WEEKLY PROGRESS UPDATE
FOR JULY 3 – JULY 7, 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 July 3 to July 7, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of July 7 is summarized in Table 1.

Table 1. Drilling progress as of July 7, 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)	350	174	

bgs = below ground surface
bwt = below water table

Drilling was completed on MW-108 (P-22) and MW-110 (P-27) to the proposed depths. No work occurred on Monday or Tuesday due to the range shutdown for the 4th of July Holiday.

Samples collected during the reporting period are summarized in Table 2. The wipe sampling in the J-2 Range commenced. Groundwater sampling continued for the third round of the Group II new far field wells. Profile samples were collected during drilling at the boring for MW-110.

The Guard, EPA, and MADEP had a meeting on July 6 to discuss technical issues, including the following:

- There was no update of the CS-19 investigation. Ogden mentioned they are trying to resolve the position of the CS-19 RDX plume with IRP so that it can be added to the IAGS maps. There is a question on some of the well positions depicted in Figure 5-19 of the draft RI.
- The Guard presented an update of the Water Supply Investigation. The Site 2 pump test will be performed this week. The NEPA assessment will be submitted on Friday and the MEPA form will be submitted soon. The site 1, 2, and 3 pipeline will be constructed in early September. Sites 4 and 5 are no longer under consideration and will be considered contingency wells.
- Tetra Tech provided an update of the munitions survey investigation. The aerial magnetometer survey continues and should be completed this week or early next week. The revised HUTA Workplan is currently being prepared. The MMR Natural Resource Manager had additional comments for the Record of Environmental Consideration for Tank Alley Road, Turpentine Road, HUTA, and Holding/Processing area. The Guard will get the revised REC for review this week. The J-2 Range UXO clearance continues. Ogden will commence work in J-2 Range next week. Brush clearing will commence by July 14. The J1/J3 Range surveyor will start next week and still awaiting EPA guidance on the areas of interest. DEP asked the status of the final map for the J-2 Range. Tetra Tech indicated that they would have to make a map because the surveyor will not be able to get back into the area. The water bodies presentation will be given after the Tech Meeting on July 20. EPA indicated that they were expecting a validation proposal for Demo 1 geophysics results by the 7/13 tech meeting.

- Ogden provided an update of the Rapid Response Action. DEP comments on the plan have not been received yet. FEC and Public Comment Responses are still in internal review. The meeting with the Sandwich Conservation Commission had two requirements which were that the excavated soil was not dumped somewhere else and that no backfill be used in the excavation. Additional delineation samples were collected from the KD Range, APC, and the J-3 wetland. The treatability study continues and is waiting for the full set of data from the laboratory. The surveyor is scheduled to commence work on the containment pad next week. The Guard asked when the rock pile would need to be removed. Ogden indicated that the area would need to be cleared by early August. The Guard suggested that Ogden plan to remove the rocks. Ogden requested that the Guard find a place to relocate the rocks. The Guard indicated that the containment pad might have to hold some soil from the HUTA. Ogden suggested that the plan would include the possibility of pad expansion. Tetra Tech will come up with a worst case volume of soil by the third week in July.
- Ogden provided an update of the Groundwater Investigation. A map of the Impact Area response well locations was distributed. Drilling continues on MW-110 (P-27), which should finish this week. MW-108 (P-22) is on standby waiting for screen depths. The draft boring log for MW-108 was distributed and the data for MW-108 will be ready for a 4:30 conference call. The next locations for drilling have changed to the Demo 1 well and the J-Range wells due to the shutdown of the impact area for two weeks in July. Continue with the groundwater sampling of the Group II new far field wells. The wipe sample collection commenced in the J-2 Range. TRC indicated that they had some comments on the wipe sample methodology. EPA indicated that they would forward TRC's comments to Ogden. UXO clearance of the J-2 Range will start next week. The explosive results from the Popper Kettle ash sample were distributed. EPA asked if there are other analyses for this ash sample and asked to check on the status of the three soil samples collected from under the kettle.
- EPA asked the status of the PIP comments meeting. The Guard indicated that the DEP is not available for a meeting by the due date 7/17. DEP will check to see if the DEP representative attending this meeting can rearrange their schedule so that they can attend a meeting on 7/13 am.
- The August 1999 BIP Report response to comments was discussed. A copy of the Ogden UXO Discovery Form was distributed. EPA asked that the Guard insure that all the items in the HUTA checklist are included on the UXO Discovery Form. EPA requested that the UXO summary table be distributed next week and then updated periodically.
- EPA requested that the ILTGM Plan Supplement discussion be changed to a conference call on Monday.
- A 1-page handout of the Demo 1 Plume with a 100-ppb contour added was distributed for comment. EPA suggested changing the color of the shading of the 100-ppb contour. DEP noted that the contour could be drawn differently (i.e., several "bubbles") if the earlier results were considered.
- The Guard distributed the Textron letter on the proposed Phase II investigation for the J-1/J-3 Ranges.
- The comment resolution for the J-1/J-3 Range Workplan were discussed. The following EPA comments were discussed.
  Comment #6 – add "contingency for well at" to the last sentence.
  Comment #25 – EPA will copy pages from their logbook.
  Comment #32 – EPA requested more detail on sampling for the vents. EPA asked how many post excavation samples would be collected after the drum removal. Ogden indicated that four samples would be collected.
  Comment #47 & #54 – EPA indicated that they need to more research on the radioactive analysis.
  Comment #49 – EPA indicated that the septic tank is the Dry Well #2.
  Comment #53 – EPA listed the following areas need monitoring wells:
  Loading and Assembly Building
  The Disposal Area at the 150m berm.
  1000m berm concrete bunker
  Range Road
  EOD disposal area on J-1 Range by 2000m berm

J-3 Disposal pit
J-3 Burn Kettle
J-3 Wastewater disposal area
Reverse track from DP-8 and DP-9
South of wetland at DP-8 and DP-9. The Guard suggested that this well be 100' from wetland and drilled after September.
The leach field of the X-ray building
The dry well for the work shop
Target area of the 20mm Range
The firing point of the warhead test fire range
Two wells at the L Range
Six Wells at 1000-foot centers around the ranges
1000m berm wastewater disposal area
J-3 Popper Kettle

The Guard's proposal for initial installation of water table wells at J3P5, J1P3, J1P1, LP1, and J1P2 was discussed. The P-28 and P-29 locations would be profiled and have three wells based upon the profile results. Ogden will produce a map with the initial round of well installation and a second map with the other well locations. Ogden will refine the response on well location and depth.

- The J-3 Range maps from Textron were made available for agency review. Copies will be prepared for the agencies.
- The Delineation of Central Impact Area contaminants was discussed. Handouts of the plan view of the forward and reverse tracks and cross sections were distributed. USGS indicated that it is possible to produce multiple tracks on the same section but noted that there would be some slight error due to distortions. The use of 3D software was also discussed; Ogden will review for next week to evaluate how this may aid in data visualization. EPA requested a plan view map with a gray area outlining the region of the impact area having contaminated wells for next week. EPA also indicated the need to show ZOCs on the plan and section views.
- The Guard distributed a handout of the breakdown products of three chemical agents.
- Following the technical meeting there was a field reconnaissance of the Former E Range and Former Small Arms Ranges.

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, which were reported in last week’s progress report without PDA spectra results. The PDA spectra now available verify these detections.

- The groundwater sample from MW-107M2 had detections of RDX and HMX, which were reported in last week's progress report without PDA spectra results. The PDA spectra now available verify these detections.

- Groundwater profile samples from MW-110, reported in last week's progress report without PDA spectra, had detections of picric acid (5 intervals), nitroglycerin (6 intervals), and PETN (1 interval). The PDA spectra now available for these samples do not verify these detections.

- Additional groundwater profile samples from MW-110 had detections of picric acid (7 intervals), nitroglycerin (3 intervals), 2,6-dinitrotoluene (4 intervals), 2-amino-4,6-dinitrotoluene (1 interval), TNT (1 interval), 2-nitrotoluene (1 interval), 3-nitrotoluene (1 interval), and 4-nitrotoluene (1 interval). The TNT and one 2,6-dinitrotoluene were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

The following deliverables were submitted during the reporting period.

Letter of 4/27/00 re: Revised Proposal for SAR	07/03/00
Letter of 6/2/00 re: Response to Comments for Revised SAR Proposal	07/03/00
Letter of 7/3/00 re: Revised Proposal for SAR	07/03/00
Draft Technical Memorandum 00-3 Evaluation of Gun & Mortar Firing Positions	07/06/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of July 10 include the construction of monitoring wells at MW-108 (P-22) and at MW-110 (P-27); complete third round of groundwater sampling of Group II new far field wells; and the UXO clearance of the drilling pads and soil grids in the J-2 Range.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

EPA provided comments on the draft FS Workplan for AO3 (including Demo 1). The regulatory agencies and other stakeholders are reviewing the draft technical memorandum for the Demo 1 response actions submitted 6/8/00. The Guard is awaiting the results of the soil sampling of the nine additional deep soil borings. The Guard expects to commence the drilling of the Demo 1 response well located in the parking lot of the G Range.

TABLE 2
SAMPLING PROGRESS
07/1/2000-07/8/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G110DRE	FIELDQC	07/06/2000	FIELDQC	0.00	0.00		
W57DDT	FIELDQC	07/06/2000	FIELDQC	0.00	0.00		
W57M1T	FIELDQC	07/05/2000	FIELDQC	0.00	0.00		
W84DDT	FIELDQC	07/07/2000	FIELDQC	0.00	0.00		
WSA4AE	FIELDQC	07/05/2000	FIELDQC	0.00	0.00		
WSA1AA	101AA	07/05/2000	GAUZE WIPE				
WSA2AA	101AA	07/05/2000	GAUZE WIPE				
WSA3AA	101AA	07/05/2000	GAUZE WIPE				
WSA4AA	101AA	07/05/2000	GAUZE WIPE				
WSS1AA	101ASM	07/05/2000	GAUZE WIPE				
WSS2AA	101ASM	07/05/2000	GAUZE WIPE				
WSS3AA	101ASM	07/05/2000	GAUZE WIPE				
WSS4AA	101ASM	07/05/2000	GAUZE WIPE				
WSS4AD	101ASM	07/05/2000	GAUZE WIPE				
W57DDA	MW-57	07/06/2000	GROUNDWATER	213.00	223.00	124.58	134.58
W57M1A	MW-57	07/05/2000	GROUNDWATER	188.00	198.00	99.60	109.60
W84DDA	MW-84	07/07/2000	GROUNDWATER	190.00	200.00	150.10	160.10
W84M2A	MW-84	07/07/2000	GROUNDWATER	104.00	114.00	15.07	25.07
W84M3A	MW-84	07/06/2000	GROUNDWATER	79.00	89.00	39.00	49.00
W84SSA	MW-84	07/06/2000	GROUNDWATER	54.00	64.00	14.00	24.00
G110DNA	MW-110	07/06/2000	PROFILE	310.00	310.00	134.50	134.50
G110DOA	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50
G110DOD	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50
G110DPA	MW-110	07/06/2000	PROFILE	330.00	330.00	154.50	154.50
G110DQA	MW-110	07/06/2000	PROFILE	340.00	340.00	164.50	164.50
G110DRA	MW-110	07/06/2000	PROFILE	350.00	350.00	174.50	174.50

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 7/2/00-7/8/00

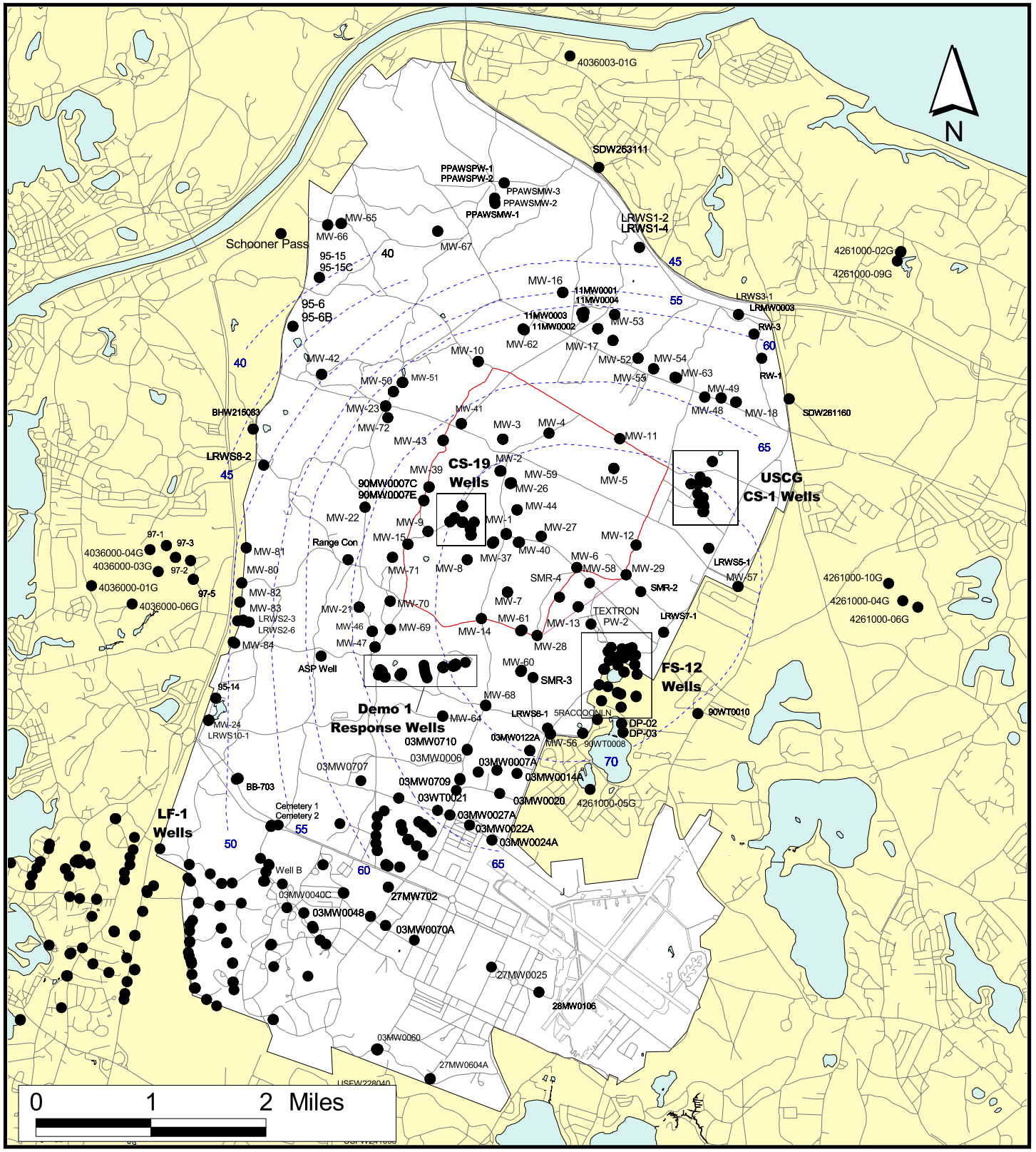
OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W105M1A	MW-105	06/21/2000	GROUNDWATER	205.00	215.00	14.00	24.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W105M2A	MW-105	06/21/2000	GROUNDWATER	165.00	175.00	14.00	24.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W107M1A	MW-107	06/21/2000	GROUNDWATER	155.00	165.00	14.00	24.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W107M2A	MW-107	06/21/2000	GROUNDWATER	125.00	135.00	14.00	24.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W107M2A	MW-107	06/21/2000	GROUNDWATER	125.00	135.00	14.00	24.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
G110DAA	MW-110	06/28/2000	PROFILE	180.00	180.00	4.50	4.50	8330N	PICRIC ACID	NO
G110DBA	MW-110	06/28/2000	PROFILE	190.00	190.00	14.50	14.50	8330N	NITROGLYCERIN	NO
G110DBA	MW-110	06/28/2000	PROFILE	190.00	190.00	14.50	14.50	8330N	PICRIC ACID	NO
G110DCA	MW-110	06/28/2000	PROFILE	200.00	200.00	24.50	24.50	8330N	NITROGLYCERIN	NO
G110DDA	MW-110	06/28/2000	PROFILE	210.00	210.00	34.50	34.50	8330N	NITROGLYCERIN	NO
G110DDA	MW-110	06/28/2000	PROFILE	210.00	210.00	34.50	34.50	8330N	PICRIC ACID	NO
G110DGA	MW-110	06/29/2000	PROFILE	240.00	240.00	64.50	64.50	8330N	NITROGLYCERIN	NO
G110DGA	MW-110	06/29/2000	PROFILE	240.00	240.00	64.50	64.50	8330N	PICRIC ACID	NO
G110DHA	MW-110	06/29/2000	PROFILE	250.00	250.00	74.50	74.50	8330N	NITROGLYCERIN	NO
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	NITROGLYCERIN	NO
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	PENTAERYTHRITOL TETRANITR	NO
G110DIA	MW-110	06/29/2000	PROFILE	260.00	260.00	84.50	84.50	8330N	PICRIC ACID	NO
G110DJD	MW-110	06/29/2000	PROFILE	270.00	270.00	94.50	94.50	8330N	PICRIC ACID	NO
G110DKA	MW-110	06/29/2000	PROFILE	280.00	280.00	104.50	104.50	8330N	PICRIC ACID	NO
G110DLA	MW-110	06/29/2000	PROFILE	290.00	290.00	114.50	114.50	8330N	PICRIC ACID	NO
G110DMA	MW-110	06/29/2000	PROFILE	300.00	300.00	124.50	124.50	8330N	NITROGLYCERIN	NO
G110DMA	MW-110	06/29/2000	PROFILE	300.00	300.00	124.50	124.50	8330N	PICRIC ACID	NO
G110DNA	MW-110	07/06/2000	PROFILE	310.00	310.00	134.50	134.50	8330N	2,6-DINITROTOLUENE	NO
G110DNA	MW-110	07/06/2000	PROFILE	310.00	310.00	134.50	134.50	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G110DNA	MW-110	07/06/2000	PROFILE	310.00	310.00	134.50	134.50	8330N	NITROGLYCERIN	NO
G110DNA	MW-110	07/06/2000	PROFILE	310.00	310.00	134.50	134.50	8330N	PICRIC ACID	NO
G110DOA	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	2,4,6-TRINITROTOLUENE	YES
G110DOA	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	2,6-DINITROTOLUENE	NO
G110DOA	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	NITROGLYCERIN	NO
G110DOA	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	PICRIC ACID	NO
G110DOD	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	2,6-DINITROTOLUENE	NO
G110DOD	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	NITROGLYCERIN	NO
G110DOD	MW-110	07/06/2000	PROFILE	320.00	320.00	144.50	144.50	8330N	PICRIC ACID	NO

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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 7/2/00-7/8/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G110DQA	MW-110	07/06/2000	PROFILE	340.00	340.00	164.50	164.50	8330N	PICRIC ACID	
G110DRA	MW-110	07/06/2000	PROFILE	350.00	350.00	174.50	174.50	8330N	2,6-DINITROTOLUENE	NO
G110DRA	MW-110	07/06/2000	PROFILE	350.00	350.00	174.50	174.50	8330N	2-NITROTOLUENE	NO
G110DRA	MW-110	07/06/2000	PROFILE	350.00	350.00	174.50	174.50	8330N	3-NITROTOLUENE	NO
G110DRA	MW-110	07/06/2000	PROFILE	350.00	350.00	174.50	174.50	8330N	4-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



Sources & Notes

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

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

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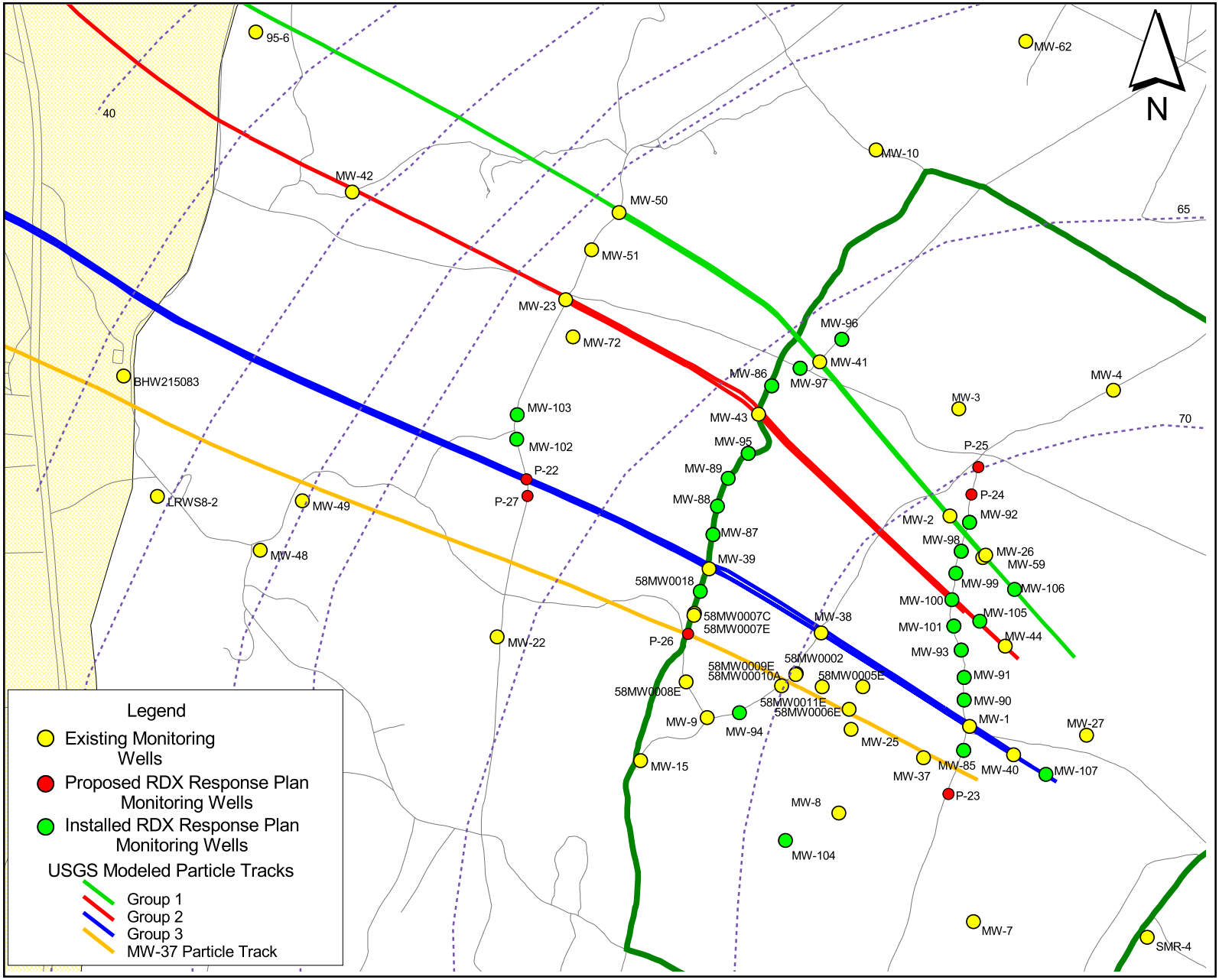
G:\MMR\well_updates.apr December 20, 1999

December 16, 1999 DRAFT



Proposed RDX Response Plan Wells In The Impact Area

Figure A