	MW-115	08/16/2000	PROFILE	140.00	140.00	22.00	22.00	8330N	2,6-DINITROTOLUENE	NO
G115DCD	MW-115	08/16/2000	PROFILE	140.00	140.00	22.00	22.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G115DDA	MW-115	08/16/2000	PROFILE	150.00	150.00	32.00	32.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G115DJA	MW-115	08/18/2000	PROFILE	210.00	210.00	92.00	92.00	8330N	2,6-DINITROTOLUENE	NO
G115DJA	MW-115	08/18/2000	PROFILE	210.00	210.00	92.00	92.00	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
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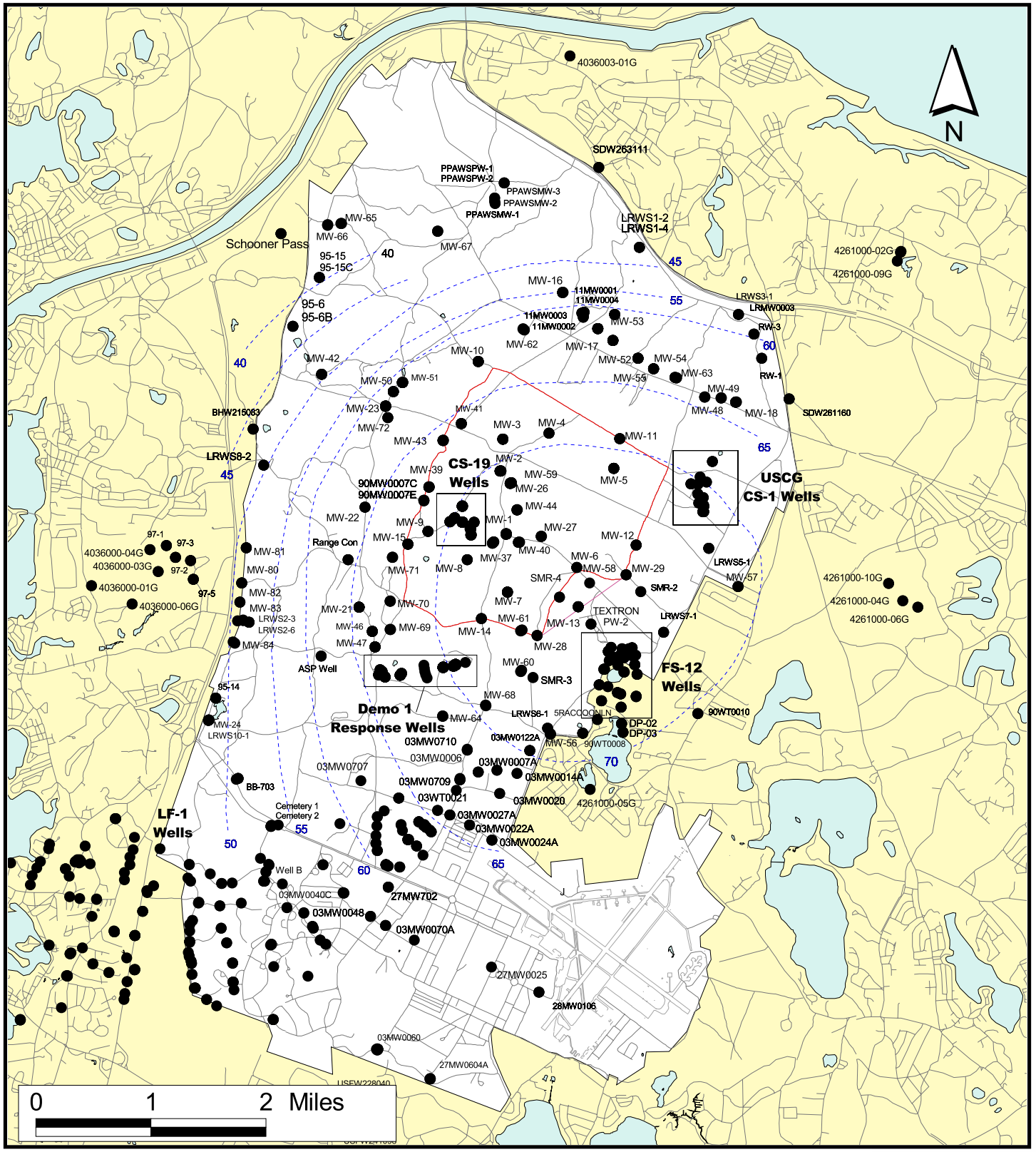
BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET
PDA/YES = Photo Diode Array, Detect Confirmed
PDA/NO = Photo Diode Array, Detect Not Confirmed



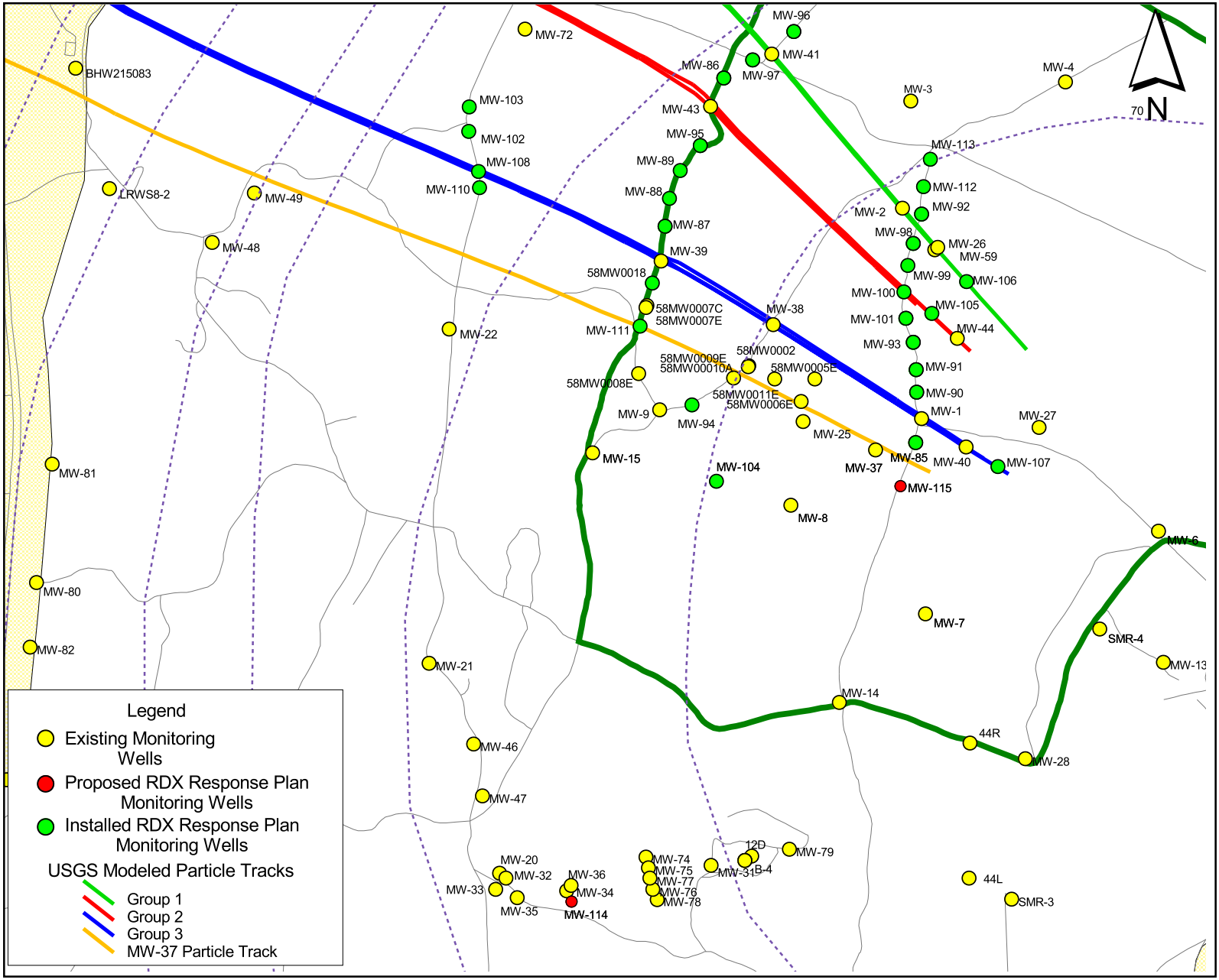
Sources & Notes

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



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August 16, 2000

Well Locations for Tech Meeting

Figure A