WEEKLY PROGRESS UPDATE FOR JANUARY 17 – JANUARY 21, 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 January 17 to January 21, 2000.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of January 21 is summarized in Table 1.

| Table 1. Drilling progress as of January 21, 2000 | | | | | | | | |
|---|------------------------|----------------------|--------------------------------|---------------------------------------|--|--|--|--|
| Boring Number | Purpose of Boring/Well | Total Depth (ft bgs) | Saturated Depth (ft bwt) | Completed Well Screens (ft bgs) | | | | |
| MW-74 | Demo 1 Response Well | 205 | 110 | | | | | |
| bgs = belov | w ground surface | | | | | | | |
| bwt = below | w water table | | | | | | | |

Drilling was advanced to completion depth at MW-74 (Demo 1 response well) and was on hold at the end of the week pending selection of screen depths. UXO clearance continued on Turpentine Road and at the RDX response well pads. UXO avoidance continued at soil sampling locations for Gun and Mortar positions and trenches. Detonation of UXO was performed on January 18 at the drill pad for RDX response well P-9, near Mortar Target 9, on Turpentine Road, and at Demo 1. No work was completed on January 21 because the base was closed due to snow.

Samples collected during the reporting period are summarized in Table 2. Air samples were collected at four locations during UXO detonation on January 18. A third round of groundwater sampling continued for the Supplemental IRP wells, sampling of Demo 1 response wells commenced, and a groundwater sample was collected from MW-48S. Groundwater profile samples were collected from MW-74. Soil sampling continued on the following Gun and Mortar positions: GP-2 (Area 51) and GP-12 (Area 62). Soil sampling was completed on the following Mortar Targets: Target 6 (Area 84) and Target 8 (Area 86). Soil sampling commenced at Target 9 (Area 87) and Target 10 (Area 88).

The Guard, EPA, and MADEP had a meeting on January 20 to discuss technical issues, including the following:

- An update of field activities was given by Jacobs. They have completed the surface soil sampling, are
 currently working on Deep UXO survey and water level survey, and the drill rig is scheduled to start
 next week. Three overheads were displayed showing the forward and reverse particle tracks from
 CS-19. Jacobs suggested relocating the proposed monitoring wells to center them on the particle
 track. EPA and DEP agreed with the relocation of the wells.
- An update of the munitions survey field activities was given by Tetra Tech. Six grids of the sixty-six at Demo 1 have been cleared. Crew is now working on clearing Gun and Mortar locations. Geophysical calibration is almost complete, and preliminary data indicate a high detection rate. DEP asked if different soil conditions at the calibration area in comparison to the Gun and Mortar positions could cause problems for the geophysics. Tetra Tech indicated that these soil changes should be within the range that should not cause any problems. If problems were encountered with soil

conditions, an additional calibration area would be established at the Gun and Mortar positions. EPA requested a meeting to go over EPA comments to Appendix C because EPA does not believe all their comments have been addressed.

- An update of the groundwater study activities was given by Ogden. E-mail was sent earlier indicating that the order of the RDX response well installations would be changed. The drilling pads for P-9 and P-4 would be cleared and then several locations on the outer transect would be cleared. This change is necessary so that any UXO clearance safety zone or a safety zone of any UXO detected at the drilling pads does not shut down ongoing drilling activities. Drilling of the RDX response wells has been postponed due to inability to perform UXO clearance in the frozen soil. EPA asked if the location of P-21 is dependent of what is detected at the inner transect. The Guard agreed. Target soil sampling should be competed this week. EPA requested the status of the overhang samples at the targets. Ogden indicated that there needs to be a site walk next week to determine the location of these samples. MW-74 (Demo 1 response well) is on standby waiting for screen depths. Ogden indicated that there needs to be a conference call on Monday to review the data and select the screen depths. UXO avoidance is continuing on the trench grids. Groundwater sampling is continuing on the third round of IRP wells. Development of new wells is on hold due to frozen granular activated carbon drums. UXO detonation occurred on Tuesday. The Guard asked for the report from the UXO contractor. EPA asked for pre detonation photos for all future detonations.
- A 1-page handout of the document status was distributed for review. EPA indicated that their specific comment # 8 on the Gun and Mortar FSP was not addressed (figure revision). Ogden indicated that they would correct this figure.
- A 1-page handout of the MW-40 orthophoto was distributed for review and the historical orthophotos of this area were displayed. EPA questioned if the potential of a controlled burn would have an effect on this area. All photos indicated no evidence of a target in the area.
- A 16-page handout of a CHPPM report on a 1989 J Range surface soil investigation was distributed for review.
- EPA provided comments on the Small Arms Range Proposal. EPA suggested: not installing soil borings and monitoring wells until the results of the surface soil are reviewed, adding metals to the analyte list, and adding air monitoring during a typical firing exercise.
- A 2-page handout of the VOC soil sampling with sodium bisulfate vs. deionized water preservation and extended holding time results was distributed for review. The results indicate that the sodium bisulfate preservation produces more acetone and the longer the holding time the more acetone produced. Ogden indicated that acetone was detected in the deionized preserved samples. EPA requested if TOC had been analyzed. Ogden indicated that they did not believe that TOC is done on the soil samples, but would check. Ogden suggested rerunning these tests and adding a buffer to the preservative to determine if humic acid is the cause of some of the acetone. EPA requested a write-up of this information in the meeting notes:

Handouts were provided at the meeting of VOC soil split data to evaluate the cause of elevated acetone levels. A total of six samples were collected and then split into two groups. One group was collected and preserved with sodium bisulfate and analyzed 8 and 14 days after collection. A split sample was also collected and preserved with deionized water and was analyzed 8 and 14 days after collection. The data indicated elevated acetone levels, 100s ppb, for the sodium bisulfate preserved samples. The data also indicated the samples analyzed 14 days after collection had significantly higher acetone levels than those analyzed 8 days after collection. Acetone was

also present in the (DI) preserved samples. Four samples had much lower acetone levels (10s ppb) while two other samples had much higher acetone levels. Acetone levels decreased between the 8 and 14 day analysis period for the DI preserved samples. It is still not clear what is causing the generation of acetone but it appears to be some sort of breakdown of organic material in the sample. Another sample is planned to be collected with DI preserved sample prepared in buffered solution to see if this has any impact on the production of acetone.

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-44S had a detection of 4-amino-2, 6-dinitrotoluene. PDA was not available at the time of this report.
- Groundwater profile samples from MW-74 had detections of 3-nitrotoluene (1 interval), nitroglycerin (2 intervals), and PETN (1 interval). None of these explosive detections were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

Weekly Progress Update (Jan 10-14)

1/21/2000

4. SCHEDULED ACTIONS

Scheduled actions for the week of January 24 include the continued development of newly installed wells; the continued soil sampling of Gun and Mortar positions, mortar targets, and trenches; groundwater sampling of the third round of supplemental IRP wells and Demo 1 response wells; and setting the drill rig up on RDX response location P-9.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

Collection of groundwater profile samples was completed at MW-74 (northernmost response well). Installation of monitoring wells was on hold pending selection of screen depths. Development of the installed Demo 1 response wells will continued next week. Groundwater sampling will commence next week.

| OGDEN_ID | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD | SED | BWTS | BWTE |
|---------------|------------------|--------------|-------------|--|--------|--------|--------|
| ASDEMO135 | ASDEMO135 | 1/18/2000 | AIR | | | | |
| ASDEMO135F | ASDEMO135F | 1/18/2000 | AIR | | | | |
| ASP9PAD42 | ASP9PAD42 | 1/18/2000 | AIR | | | | |
| ASP9PAD42F | ASP9PAD42F | 1/18/2000 | AIR | | | | |
| ASTARGET942 | ASTARGET942 | 1/18/2000 | AIR | | | | |
| ASTARGET942F | ASTARGET942F | 1/18/2000 | AIR | | | | |
| ASTARGET9BLK | ASTARGET9BLK | 1/18/2000 | AIR | | | | |
| ASTARGET9BLKF | ASTARGET9BLKF | 1/18/2000 | AIR | | | | |
| ASTURPENT81 | ASTURPENT81 | 1/18/2000 | AIR | | | | |
| ASTURPENT81F | ASTURPENT81F | 1/18/2000 | AIR | | | | |
| PUFBLK3 | PUFBLK3 | 1/19/2000 | AIR | | | | |
| PUFLCS3 | PUFLCS3 | 1/19/2000 | AIR | | | | |
| 03MW0027E | FIELDQC | 1/18/2000 | FIELDQC | 0.00 | 0.00 | | |
| 03MW0070E | FIELDQC | 1/19/2000 | FIELDQC | 0.00 | 0.00 | | |
| 03MW0707E | FIELDQC | 1/20/2000 | FIELDQC | 0.00 | 0.00 | | |
| G74MAE | FIELDQC | 1/18/2000 | FIELDQC | 0.00 | 0.00 | | |
| G74MCE | FIELDQC | 1/19/2000 | FIELDQC | 0.00 | 0.00 | | |
| G74MJE | FIELDQC | 1/20/2000 | FIELDQC | 0.00 | 0.00 | | |
| HC51K1BAE | FIELDQC | 1/17/2000 | FIELDQC | 0.00 | 0.00 | | |
| HC87A1AAE | FIELDQC | 1/20/2000 | FIELDQC | 0.00 | 0.00 | | |
| HD84A1BAE | FIELDQC | 1/19/2000 | FIELDQC | 0.00 | 0.00 | | |
| HD84A1BAT | FIELDQC | 1/19/2000 | FIELDQC | 0.00 | 0.00 | | |
| HD86A7AAE | FIELDQC | 1/18/2000 | FIELDQC | 0.00 | 0.00 | | |
| HD86A7AAT | FIELDQC | 1/18/2000 | FIELDQC | 0.00 | 0.00 | | |
| W48SST | FIELDQC | 1/17/2000 | FIELDQC | 0.00 | 0.00 | | |
| WSMR2E | FIELDQC | 1/17/2000 | FIELDQC | 0.00 | 0.00 | | |
| 03MW0006 | 03MW0006 | 1/19/2000 | GROUNDWATER | 81.00 | 91.00 | -5.43 | 4.57 |
| 03MW0007A | 03MW0007A | 1/18/2000 | GROUNDWATER | 104.00 | 109.00 | 15.53 | 20.53 |
| 03MW0014A | 03MW0014A | 1/18/2000 | GROUNDWATER | 119.00 | 124.00 | 32.65 | 37.65 |
| 03MW0020 | 03MW0020 | 1/18/2000 | GROUNDWATER | 114.00 | 124.00 | 29.75 | 39.75 |
| 03MW0022 | 03MW0022 | 1/18/2000 | GROUNDWATER | 145.00 | 150.00 | 62.40 | 67.40 |
| 03MW0027A | 03MW0027A | 1/18/2000 | GROUNDWATER | 135.00 | 140.00 | 55.60 | 60.60 |
| 03MW0048 | 03MW0048 | 1/20/2000 | GROUNDWATER | 150.00 | 155.00 | 91.42 | 96.42 |
| 03MW0070A | 03MW0070A | 1/19/2000 | GROUNDWATER | 184.00 | 194.00 | 123.65 | 133.65 |
| 03MW0707 | 03MW0707 | 1/20/2000 | GROUNDWATER | 70.00 | 80.00 | -6.00 | 4.00 |
| 03MW0709 | 03MW0709 | 1/19/2000 | GROUNDWATER | 76.00 | 86.00 | -10.20 | -0.20 |
| 03MW0710 | 03MW0710 | 1/19/2000 | GROUNDWATER | 76.00 | | | |
| 03WT0021 | 03WT0021 | 1/20/2000 | GROUNDWATER | 77.00 | | | 1.49 |
| W48SSA | MW-48 | 1/17/2000 | GROUNDWATER | 99.00 | | | |
| WL76SSA | MW-76 | 1/20/2000 | GROUNDWATER | 85.00 | | | |
| WSRM2A | SMR-2 | 1/17/2000 | GROUNDWATER | | 120.00 | | |
| G74MAA | MW-74 | 1/18/2000 | PROFILE | | 105.00 | | |
| G74MBA | MW-74 | 1/18/2000 | PROFILE | 115.00 | 115.00 | 20.00 | 20.00 |

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

| OGDEN_ID | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD | SED | BWTS | BWTE |
|------------------------|------------------|------------------------|------------------------|--------------|----------|--------|--------|
| G74MCA | MW-74 | 1/19/2000 | PROFILE | 125.00 | 125.00 | 30.00 | 30.00 |
| G74MDA | MW-74 | 1/19/2000 | PROFILE | 135.00 | 135.00 | 40.00 | 40.00 |
| G74MDD | MW-74 | 1/19/2000 | PROFILE | 135.00 | 135.00 | 40.00 | 40.00 |
| G74MEA | MW-74 | 1/19/2000 | PROFILE | 145.00 | 145.00 | 50.00 | 50.00 |
| G74MFA | MW-74 | 1/19/2000 | PROFILE | 155.00 | 155.00 | 60.00 | 60.00 |
| G74MGA | MW-74 | 1/19/2000 | PROFILE | 165.00 | 165.00 | 70.00 | 70.00 |
| G74MHA | MW-74 | 1/19/2000 | PROFILE | 175.00 | 175.00 | 80.00 | 80.00 |
| G74MIA | MW-74 | 1/19/2000 | PROFILE | 185.00 | 185.00 | 90.00 | 90.00 |
| G74MJA | MW-74 | 1/20/2000 | PROFILE | 195.00 | 195.00 | 100.00 | 100.00 |
| G74MKA | MW-74 | 1/20/2000 | PROFILE | 202.00 | 205.00 | 107.00 | 110.00 |
| HC51D1AAA | 51D | 1/17/2000 | SOIL GRID | 0.00 | 0.50 | | |
| HC51D1BAA | 51D | 1/17/2000 | SOIL GRID | 1.50 | 2.00 | | |
| HC51H1AAA | 51H | 1/17/2000 | SOIL GRID | 0.00 | 0.50 | | |
| HC51H1BAA | 51H | 1/17/2000 | SOIL GRID | 1.50 | 2.00 | | |
| HC51K1AAA | 51K | 1/17/2000 | SOIL GRID | 0.00 | 0.50 | | |
| HC51K1BAA | 51K | 1/17/2000 | SOIL GRID | 1.50 | 2.00 | | |
| HC51N1AAA | 51N | 1/17/2000 | SOIL GRID | 0.00 | 0.50 | | |
| HC51N1BAA | 51N | 1/17/2000 | SOIL GRID | 1.50 | 2.00 | | |
| HC62B1AAA | 62B | 1/17/2000 | SOIL GRID | 0.00 | 0.50 | | |
| HC62B1BAA | 62B | 1/17/2000 | SOIL GRID | 1.50 | 2.00 | | |
| HC84A1AAA | 84A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC84A1BAA | 84A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HC84A1CAA | 84A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HC84B1AAA | 84B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC84B1AAD | 84B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC84B1BAA | 84B | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HC84B1CAA | 84B | 1/20/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HC86A1AAA | 86A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC86A1BAA | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HC86A1CAA | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HC86B1AAA | 86B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC86B1AAD | 86B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC86B1BAA | 86B | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HC86B1CAA | 86B | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HC87A1AAA | 87A | 1/20/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HC87A1BAA | 87A | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HC87A1CAA | 87A | 1/20/2000 | SOIL GRID | 0.50 | | | |
| HC88A1AAA | 88A | 1/20/2000 | SOIL GRID | 0.00 | | | |
| HC88A1BAA | 88A | 1/20/2000 | SOIL GRID | 0.25 | | | |
| HC88A1CAA | 88A | 1/20/2000 | SOIL GRID | 0.50 | | | |
| HD84A1AAA | 84A | 1/18/2000 | SOIL GRID | 0.00 | . | | |
| | | | <u> </u> | | | | |
| I HU84A I BAA | 84A | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84A1BAA HD84A1CAA | 84A 84A | 1/19/2000 1/19/2000 | SOIL GRID 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

| OGDEN_ID | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD | SED | BWTS | BWTE |
|-----------|------------------|--------------------------|---------------------|------|------|------|------|
| HD84A3BAA | 84A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84A3BAD | 84A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84A3CAA | 84A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84A5AAA | 84A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84A5BAA | 84A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84A5CAA | 84A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84A7AAA | 84A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84A7BAA | 84A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84A7CAA | 84A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84A7CAD | 84A | 1/19/2000 | SOIL GRID 0.50 1.00 | | | | |
| HD84B1AAA | 84B | 1/19/2000 SOIL GRID 0.00 | | 0.25 | | | |
| HD84B1BAA | 84B | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84B1CAA | 84B | 1/20/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84B3AAA | 84B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84B3BAA | 84B | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84B3CAA | 84B | 1/20/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84B5AAA | 84B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84B5BAA | 84B | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84B5CAA | 84B | 1/20/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD84B7AAA | 84B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD84B7BAA | 84B | 1/20/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD84B7CAA | 84B | 1/20/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86A1AAA | 86A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86A1BAA | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86A1CAA | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86A3AAA | 86A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86A3BAA | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86A3BAD | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86A3CAA | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86A5AAA | 86A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86A5BAA | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86A5CAA | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86A7AAA | 86A | 1/18/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86A7BAA | 86A | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86A7CAA | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86A7CAD | 86A | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86B1AAA | 86B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86B1BAA | 86B | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86B1CAA | 86B | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86B3AAA | 86B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86B3BAA | 86B | 1/19/2000 | SOIL GRID | 0.25 | 0.50 | | |
| HD86B3CAA | 86B | 1/19/2000 | SOIL GRID | 0.50 | 1.00 | | |
| HD86B5AAA | 86B | 1/19/2000 | SOIL GRID | 0.00 | 0.25 | | |
| HD86B5BAA | 86B | 1/19/2000 | SOIL GRID | 0.25 | 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

| HD86B5CAA 86B 1/19/2000 SOIL GRID 0.50 1.00 HD86B7AAA 86B 1/19/2000 SOIL GRID 0.00 0.25 HD86B7BAA 86B 1/19/2000 SOIL GRID 0.25 0.50 HD86B7CAA 86B 1/19/2000 SOIL GRID 0.50 1.00 HD87A1AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A1BAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3CAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3CAA 87A 1/20/2000 SOIL GRID 0.25 0.50 | TS | BWTE |
|---|--------|------|
| HD86B7BAA 86B 1/19/2000 SOIL GRID 0.25 0.50 HD86B7CAA 86B 1/19/2000 SOIL GRID 0.50 1.00 HD87A1AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A1BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A1CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD86B7CAA 86B 1/19/2000 SOIL GRID 0.50 1.00 HD87A1AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A1BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A1CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A1AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A1BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A1CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A1BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A1CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A1CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A3AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A3BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A3BAD 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| | | |
| HD87A3CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| | | |
| HD87A5AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD87A5BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A5CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD87A7AAA 87A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD87A7BAA 87A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD87A7CAA 87A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD87A7CAD 87A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD88A1AAA 88A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD88A1BAA 88A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD88A1CAA 88A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD88A3AAA 88A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD88A3BAA 88A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD88A3BAD 88A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD88A3CAA 88A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD88A5AAA 88A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD88A5BAA 88A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD88A5CAA 88A 1/20/2000 SOIL GRID 0.50 1.00 | | |
| HD88A7AAA 88A 1/20/2000 SOIL GRID 0.00 0.25 | | |
| HD88A7BAA 88A 1/20/2000 SOIL GRID 0.25 0.50 | | |
| HD88A7CAA 88A 1/20/2000 SOIL GRID 0.50 1.00 | \neg | |

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

TABLE 3 DETECTED COMPOUNDS-UNVALIDATED SAMPLES COLLECTED 1/3/00-1/21/00

| OGDEN_ID | LOCID OR WELL ID | SAMPLED | SAMP_TYPE | SBD | SED | BWTS | BWTE | METHOD | OGDEN_ANALYTE | PDA |
|----------|------------------|-----------|-------------|--------|--------|-------|-------|--------|----------------------------|-----|
| W44SSA | MW-44 | 1/3/2000 | GROUNDWATER | 123.00 | 133.00 | -5.13 | 4.87 | 8330N | 4-AMINO-2,6-DINITROTOLUENE | |
| G74MAA | MW-74 | 1/18/2000 | PROFILE | 105.00 | 105.00 | 10.00 | 10.00 | 8330N | 3-NITROTOLUENE | NO |
| G74MAA | MW-74 | 1/18/2000 | PROFILE | 105.00 | 105.00 | 10.00 | 10.00 | 8330N | NITROGLYCERIN | NO |
| G74MBA | MW-74 | 1/18/2000 | PROFILE | 115.00 | 115.00 | 20.00 | 20.00 | 8330N | PENTAERYTHRITOL TETRANITR | NO |
| G74MHA | MW-74 | 1/19/2000 | PROFILE | 175.00 | 175.00 | 80.00 | 80.00 | 8330N | NITROGLYCERIN | 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

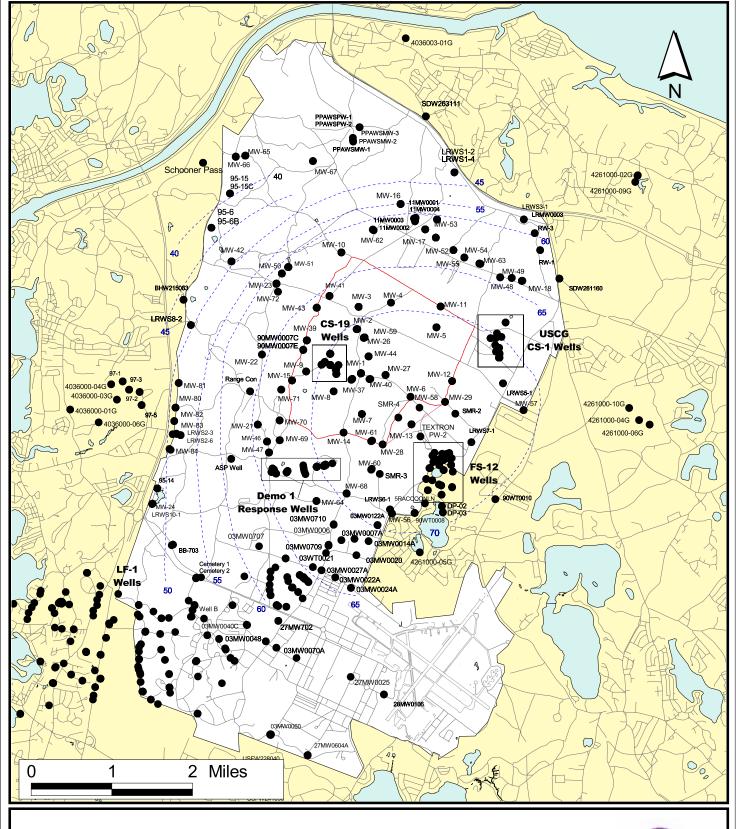
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS

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



December 16, 1999 DRAFT

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

