WEEKLY PROGRESS UPDATE
FOR SEPTEMBER 11 – SEPTEMBER 15, 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 September 11 to September 15, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of September 15 is summarized in Table 1.

Table 1. Drilling progress as of September 15, 2000

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-120	J-2 Range (J2P-4)	320	215	103-113 260-270
MW-123	Impact Area Response Well P-35	300	158	
MW-124	Impact Area Response Well P-36	300	167	
MW-125	J-3 Range (J3P-9)	200	149	

bgs = below ground surface
bwt = below water table

Completed drilling and well installation on MW-120 (J2P-4). Completed drilling on MW-123 (P-35) and MW-124 (P-36). Commenced drilling on MW-125 (J3P-9). Continued UXO clearance of J-2 Range drill pads, K Range access road, L Range access road, J-3 Range drill pad and downhole clearance of MW-125 and J1P-10. Development of newly installed wells continued.

Samples collected during the reporting period are summarized in Table 2. Soil samples were collected from the UXO detonation craters on the J-1 Range, J-2 Range, J-3 Range, and Demo 1. Wipe samples were collected from UXO, UXORM, and debris in Test Plot 1 of the HUTA. Groundwater samples were collected from the August Long Term Monitoring wells. Groundwater profile samples were collected during the drilling of MW-123, MW-124, and MW-125. Deep soil samples were collected during the drilling of MW-123, MW-124, MW-125, and MW-126. Soil samples were collected at HUTA Test Plot 1, at HUTA pre-detonation locations, and from under the booster at GP-10.

The Guard, EPA, and MADEP had a meeting on September 14 to discuss technical issues, including the following:

- Jacobs provided an update on the CS-19 Investigation. There was a meeting yesterday (9/13) to discuss the MOR for the draft RI. A supplement to the RI will be put together and an outline will be presented to the agencies. They will also be putting together an FS to coordinate with that of the Central Impact Area. Ogden should provide them with information on MW-111 (done 9/15). EPA indicated that their COPC list may expand when they consider leaching to groundwater.
- The Army Corps of Engineers provided an update on the Water Supply Study. The Town of Falmouth has offered services to run the operations after set up has been completed. EPA requested an update on the status of the ZOCs.

- Tetra Tech provided an update on the Munitions Survey. A one-page summary was distributed. Brush cutting/chipping continues in the J-2 Range and the surveyor is continuing to set lines in J-1, which should be done by next week. The Brontosaurus has resumed work on site. Test Plot 1 (TP1) UXO clearance continues in the HUTA. The internal roads have been completed around TP1and identification, logging, locating of subsurface UXO, UXORM, and debris in TP1 continues. Sampling of UXO, UXORM, and debris items is waiting on TP1 completion. There may be an issue finding 25 UXO for this sampling in the first lift. Selection of TP2 will occur next week, and some items will be BIPed tomorrow (9/15). Having some problems with the geophysics due to the uneven ground surface. The screening plant set up, truck scales set up, road turnouts, and staging area preparation has all been completed and excavation activity should begin on TP1 by 9/22. The Berm maintenance rock has been moved to the staging area for utilization for road beds. The first phase of validation in Demo 1 and GP 10 have both been completed, and GP 11 validation continues. A report on Demo 1 will be submitted today to the Guard for review. The EPA requested a verbal update on any new significant item if/when they may be found. Phase II of Demo 1 will be determined after the initial findings. EPA inquired about the location of the burn pit relative to the borings that Ogden installed. The extent of the burn pit area is unknown. Tetra Tech will provide coordinates of the pit to Ogden. No metallic fragments were encountered in B-13 and B-14, although magnetic rocks were detected at 7 feet.
- Ogden provided an update on the Rapid Response Action. A one-page summary was distributed. The Draft Delineation Sampling Report was distributed to the agencies on 9/1/00 and the preliminary version of Envirogen's treatability study report is undergoing internal review. A meeting will be scheduled with the Guard to discuss the treatability study report when lab data returns and it will be distributed to agencies in two weeks. Everything is still on track to meet the October 1 deadline: Soil washing equipment has been temporarily relocated, the layout of the containment pad has been completed, and the paving of the containment pad sub-base should occur next week. Intrusive clearance of GP-7 grid has been completed, and KD Range should be completed this week. Intrusive clearance of J-3 Wetland will not be necessary. EPA requests that if anything significant is found, it should go into the UXO discovery report.
- Ogden provided an update on the IAGWSP field investigations. A one-page summary was distributed. Drilling on MW-123 (P-35) and MW-124 (P-36) will be completed this week, and drilling has begun on MW-125 (J3P-9) and MW-126 (P-28). Screens for MW-123 and MW-124 will be selected by next Tuesday (9/19). Groundwater sampling of the August LTM round should be completed by next Tuesday. EPA requested that Ogden check on the progress of sampling some select wells that were designated for filtered and unfiltered metals. UXO clearance for the J-1, J-3, and L Range well pads has begun, and access roads for the Former K Range have been cleared. UXO clearance will continue next week on the Central Impact Area well pads and Tank Targets. Soil samples were taken from UXO detonation craters at J-1, J-2, J-3 and Demo 1, and the J-2 Range soil grids will be done next week. EPA questioned when the sampling of stage 2 wells along Greenway Road would occur. This is dependent on Tetra Tech's schedule, which is waiting on approval. It is expected that a revised drilling schedule can be submitted in October. Ogden estimates the stage 1 wells would be complete by December if there is not interference between the contractors, and the stage 2 wells by about March. The EPA commented on AFCEE having a problem with the source area for FS-12 and they have redrawn the FS-12 plume that may be in the vicinity of the stage 2 wells. EPA asked what the schedule of the tank target sampling was. Ogden will begin sampling around the target tanks as soon as the crews are available but would have to check the revised FS schedule (7/27/00). EPA will provide comments for the Phase II(b) plans next week so a schedule for these investigations can be prepared.
- The revised SAR Firing Schedule (e-mailed 9/11) and selection of ranges for sampling was discussed. Ranges A, G, and I will be fired upon in September and October. Ogden reported that Range Control indicated that the 4000 round goal will most likely occur with the SAW firing on SE and SW Ranges. It was agreed to perform the air and soil sampling on the SE Range on 9/23/00, soil sampling on the G Range on 10/14/00, and soil sampling on I Range on 10/15/00. Ogden will send an e-mail to

citizen members of the review team on the SAW firing and those who want to observe should contact the IAGWSP Office.

- Ogden provided an update on Fate/Transport measurements. They have established a contract with the University of Texas, who in turn, will subcontract Texas A&M for some of the analytical work. Due to the time frame, the Cleanup Standard Estimation Modeling expected to be complete by the end of the year will not take into account biodegradation. Work should begin on October 1.
- The resolution of comments on draft Demo 1 Report (RCL dated 9/5/00) was discussed. Ogden is waiting to finalize COCs and COPCs until the FS approach is agreed. Still waiting for the information from the deep soil borings and the burn pit.
  - # 2 need to have the last sentence of the EPA comment modified with the Guard proposed language.
  - #15 clarify that RDX moves with the groundwater.
  - #19 must be specified that disposal occurred at this location.

  Ogden asked if a request for an extension should be prepared for the Demo 1 Report to allow info from deep soil sampling and the geophysics to be incorporated. EPA indicated that they would like to see a revised FS schedule for Demo 1 to expedite the screening reports.
- There was a discussion on the FS Workplan. EPA comments were resolved at last week's technical meeting, with the exception of the UXO FS process and the COC approach, which are discussed below. MADEP was not ready to discuss responses to their comments. MADEP will contact Guard or Ogden prior to next the next technical meeting to identify any issues with the 29 Aug 00 RCL.
- The draft UXO FS Approach was handed out and discussed. The proposed approach was summarized. It was proposed that the Interim UXO FS Screening Report was not an enforceable milestone and would not accelerate the previously submitted UXO FS schedule. The following objective of the Interim Report, as discussed with EPA during the conference call on 12 Sep 00, was reiterated: The Interim Report would serve to show progress toward the ultimate goal of remediating UXO and would identify potential issues early in the process so that when the appropriate data (HUTA 1, fate and transport work, and groundwater study) are available the FS process will move forward with as little delay as possible. It was agreed that since the Interim Report would proceed without many of the critical items required, several key assumptions would have to be made to estimate UXO types and densities by area, which could result in conclusions that are not appropriate for actual conditions at Camp Edwards. MADEP and EPA will review the proposed approach and provide any comments. Upon receipt of comments a revised UXO FS Schedule will be prepared to include the Interim Report. It was noted that the overall UXO FS schedule would remain the same with the caveat that the Guard may require longer internal review times than previously included.
- The COC identification process for the FS was discussed. Ogden asked that EPA clarify their intent regarding a number of statements in their proposed process that was distributed at last week's technical meeting. EPA indicated that upon further review they realized that some of the statements in their proposal didn't clearly describe what they wanted. EPA provided a flow diagram sketch depicting the steps to identify soil COCs and discussed their expectations. These include screening compounds against Soil Screening Levels or SSLs (migration to groundwater pathway) and Soil Preliminary Remediation Goals or PRGs (ingestion, dermal contact, inhalation pathways) to determine COPCs (site-specific soil SSLs and PRGs would be developed by INEEL based upon the Region IX equations with site-specific parameters being used); complete Risk Evaluation on all COPCs to determine COCs; complete Risk Management to evaluate COCs based upon frequency of detection, repeated detection, artifacts, nutrients, and background; identify site-specific PRGs based on 1E-6 excess lifetime cancer risk and Hazard Index of 1.0. This entire process would be completed prior to proceeding with FS activities and would typically be included in the Tech Memo for individual AOCs or OUs. Groundwater would be evaluated similarly, but with a few media specific changes. EPA indicated that the current proposed background values should be used in the above Risk Management step. EPA indicated that Demo 1 schedules should be accelerated as much as possible and that they would like to see the Draft FS for the GW OU due around March 2001. The Guard will prepare a detailed COC Identification Process for soil and groundwater based upon EPA's

sketch and discussion for distribution at next week's technical meeting. The Guard will prepare revised FS schedules incorporating the COC process outlined above for distribution at the technical meeting next week.

- Ogden distributed three 1-page tables on the latest groundwater detects. EPA requested that tables of soil detections be provided as these data become available.
- A handout on the Summary of Phase 1 and 2a Areas and Reporting (as of 9/13/00) was provided. EPA requested that Phase 2b areas be added after they provide their comments.
- There was a discussion on the resolution of comments on draft BIP reports of 9/99 to 1/00 (RCL dated 9/7/00). EPA approved the response to comments.
- The data from the acetone study were distributed. Acetone was detected in all preservation methods and in control samples. No change is proposed to the current sampling and preservation procedures for soil.
- There was a discussion of the action items from the IART meeting.
  - Item #1 for TOSC
  - Item #2, MADEP to supply additional info on UTES
  - Item #3, MADEP to consider this request
  - Item #4, Guard to determine regulatory issues surrounding offsite transport of UXO
  - Item #5, Guard will prepare a longitudinal cross-section of CS-19
  - Item #6, JPO/Guard to develop map of Impact Area & CS-19
  - Item #7 for AFCEE
  - Item #8 done by AFCEE
  - Item #9 Guard will send to IART when available (expected early 2001)
  - Item #10 SAR schedule has changed as indicated above; sampling on 9/23/00.
  - Item #11 Discussed and confirmed that BIP sites are covered until results are available.
  - Item #12 Guard to include language in BIP reports stating that there are no SDWA levels for soil comparable to MCP.
- EPA questioned the lack of a monitoring well down gradient of 90WT0004. EPA suggested moving J3P-4 downgradient. The Guard will revisit rationale for siting this well on Greenway Road.
- EPA asked the status of the sampling of the soil from the rounds with exposed HE from last weeks meeting. Tetra Tech indicated that the soil would be sampled when the rounds are moved. Waiting for room at the SHA before the rounds are moved.
- EPA asked for a monthly update on the status of the Archive Search Report, with the first update on 9/21/00.
- EPA requested an update on the 8321 results.
- EPA asked when the Demo 1 groundwater results would be reviewed. Ogden indicated that it would be done before the December sampling round.

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-30S had a detection of HMX, which was verified by PDA spectra. This detection was similar to previous sampling rounds.

- The groundwater sample from MW-58S had a detection of RDX and HMX, which were verified by PDA spectra. These detections were similar to previous sampling rounds.

- The groundwater sample from MW-73S had detections of TNT, 2a-DNT, 4a-DNT, RDX, and HMX, which were verified by PDA spectra. These detections were similar to the previous sampling round.

- The groundwater profile samples from MW-123 had detections of TNT (1 interval), 2,6-DNT (1 interval), 3-nitrotoluene (1 interval), 4-nitrotoluene (1 interval), picric acid (1 interval), 2a-DNT (2 intervals), and nitroglycerin (4 intervals), which were not verified by the PDA spectra.

- The groundwater profile samples from MW-124 had detections of 2a-DNT (2 intervals), 2-nitortoluene (1 interval), PETN (1 interval), and picric acid (1 interval), which were not verified by the PDA spectra.

3. DELIVERABLES SUBMITTED

The following deliverables were submitted during the reporting period.

Monthly Progress Report #41 (August 2000)	09/11/00
Weekly Progress Update (Sept 4-Sept 8)	09/15/00

4. SCHEDULED ACTIONS

Scheduled actions for the week of September 18 include well installation at MW-123 (P-35) and MW-124 (P-36); continued drilling at MW-125 (J3P-9) and MW-126 (P-28); commence drilling at LP-1, J1P-10 and J2P-5; the continued UXO clearance of the J-1 and J-2 Range drill pads; completion of the separation of the materials from the J-1 Range Popper Kettle; and complete groundwater sampling of the August LTM 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 the draft technical memorandum for the Demo 1 response actions, and the Guard's responses to comments on both documents are being discussed with the agencies.

Validation of munitions survey results by excavation of selected anomalies was completed. Additional deep soil sampling, in accordance with the sampling plan in the draft FS Workplan, will be completed following documentation of the validation results. The Guard will prepare a plan to address the burn pit discovered in Demo 1.

Profile sample results for MW-114 installed near the toe of the RDX plume indicate that the extent is further south and west than depicted previously. Two additional wells are planned in this area to refine the plume shape. Drilling in this area is expected to resume in two weeks.

TABLE 2
SAMPLING PROGRESS
09/10/2000-09/16/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HDDEMO17IN	HDDEMO17IN	09/11/2000	CRATER GRAB	0.00	0.25		
HDJ181MM	HDJ181MM	09/11/2000	CRATER GRAB	0.00	0.25		
HDJ240MM1	HDJ240MM1	09/11/2000	CRATER GRAB	0.00	0.25		
HDJ32.36RKT	HDJ32.36RKT	09/11/2000	CRATER GRAB	0.00	0.25		
HDJ360MM	HDJ360MM	09/11/2000	CRATER GRAB	0.00	0.25		
0.G.0.00013.0.T	FIELDQC	09/15/2000	FIELDQC	0.00	0.00		
90MW0022E	FIELDQC	09/15/2000	FIELDQC	0.00	0.00		
95-6BE	FIELDQC	09/13/2000	FIELDQC	0.00	0.00		
95-6ESE	FIELDQC	09/14/2000	FIELDQC	0.00	0.00		
95-6EST	FIELDQC	09/14/2000	FIELDQC	0.00	0.00		
97-5E	FIELDQC	09/11/2000	FIELDQC	0.00	0.00		
BHW215083BE	FIELDQC	09/12/2000	FIELDQC	0.00	0.00		
BHW215083BT	FIELDQC	09/12/2000	FIELDQC	0.00	0.00		
BHW215083E	FIELDQC	09/12/2000	FIELDQC	0.00	0.00		
G124DAE	FIELDQC	09/12/2000	FIELDQC	0.00	0.00		
G124DIE	FIELDQC	09/13/2000	FIELDQC	0.00	0.00		
G125DHF	FIELDQC	09/14/2000	FIELDQC	0.00	0.00		
G125DNE	FIELDQC	09/15/2000	FIELDQC	0.00	0.00		
G126DAE	FIELDQC	09/14/2000	FIELDQC	0.00	0.00		
G126DAT	FIELDQC	09/15/2000	FIELDQC	0.00	0.00		
S123DDE	FIELDQC	09/11/2000	FIELDQC	0.00	0.00		
S123DDT	FIELDQC	09/11/2000	FIELDQC	0.00	0.00		
S123DNE	FIELDQC	09/12/2000	FIELDQC	0.00	0.00		
S125DCE	FIELDQC	09/13/2000	FIELDQC	0.00	0.00		
S126DAE	FIELDQC	09/14/2000	FIELDQC	0.00	0.00		
S126DCT	FIELDQC	09/13/2000	FIELDQC	0.00	0.00		
1.B.1.00431.3.0	1.B.1.00431.3.0	09/14/2000	GAUZE WIPE				
1.B.1.00440.3.0	1.B.1.00440.3.0	09/14/2000	GAUZE WIPE				
1.B.1.00441.3.0	1.B.1.00441.3.0	09/14/2000	GAUZE WIPE				
1.C.1.00430.3.0	1.C.1.00430.3.0	09/15/2000	GAUZE WIPE				
1.C.1.00433.3.0	1.C.1.00433.3.0	09/15/2000	GAUZE WIPE				
1.C.1.00438.3.0	1.C.1.00438.3.0	09/15/2000	GAUZE WIPE				
1.C.1.00439.3.0	1.C.1.00439.3.0	09/15/2000	GAUZE WIPE				
1.C.1.00439.3.D	1.C.1.00439.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00432.3.0	1.D.1.00432.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00434.3.0	1.D.1.00434.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00435.3.0	1.D.1.00435.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00436.3.0	1.D.1.00436.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00437.3.0	1.D.1.00437.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00438.3.0	1.D.1.00438.3.0	09/15/2000	GAUZE WIPE				
1.D.1.00442.3.0	1.D.1.00442.3.0	09/15/2000	GAUZE WIPE				
27MW0108A	27MW0108A	09/15/2000	GROUNDWATER	217.00	227.00	77.00	87.00
90MW0022	90MW0022	09/15/2000	GROUNDWATER	115.50	120.50	62.20	67.20

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
09/10/2000-09/16/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
95-6B	95-6B	09/13/2000	GROUNDWATER	114.00	124.00	88.48	98.48
95-6ES	95-6ES	09/14/2000	GROUNDWATER	38.00	48.00	0.00	10.00
96-6A	96-6A	09/12/2000	GROUNDWATER	175.00	185.00	145.44	155.44
97-1	97-1	09/12/2000	GROUNDWATER	73.50	83.50	51.48	61.48
97-3	97-3	09/11/2000	GROUNDWATER	89.00	97.00	47.49	57.49
97-5	97-5	09/11/2000	GROUNDWATER	88.00	98.00	78.97	88.97
BHW215083A	BHW215083A	09/11/2000	GROUNDWATER	74.00	84.00	15.50	25.50
BHW215083B	BHW215083B	09/12/2000	GROUNDWATER	75.00	85.00	16.50	26.50
BHW215083C	BHW215083C	09/14/2000	GROUNDWATER	273.00	283.00	114.50	124.50
BHW215083D	BHW215083D	09/14/2000	GROUNDWATER	142.00	152.00	83.60	93.60
CEMETARY1	CEMETARY1	09/15/2000	GROUNDWATER				
CEMETARY2	CEMETARY2	09/15/2000	GROUNDWATER				
SMR-4	SMR-4	09/13/2000	GROUNDWATER	103.50	113.50	6.00	16.00
W06SSA	MW-6	09/13/2000	GROUNDWATER	106.00	116.00	0.00	10.00
W102SSA	MW-102	09/15/2000	GROUNDWATER	145.00	155.00	0.00	10.00
W103M1A	MW-103	09/15/2000	GROUNDWATER	298.00	308.00	153.80	163.80
W103M2A	MW-103	09/15/2000	GROUNDWATER	282.00	292.00	137.80	147.80
W103SSA	MW-103	09/15/2000	GROUNDWATER	143.00	153.00	0.00	10.00
W12SSA	MW-12	09/11/2000	GROUNDWATER	97.00	107.00	0.00	10.00
W41M3A	MW-41	09/13/2000	GROUNDWATER	124.00	134.00	0.00	10.00
W46SSA	MW-46	09/12/2000	GROUNDWATER	154.00	164.00	0.00	10.00
W55SSA	MW-55	09/11/2000	GROUNDWATER	133.00	143.00	0.00	10.00
W86M1A	MW-86	09/14/2000	GROUNDWATER	208.00	218.00	62.20	72.20
W86M2A	MW-86	09/14/2000	GROUNDWATER	158.00	168.00	12.15	22.15
W86M2D	MW-86	09/14/2000	GROUNDWATER	158.00	168.00	12.15	22.15
W87M1A	MW-87	09/14/2000	GROUNDWATER	194.00	204.00	59.50	69.50
W87M2A	MW-87	09/14/2000	GROUNDWATER	169.00	179.00	34.40	44.40
W87M2D	MW-87	09/14/2000	GROUNDWATER	169.00	179.00	34.40	44.40
W87M3A	MW-87	09/14/2000	GROUNDWATER	140.00	150.00	0.00	10.00
DW0915	GAC WATER	09/15/2000	IDW				
J2P4	GAC WATER	09/15/2000	IDW				
G123DAA	MW-123	09/12/2000	PROFILE	140.00	140.00	0.00	0.00
G123DBA	MW-123	09/12/2000	PROFILE	150.00	150.00	8.00	8.00
G123DCA	MW-123	09/13/2000	PROFILE	160.00	160.00	18.00	18.00
G123DDA	MW-123	09/13/2000	PROFILE	170.00	170.00	28.00	28.00
G123DEA	MW-123	09/13/2000	PROFILE	180.00	180.00	38.00	38.00
G123DFA	MW-123	09/13/2000	PROFILE	190.00	190.00	48.00	48.00
G123DGA	MW-123	09/13/2000	PROFILE	200.00	200.00	58.00	58.00
G123DHA	MW-123	09/13/2000	PROFILE	210.00	210.00	68.00	68.00
G123DIA	MW-123	09/13/2000	PROFILE	220.00	220.00	78.00	78.00
G123DJA	MW-123	09/13/2000	PROFILE	230.00	20.00	88.00	88.00
G123DKA	MW-123	09/13/2000	PROFILE	240.00	240.00	98.00	98.00
G123DLA	MW-123	09/13/2000	PROFILE	250.00	250.00	108.00	108.00
G123DMA	MW-123	09/13/2000	PROFILE	260.00	260.00	118.00	118.00

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Other Sample Types methods are variable
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BWTS = Depth below water table, start depth, measured in feet
BWTE = Depth below water table, end depth, measured in feet

TABLE 2
SAMPLING PROGRESS
09/10/2000-09/16/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G123DNA	MW-123	09/13/2000	PROFILE	270.00	270.00	128.00	128.00
G123DOA	MW-123	09/13/2000	PROFILE	280.00	280.00	138.00	138.00
G123DPA	MW-123	09/14/2000	PROFILE	290.00	290.00	148.00	148.00
G123DQA	MW-123	09/14/2000	PROFILE	300.00	300.00	158.00	158.00
G123DQD	MW-123	09/14/2000	PROFILE	300.00	300.00	158.00	158.00
G124DAA	MW-124	09/12/2000	PROFILE	140.00	140.00	6.50	6.50
G124DBA	MW-124	09/12/2000	PROFILE	150.00	150.00	16.50	16.50
G124DCA	MW-124	09/12/2000	PROFILE	160.00	160.00	26.50	26.50
G124DDA	MW-124	09/12/2000	PROFILE	170.00	170.00	36.50	36.50
G124DEA	MW-124	09/12/2000	PROFILE	180.00	180.00	46.50	46.50
G124DFA	MW-124	09/12/2000	PROFILE	190.00	190.00	56.50	56.50
G124DGA	MW-124	09/12/2000	PROFILE	200.00	200.00	66.50	66.50
G124DHA	MW-124	09/12/2000	PROFILE	210.00	210.00	76.50	76.50
G124DIA	MW-124	09/13/2000	PROFILE	220.00	220.00	86.50	86.50
G124DJA	MW-124	09/13/2000	PROFILE	230.00	230.00	96.50	96.50
G124DKA	MW-124	09/13/2000	PROFILE	240.00	240.00	106.50	106.50
G124DLA	MW-124	09/13/2000	PROFILE	250.00	250.00	116.50	116.50
G124DMA	MW-124	09/13/2000	PROFILE	260.00	260.00	126.50	126.50
G124DNA	MW-124	09/13/2000	PROFILE	270.00	270.00	136.50	136.50
G124DOA	MW-124	09/13/2000	PROFILE	280.00	280.00	146.50	146.50
G124DPA	MW-124	09/13/2000	PROFILE	290.00	290.00	156.50	156.50
G124DQA	MW-124	09/13/2000	PROFILE	300.00	300.00	166.50	166.50
G125DAA	MW-125	09/14/2000	PROFILE	60.00	60.00	9.00	9.00
G125DBA	MW-125	09/14/2000	PROFILE	70.00	70.00	19.00	19.00
G125DCA	MW-125	09/14/2000	PROFILE	80.00	80.00	29.00	29.00
G125DDA	MW-125	09/14/2000	PROFILE	90.00	90.00	39.00	39.00
G125DDD	MW-125	09/14/2000	PROFILE	90.00	90.00	39.00	39.00
G125DEA	MW-125	09/14/2000	PROFILE	100.00	100.00	49.00	49.00
G125DFA	MW-125	09/14/2000	PROFILE	110.00	110.00	59.00	59.00
G125DGA	MW-125	09/14/2000	PROFILE	120.00	120.00	69.00	69.00
G125DHA	MW-125	09/14/2000	PROFILE	130.00	130.00	79.00	79.00
G125DIA	MW-125	09/14/2000	PROFILE	140.00	140.00	89.00	89.00
G125DJA	MW-125	09/14/2000	PROFILE	150.00	150.00	99.00	99.00
G125DKA	MW-125	09/14/2000	PROFILE	160.00	160.00	109.00	109.00
G125DLA	MW-125	09/14/2000	PROFILE	170.00	170.00	119.00	119.00
G125DMA	MW-125	09/14/2000	PROFILE	180.00	180.00	129.00	129.00
G125DNA	MW-125	09/15/2000	PROFILE	190.00	190.00	139.00	139.00
G125DOA	MW-125	09/15/2000	PROFILE	200.00	20.00	149.00	149.00
S123DDA	MW-123	09/11/2000	SOIL BORING	20.00	22.00		
S123DEA	MW-123	09/11/2000	SOIL BORING	30.00	32.00		
S123DFA	MW-123	09/11/2000	SOIL BORING	40.00	42.00		
S123DGA	MW-123	09/11/2000	SOIL BORING	50.00	52.00		
S123DGD	MW-124	09/11/2000	SOIL BORING	50.00	52.00		
S123DHA	MW-123	09/11/2000	SOIL BORING	60.00	62.00		

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
09/10/2000-09/16/2000

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
S123DIA	MW-123	09/11/2000	SOIL BORING	70.00	72.00		
S123DJA	MW-123	09/11/2000	SOIL BORING	80.00	82.00		
S123DKA	MW-123	09/11/2000	SOIL BORING	90.00	92.00		
S123DLA	MW-123	09/11/2000	SOIL BORING	100.00	102.00		
S123DMA	MW-123	09/11/2000	SOIL BORING	110.00	112.00		
S123DNA	MW-123	09/12/2000	SOIL BORING	120.00	122.00		
S123DOA	MW-123	09/12/2000	SOIL BORING	130.00	132.00		
S124DHA	MW-124	09/11/2000	SOIL BORING	60.00	62.00		
S124DIA	MW-124	09/11/2000	SOIL BORING	70.00	72.00		
S124DJA	MW-124	09/11/2000	SOIL BORING	80.00	84.00		
S124DKA	MW-124	09/11/2000	SOIL BORING	90.00	92.00		
S124DLA	MW-124	09/11/2000	SOIL BORING	100.00	102.00		
S124DMA	MW-124	09/11/2000	SOIL BORING	110.00	112.00		
S124DNA	MW-124	09/11/2000	SOIL BORING	120.00	122.00		
S124DOA	MW-124	09/11/2000	SOIL BORING	130.00	132.00		
S125DCA	MW-125	09/12/2000	SOIL BORING	10.00	12.00		
S125DDA	MW-125	09/13/2000	SOIL BORING	20.00	22.00		
S125DEA	MW-125	09/13/2000	SOIL BORING	30.00	32.00		
S125DFA	MW-125	09/13/2000	SOIL BORING	40.00	42.00		
S125DGA	MW-125	09/13/2000	SOIL BORING	50.00	52.00		
S126DCA	MW-126	09/13/2000	SOIL BORING	10.00	12.00		
S126DDA	MW-126	09/14/2000	SOIL BORING	20.00	22.00		
S126DEA	MW-126	09/14/2000	SOIL BORING	30.00	32.00		
S126DFA	MW-126	09/14/2000	SOIL BORING	40.00	42.00		
S126DGA	MW-126	09/14/2000	SOIL BORING	50.00	52.00		
S126DIA	MW-126	09/14/2000	SOIL BORING	70.00	72.00		
S126DJA	MW-126	09/14/2000	SOIL BORING	80.00	82.00		
S126DKA	MW-126	09/14/2000	SOIL BORING	90.00	92.00		
S126DLA	MW-126	09/15/2000	SOIL BORING	100.00	102.00		
0.A.1.00001.1.0	0.A.1.00001.1.0	09/14/2000	SOIL GRID				
0.A.1.00031.1.0	0.A.1.00031.1.0	09/14/2000	SOIL GRID				
1.B.1.00431.4.0	1.B.1.00431.4.0	09/14/2000	SOIL GRID				
1.B.1.00440.4.0	1.B.1.00440.4.0	09/14/2000	SOIL GRID				
1.B.1.00441.4.0	1.B.1.00441.4.0	09/14/2000	SOIL GRID				
1.B.1.00441.4.D	1.B.1.00441.4.0	09/15/2000	SOIL GRID				
1.C.1.00439.1.S	1.C.1.00439.1.S	09/15/2000	SOIL GRID				
GP10.1.00081.1.0	GP10.1.00081.1.0	09/14/2000	SOIL GRID				
GP10.2.00017.1.0	GP10.2.00017.1.0	09/14/2000	SOIL GRID				

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 8/27/00-9/16/00

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W30SSA	MW-30	09/07/2000	GROUNDWATER	26.00	36.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
W58SSA	MW-58	09/05/2000	GROUNDWATER	100.00	110.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W58SSA	MW-58	09/05/2000	GROUNDWATER	100.00	110.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
W73SSA	MW-73	09/05/2000	GROUNDWATER	39.00	49.00	0.00	10.00	8330N	2,4,6-TRINITROTOLUENE	YES
W73SSA	MW-73	09/05/2000	GROUNDWATER	39.00	49.00	0.00	10.00	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
W73SSA	MW-73	09/05/2000	GROUNDWATER	39.00	49.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W73SSA	MW-73	09/05/2000	GROUNDWATER	39.00	49.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W73SSA	MW-73	09/05/2000	GROUNDWATER	39.00	49.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITF	YES
G123DAA	MW-123	09/12/2000	PROFILE	140.00	140.00	0.00	0.00	8330N	2,4,6-TRINITROTOLUENE	NO
G123DAA	MW-123	09/12/2000	PROFILE	140.00	140.00	0.00	0.00	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G123DBA	MW-123	09/12/2000	PROFILE	150.00	150.00	8.00	8.00	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G123DBA	MW-123	09/12/2000	PROFILE	150.00	150.00	8.00	8.00	8330N	3-NITROTOLUENE	NO
G123DBA	MW-123	09/12/2000	PROFILE	150.00	150.00	8.00	8.00	8330N	4-NITROTOLUENE	NO
G123DBA	MW-123	09/12/2000	PROFILE	150.00	150.00	8.00	8.00	8330N	PICRIC ACID	NO
G123DCA	MW-123	09/13/2000	PROFILE	160.00	160.00	18.00	18.00	8330N	2,6-DINITROTOLUENE	NO
G123DDA	MW-123	09/13/2000	PROFILE	170.00	170.00	28.00	28.00	8330N	NITROGLYCERIN	NO
G123DFA	MW-123	09/13/2000	PROFILE	190.00	190.00	48.00	48.00	8330N	NITROGLYCERIN	NO
G123DMA	MW-123	09/13/2000	PROFILE	260.00	260.00	118.00	118.00	8330N	NITROGLYCERIN	NO
G123DPA	MW-123	09/14/2000	PROFILE	290.00	290.00	148.00	148.00	8330N	NITROGLYCERIN	NO
G124DAA	MW-124	09/12/2000	PROFILE	140.00	140.00	6.50	6.50	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G124DCA	MW-124	09/12/2000	PROFILE	160.00	160.00	26.50	26.50	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G124DGA	MW-124	09/12/2000	PROFILE	200.00	200.00	66.50	66.50	8330N	3-NITROTOLUENE	NO
G124DGA	MW-124	09/12/2000	PROFILE	200.00	200.00	66.50	66.50	8330N	PENTAERYTHRITOL TETRANITR	NO
G124DGA	MW-124	09/12/2000	PROFILE	200.00	200.00	66.50	66.50	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

Groundwater Wells at MMR

LEGEND

- Existing Monitoring Well
- Proposed Monitoring Well
- Proposed Supply Well

0 0.5 1 Miles

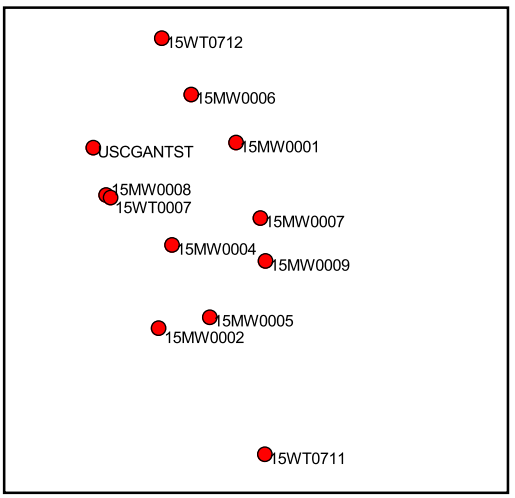
See Inset A

See Inset B

J:\GIS\September00\All_MMR_Wells.pdf
G:\MMR\rdx_response_maps_june_mtg.apr
September 18, 2000

N

Groundwater Wells at MMR - Insets



Inset A

0 100 200 Feet

N

Inset B

0 400 800 Feet

N

J3P-1
J1P-3
TEXTRONPW-1
90MW0029B
90LWA0007
90WT0006
MW-45
MW-30
LP-3
90WT0003
LP-4
90MW0013
90MW0051
90MW0021
90WT0019
90LWA0002
90WT0013
90WT0004
J3P-5
J3P-10
90WT0015
90MW0014
90LWA0003
J3P-4
J3P-7
90MW0061
LP-2
J3P-3
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90MW0041
90MW0037
J3P-6
90MW0022
90MW0019
J3P-2
Greenway Rd
90MW0034
90MW0036
90MW0001
90MW0062
90MW0052
90WT0005
J3P-8
90MW0004
90MW0070
90MW0063
90MW0071
90MW0005
Greenway Rd By Pass
90MW0054
96GMW0058
90MW0035
90MW0072A
90MW0080
RS0007RACC
DP-6
96MP0059B
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90PZ0211
90MW0009
90MW0018
90MW0060
Raccoon Ln
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90MW0033
90WT0010
RS0005RACC
RS0008RACC
90PZ0201
90PZ0203
90MW0010
SAPWSSMR1
90PZ0202
90PZ0204
90MW0020
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ECPZSNP03B
90MW0059
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RS0024ARND
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90MW0050
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90MW0053
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Old Snake Pond Rd
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RS0021GRAC
96MW0020
ECPZWK01
ECPZSNP15
Route 130
4261000-05G

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September 18, 2000