WEEKLY PROGRESS UPDATE
FOR JUNE 19 – JUNE 23, 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 19 to June 23, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of June 23 is summarized in Table 1.

Table 1. Drilling progress as of June 23, 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)	180	13	
MW-109	KD Range Firing Point Well	150	59	89-99
MW-110	Impact Area Response Well (P-27)	132		

bgs = below ground surface
bwt = below water table

Well installation was completed on MW-109 (KD Range). Drilling continued on MW-108 (P-22). Drilling commenced on MW-110 (P-27). UXO clearance was completed at the supplemental Impact Area Response wells, UXO clearance of Demo 1 soil borings commenced, and UXO clearance commenced around the detonation craters requiring excavation.

Samples collected during the reporting period are summarized in Table 2. Groundwater sampling was completed for Long Term Monitoring wells, continued for the Impact Area Response wells, and commenced on the third round of the Group II new far field wells. Profile samples were collected during drilling at the boring for MW-108. Deep soil samples were collected during drilling at the borings for MW-108 and MW-110. Samples were collected from the soil under the Popper Kettle (Area 5). Split samples were collected from Harding Lawson from soil at the J-3 Range (Area 102). Additional delineation sediment samples from the J-3 Wetland (Area 23) were collected as part of the RRA.

The Guard, EPA, and MADEP had a meeting on June 22 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. A 1-page handout of the munitions survey update was distributed. The water bodies geophysical data collection is complete and they are currently processing the data. TRC wanted to know how results would be communicated. Tetra Tech indicated that the final report is scheduled for October and a data presentation around July 15. The J-2 range UXO clearance continues and is about 50% done. Brush-cutting will be coordinated with the base biologist. The slit trench geophysical data have been collected and the data are being processed. Debris removed from the slit trench included 55-gallon

drums, automotive parts, paint cans, office furniture, and spent 105 casings (modified). EPA requested copies of the photographs taken during the survey. The 120x120m grids have been laid out for the HUTA. A map from the land surveyor is expected shortly. The final HUTA workplan is ready for the Guard review. MADEP comments on draft version will be sent tomorrow and Tetra Tech will try to prepare responses to comments by the middle of next week. The HUTA workplan has been written assuming the new explosive screening technique will be accepted by the agencies. Comments from MMR Natural Resource Manager are due today. The DEP suggested that any large-scale clearing plans need to be reviewed by MADEP/EOEA because permits may be required.

- Ogden provided an update on the Rapid Response Action. Comments from EPA on the workplan have been received and DEP indicated that their comments would be sent this afternoon. The response to Foothill comments is under internal review. The informal briefing with the Sandwich Conservation Commission on the J-3 Wetland was held last night with no problems foreseen at this point. The second round of soil delineation sampling has been completed in the J-3 Wetland, KD Range, and the APC. Delineation data should be ready for next week with a hand sketch. DEP asked what the options were at the APC. The Guard indicated that they would like to get the most recent data back before making any determination on the APC. EPA suggested the draft PIP is referenced in the RRA Workplan. The treatability studies are ongoing. Fractionation samples have been sent to the lab and the results are due on June 28. The containment pad design will start next week. All activities are currently on schedule.

- Ogden provided an update on the Groundwater Investigation. A 1-page handout of the field investigation update was distributed. Currently drilling on MW-108 (P-22) and MW-110 (P-27). Both borings would be finished next week. The P-23 and P-26 locations are next on the schedule. EPA asked for a map of the existing and proposed response well locations at each Tech Meeting, as are included in the weekly reports. The draft inner and outer transect cross sections with additional monitoring well data were distributed. UXO intrusive clearance has been completed on the supplemental response well pads. Intrusive clearance of the nine borings in Demo 1 will commence this week. The down hole clearance of these locations will be completed next week. Two items (105mm and 75mm) were located at the P-24 and P-25 pads. The 105mm is scheduled for detonation Monday and the 75mm will be held for the CDC. The interim long-term groundwater sampling has been completed with the exception of metals on MW-23S and TSS on MW-2S. MW-2 is in the safety zone of the CDC and MW-23S turbidity is elevated because the pump was lowered due to a low water level. The response well groundwater samples should be finished this week. The third round of groundwater sampling for the Group 2 new far field wells will commence next week. Soil samples were collected from the soil beneath the Popper Kettle and the ash material around the kettle. The Guard indicated that the material in the kettle was dumped onto plastic. The material in the kettle consists of ash and sub-caliber rounds. The kettle and the material are currently covered with plastic until the sub-caliber rounds can be separated from the ash material. DEP asked the status of the ricochet trough at J-3 Range. EPA indicated that Textron has collected some samples and the trough is covered with plastic. EPA asked Ogden to check on the status of the soil samples from GS-6, Demo 2 C-4, and the Gravity Range BIP craters.

- The J-3 Wetland Tech Memo and the SAR Firing Investigation comment resolution were addressed by EPA's e-mail. The Guard will schedule the SAR sampling based on the training schedule and allowing flexibility to select wind conditions that are appropriate for the air sampling.

- USGS will be included in upcoming tech meetings.

- The J-2 Range comment resolution was also addressed by EPA's e-mail. EPA indicated that the investigation in J-2 Range should consider the potential upgradient source areas in the J-1 and J-3 Ranges.

- The IART Action Items were discussed. DEP asked if there would be administrative support at the IART. The Guard indicated that CH2MHill has been contracted to supply the administrative support for the IART. EPA is working on a follow on letter on the ASP and should be ready next week. EPA asked that the popper kettle and the ASR scope be discussed at the IART meeting. The Demo 1 map should show the agreed-on well location.

- Ogden indicated that DEP's comments on the J-1/J-3 workplan are needed to allow them to be addressed in the 6/30 comment response. The comments for the revised interim LTGM Plan are needed in two weeks. EPA requested that it be added to next week's Tech Meeting agenda.

- Ogden provided an e-mail on the status of the vadose zone modeling. The lab can not complete the analysis in 6 months as scheduled but would require 10 months at a minimum. A meeting to discuss the project schedule is being arranged with the lab. DEP asked to include Don Muldoon in the modeling correspondence. The method development for dyes is going slower than expected. They should be ready in late July. Vat yellow #4 is no longer manufactured in the US but there may be sources overseas. Ogden sent an e-mail of a table of the MCPP detections in groundwater.

- The Guard distributed a press release on the historic off base training and the chemical training for agency review. The agencies had comments and asked to see the redraft before it was sent out.

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:

- Soil samples collected from five residual C-4 locations in Demo2 had detections of RDX and HMX that were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

The following deliverables were submitted during the reporting period.

Weekly Progress Update June 5 – June 9	06/19/00
Raytheon Response to CERCLA 104(e) Request	06/21/00
Weekly Progress Update June 12-June 16	06/22/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of June 26 include the construction of monitoring wells at MW-108 (P-22); the continued drilling of MW-110 (P-27); the continued groundwater sampling of the Impact Area response wells; and the continued UXO clearance of the Demo 1 soil borings.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The geophysical data for Demo 1 were presented at the June 15 technical meeting. The draft technical memorandum for the Demo 1 response actions was submitted and is now under review by the regulatory agencies and other stakeholders. The draft FS Workplan for AO3 (including Demo 1) is under review by the regulatory agencies and other stakeholders. UXO clearance of the 9 deep soil boring locations in Demo 1 commenced.

TABLE 2
SAMPLING PROGRESS
06/18/2000-06/24/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G108DAE	FIELDQC	06/23/2000	FIELDQC	0.00	0.00		
HD05R1AAE	FIELDQC	06/21/2000	FIELDQC	0.00	0.00		
S108DFE	FIELDQC	06/19/2000	FIELDQC	0.00	0.00		
S110DCE	FIELDQC	06/21/2000	FIELDQC	0.00	0.00		
S110DCT	FIELDQC	06/21/2000	FIELDQC	0.00	0.00		
S110DEE	FIELDQC	06/22/2000	FIELDQC	0.00	0.00		
S110DME	FIELDQC	06/23/2000	FIELDQC	0.00	0.00		
W23SSF	FIELDQC	06/20/2000	FIELDQC	0.00	0.00		
W48M1T	FIELDQC	06/22/2000	FIELDQC	0.00	0.00		
W49M1T	FIELDQC	06/23/2000	FIELDQC	0.00	0.00		
95-6ES	95-6	06/23/2000	GROUNDWATER	38.00	48.00	-5.98	4.02
W105M1A	MW-105	06/21/2000	GROUNDWATER	205.00	215.00	75.08	85.08
W105M2A	MW-105	06/21/2000	GROUNDWATER	165.00	175.00	35.04	45.04
W106M1A	MW-106	06/19/2000	GROUNDWATER	170.50	180.50	35.16	45.16
W106M2A	MW-106	06/19/2000	GROUNDWATER	140.50	150.50	5.16	15.16
W107M1A	MW-107	06/21/2000	GROUNDWATER	155.00	165.00	33.11	43.11
W107M2A	MW-107	06/21/2000	GROUNDWATER	125.00	135.00	3.17	13.17
W48M1A	MW-48	06/22/2000	GROUNDWATER	191.00	201.00	88.00	98.00
W48M1D	MW-48	06/22/2000	GROUNDWATER	191.00	201.00	88.00	98.00
W48M2A	MW-48	06/22/2000	GROUNDWATER	161.00	171.00	58.00	68.00
W48M3A	MW-48	06/22/2000	GROUNDWATER	131.50	141.50	28.50	38.50
W49M1A	MW-48	06/23/2000	GROUNDWATER	160.00	170.00	87.55	97.55
G108DAA	MW-108	06/23/2000	PROFILE	170.00	170.00	3.10	3.10
G108DAD	MW-108	06/23/2000	PROFILE	170.00	170.00	3.10	3.10
S108DFA	MW-108	06/19/2000	SOIL BORING	40.00	42.00		
S108DGA	MW-108	06/19/2000	SOIL BORING	50.00	52.00		
S108DGD	MW-108	06/19/2000	SOIL BORING	50.00	52.00		
S108DIA	MW-108	06/21/2000	SOIL BORING	70.00	72.00		
S108DJA	MW-108	06/21/2000	SOIL BORING	80.00	82.00		
S108DKA	MW-108	06/21/2000	SOIL BORING	90.00	92.00		
S108DLA	MW-108	06/21/2000	SOIL BORING	100.00	102.00		
S108DMA	MW-108	06/21/2000	SOIL BORING	110.00	112.00		
S108DMD	MW-108	06/21/2000	SOIL BORING	110.00	112.00		
S108DNA	MW-108	06/22/2000	SOIL BORING	120.00	122.00		
S108DOA	MW-108	06/22/2000	SOIL BORING	130.00	132.00		
S108DPA	MW-108	06/22/2000	SOIL BORING	140.00	142.00		
S108DQA	MW-108	06/22/2000	SOIL BORING	150.00	152.00		
S108DRA	MW-108	06/22/2000	SOIL BORING	160.00	162.00		
S110DCA	MW-110	06/21/2000	SOIL BORING	10.00	12.00		
S110DDA	MW-110	06/22/2000	SOIL BORING	20.00	22.00		
S110DDD	MW-110	06/22/2000	SOIL BORING	20.00	22.00		
S110DEA	MW-110	06/22/2000	SOIL BORING	30.00	32.00		
S110DFA	MW-110	06/22/2000	SOIL BORING	40.00	42.00		
S110DGA	MW-110	06/22/2000	SOIL BORING	50.00	52.00		

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
06/18/2000-06/24/2000

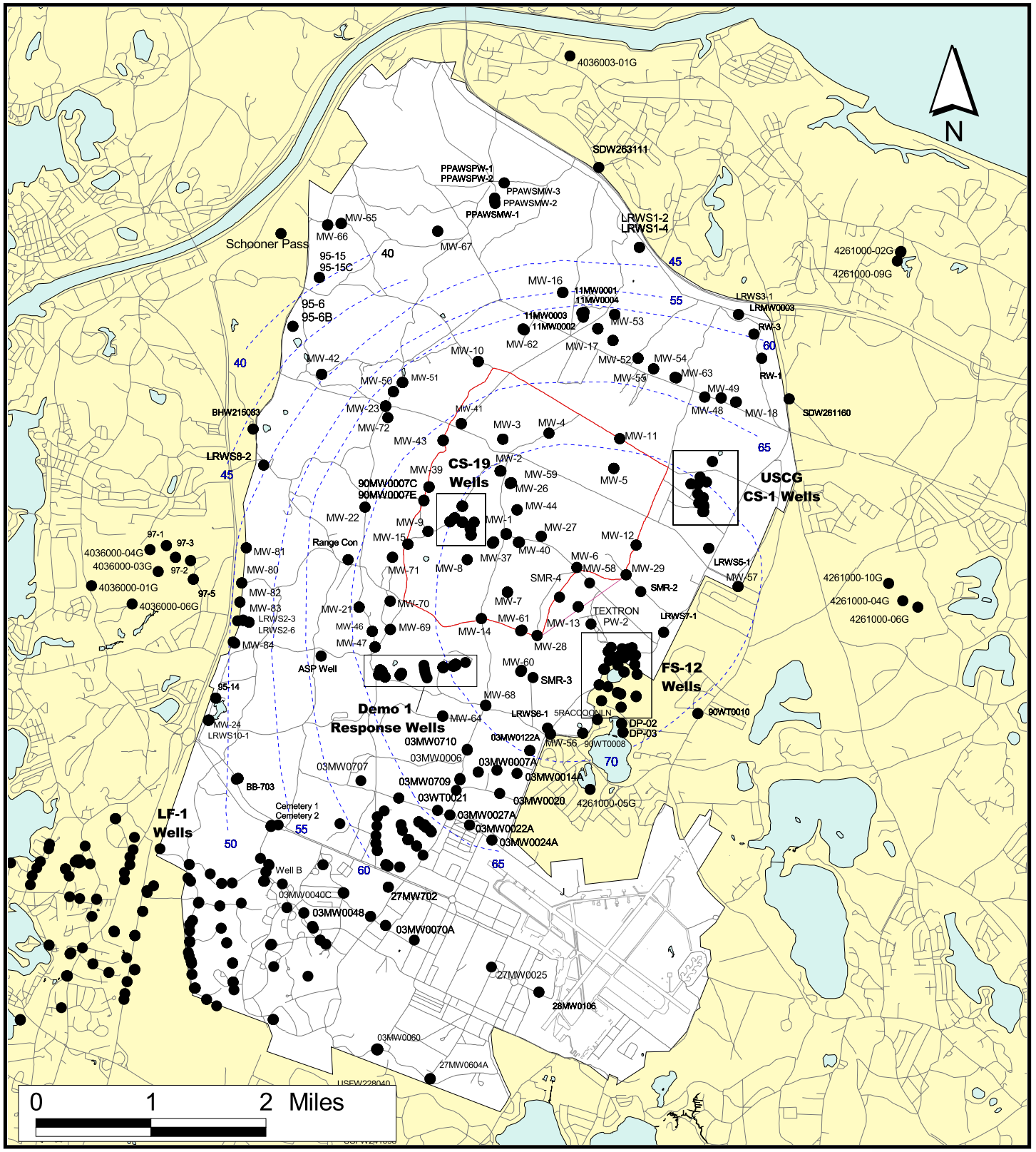
OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
S110DHA	MW-110	06/22/2000	SOIL BORING	60.00	62.00		
S110DIA	MW-110	06/22/2000	SOIL BORING	70.00	72.00		
S110DJA	MW-110	06/22/2000	SOIL BORING	80.00	82.00		
S110DKA	MW-110	06/22/2000	SOIL BORING	90.00	92.00		
S110DLA	MW-110	06/23/2000	SOIL BORING	100.00	102.00		
S110DMA	MW-110	06/23/2000	SOIL BORING	110.00	112.00		
S110DNA	MW-110	06/23/2000	SOIL BORING	120.00	122.00		
S110DND	MW-110	06/23/2000	SOIL BORING	120.00	122.00		
S110DOA	MW-110	06/23/2000	SOIL BORING	130.00	132.00		
CS102G1AA	CS102G1AA	06/21/2000	SOIL GRID	0.00	0.25		
CS102G2AA	CS102G2AA	06/21/2000	SOIL GRID	0.00	0.25		
HD05P1AAA	05P	06/21/2000	SOIL GRID	0.00	0.25		
HD05Q1AAA	05Q	06/21/2000	SOIL GRID	0.00	0.25		
HD05R1AAA	05R	06/21/2000	SOIL GRID	0.00	0.25		
HD23IAA1AAE	FIELDQC	06/19/2000	FIELDQC	0.00	0.00		
HD23IAA1AAA	23IA	06/19/2000	SOIL GRID	0.00	0.50		
HD23IBA1AAA	23IB	06/19/2000	SOIL GRID	0.00	0.50		

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
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 6/18/00-6/24/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
DEMO2-C4-1	DEMO2-C4-1	06/13/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
DEMO2-C4-1	DEMO2-C4-1	06/13/2000	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
DEMO2-C4-2	DEMO2-C4-2	06/13/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
DEMO2-C4-2	DEMO2-C4-2	06/13/2000	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
DEMO2-C4-3	DEMO2-C4-3	06/13/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
DEMO2-C4-4	DEMO2-C4-4	06/13/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
DEMO2-C4-4	DEMO2-C4-4	06/13/2000	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
DEMO2-C4-6	DEMO2-C4-6	06/13/2000	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
DEMO2-C4-6	DEMO2-C4-6	06/13/2000	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITR	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

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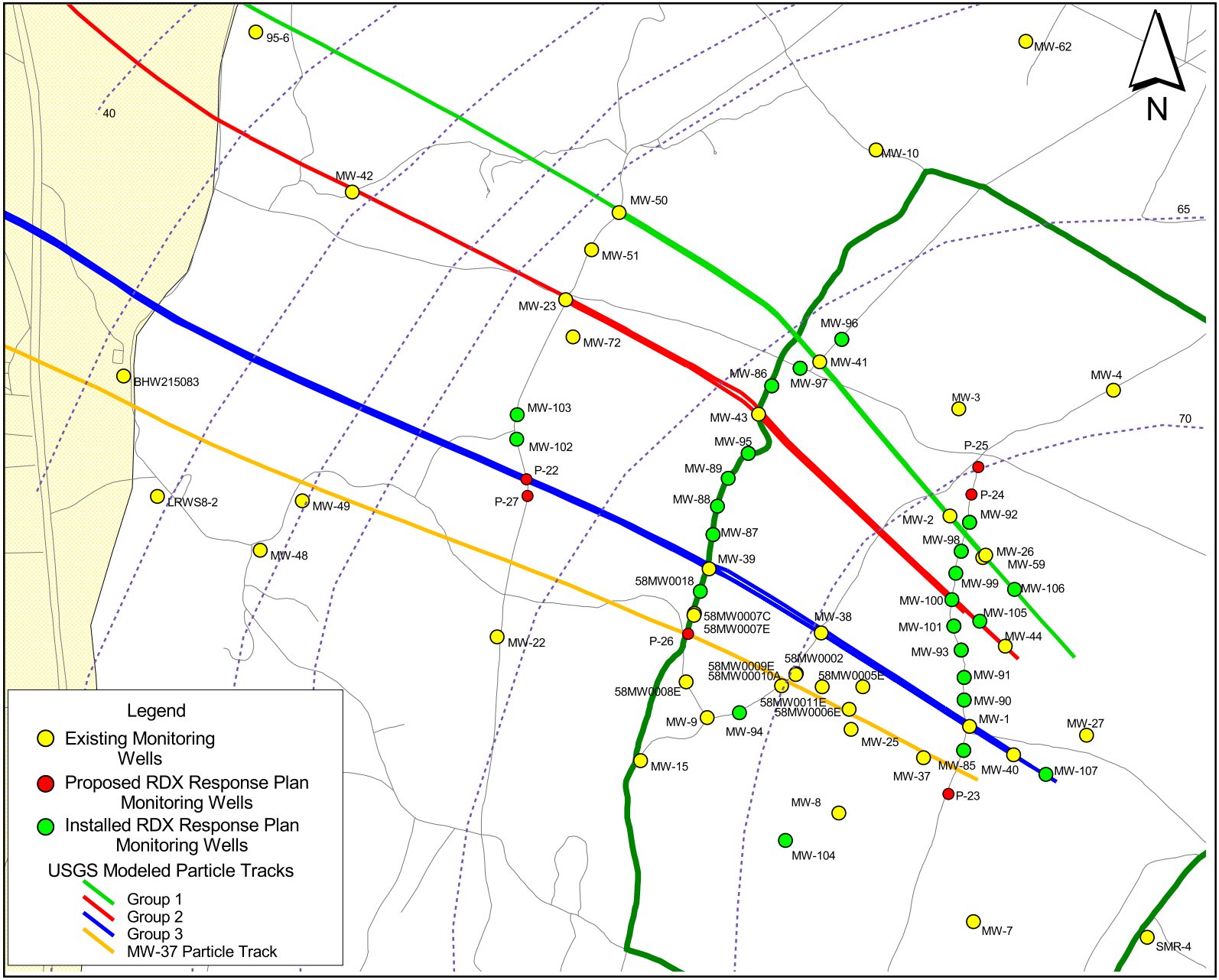
G:\MMR\well_updates.apr December 20, 1999

December 16, 1999 DRAFT



Proposed RDX Response Plan Wells In The Impact Area

Figure A