

**WEEKLY PROGRESS UPDATE  
FOR OCTOBER 11 - OCTOBER 15, 1999**

**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 for October 11 to October 15, 1999.

**1. SUMMARY OF ACTIONS TAKEN**

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

| <b>Table 1. Drilling progress as of October 15, 1999</b> |                               |                             |                                 |  |
|--|-------------------------------|-----------------------------|---------------------------------|--|
| <b>Boring Number</b>                                     | <b>Purpose of Boring/Well</b> | <b>Total Depth (ft bgs)</b> | <b>Saturated Depth (ft bwt)</b> | <b>Completed Well Screens (ft bgs)</b> |
| MW-70  | Gun and Mortar well (MP-4)    | 280                         | 153                             | 132-142<br>257-267                     |
| MW-48  | LRWS-3 far field well         | 337                         | 236                             |  |
| MW-49  | LRWS-3 far field well         | 317                         | 246                             |  |
| bgs = below ground surface<br>bwt = below water table    |                               |                             |                                 |  |

Samples collected during the reporting period are summarized in Table 2. Groundwater sampling continued for the second round of supplemental IRP wells, the second round of the base water supply wells, and the first round of the newly installed wells. Split samples were collected from AFCEE during their sampling of residential wells in the Arnold Road / Raccoon Lane / Old Snake Pond Road neighborhood. Groundwater profile samples were collected from MW-48 and MW-49; locations and drilling status for these wells are indicated in Table 1. Soil samples were collected from the soil borings at the steel-lined pit, and from three grids at GP-16 installed to compare results from the old-style and new-style grid arrangements.

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

- Ogden updated on the status of field activities which included: the demo 1 response wells installation will commence next week; MW-49 (LRWS-3) contacted bedrock and will be ready for screen selection; soil borings at the steel lined pit will commence; soil grids at GP-16 will be collected; residential well sampling at Raccoon Lane and Snake Pond Road were collected on Tuesday; groundwater sampling for Phase I round 3 and newly installed wells continues; and sampling of water supply wells round 2 is ongoing. There was a new detection of RDX at MW-37M2. Ogden stated that the profile results from both MW-37 and MW-40 did not have RDX detected. The results at MW-37 and -40 will need to be incorporated in the Impact Area Response Plan.
- Tetra Tech updated the status of their field activities. They are developing workplans and evaluating subcontractors for the Munitions Survey. There was a discussion of the water bodies selected for the survey; EPA expects to provide a letter Friday regarding these locations.
- The EPA stated that they would send comments on the revised soil sampling plan for VOCs via e-mail.

- Ogden requested that there be a meeting between the EPA, DEP, the Guard, and Ogden to discuss PEP issues. It was agreed that the easy questions will be e-mailed to EPA before the meeting. The meeting was tentatively scheduled for Monday morning via conference call (changed on Friday to 10/21).
- The status of the J3 Range Response Plan was discussed. The Guard stated that according to the groundwater model, the explosive detections in that area are being captured by the FS-12 treatment system and that Textron should do this investigation. EPA stated that the Guard should not wait for Textron's investigation to determine the extent of the contamination. EPA requested maps of forward tracks of DP-8 and DP-9; a figure is needed showing vertical position of the RDX with respect to the wells in that area; the Guard should determine if there is a water supply well on Camp Good News; and the ND results for the other drive point split samples upgradient of Raccoon Lane should be mapped.
- A 1-page handout was distributed showing the update of document status. EPA stated that some of these documents have already been verbally approved in previous Tech meetings. The Guard requested that all approvals be in writing. EPA stated that they would e-mail the approval of the APC pile sampling plan. The Guard will send a revised UXO Detonation Sampling Plan to the agencies for approval.
- The Guard stated that explosives were detected in soil samples from the UXO detonation craters at one of the J range locations and one of the emergency open detonation locations at Demo 2. EPA requested the concentrations. Ogden stated that the concentrations had not been received yet and that they would inform EPA as soon as they are available. Ogden stated that the change pages for the Gun and Mortar FSP will not be available until Monday.
- EPA requested that the J Range sampling plan should include some DU sampling. The Guard suggested that it be done as part of the munitions survey of the J Ranges. EPA suggested that one of the berms on J-1 be knocked down and DU sampling performed. The Guard would like to discuss this at the meeting between Tetra Tech, the Guard, and EPA next week.
- The location of the J Well far field well was discussed. EPA requested at a previous meeting that the well be located as close to the property line as possible to insure the well is down gradient of the abandoned fuel pipeline. Ogden informed the EPA that there are underground utilities located on the south side of Old Greenway Road and that the location of the pipeline was not marked. Ogden will further investigate the location of the pipeline before locating the well.
- EPA asked on the status of the fire break work. The Guard stated that they need to look into it.
- The Guard handed out a UXO disposition table for review.
- Ogden handed out a 1 page map showing the groundwater contours from the July water level measurement round.
- EPA asked about the status of the 95-14 groundwater results. Ogden stated that the analysis is on a standard turn around time (4 weeks).

## 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 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:

- A quality assurance profile sample from MW-70, and a quality assurance groundwater sample both had detections of PETN, which were not verified with the PDA spectra.
- The groundwater sample from monitoring well MW-37M2 had a detection of RDX, which was verified with the PDA spectra. This was the first round of sampling for this well.
- The groundwater sample from 58MW0002 (CS-19) had detections of RDX, HMX, 2-amino-4,6-dinitrotoluene, and 4-amino-2,6-dinitrotoluene, which were verified with the PDA spectra. These explosives were detected in previous sampling rounds.
- The groundwater sample from 58MW0006E (CS-19) had a detection of RDX, which was verified with the PDA spectra. This explosive was detected in this well in previous sampling rounds.
- The groundwater sample from 58MW0009E (CS-19) had detections of RDX, HMX, and 4-amino-2,6-dinitrotoluene, which were verified with the PDA spectra. These explosives were detected in previous sampling rounds.
- The groundwater sample from 90MW0003 (FS-12) had detections of nitroglycerin, 4-nitrotoluene, 3-nitrotoluene, 2,6-dinitrotoluene, 1,3,5-trinitrobenzene. None of these explosive detections were verified with the PDA spectra.
- The groundwater sample from 90WT0019 (FS-12) had detections of 1,3,5-trinitrobenzene, 3-nitrotoluene, 4-nitrotoluene, and tetryl. None of these explosive detections were verified with the PDA spectra.
- The groundwater sample from 90MW0022 (FS-12) had a detection of RDX, which was verified with the PDA spectra. This explosive was detected during previous sampling rounds.
- The groundwater sample from 90MW0034 (FS-12) had a detection of 2-nitrotoluene, which was not verified with the PDA spectra.
- Groundwater samples from LRWS 1-4 and RW-1 had detections of PETN, which were not verified with the PDA spectra.
- Groundwater profile samples from MW-48 (LRWS-3 far field well) had detections of acetone (1 interval) and chloroform (6 intervals).
- Groundwater profile samples from MW-49 (LRWS-3 far field well) had detections of chloroform (20 intervals), chloromethane (1 interval), toluene (2 intervals), MEK (1 interval), acetone (1 interval), 2,4-dinitrotoluene (1 interval), and nitroglycerin (1 interval). Neither of the explosives detected was verified by the PDA spectra.
- Both the discrete and composite soil samples from the northwest Demo-2 UXO detonation crater had detections of RDX and HMX, which were verified with the PDA spectra.
- The soil sample from HDJRANGED (J Range UXO detonation crater D) had a detection of tetryl, which was verified with the PDA spectra.

**3. DELIVERABLES SUBMITTED**

|  |          |
|--|----------|
| Monthly Progress Report #30 (September 1999) | 10/10/99 |
| Weekly Progress Update for Oct 4-Oct 8 1999  | 10/13/99 |

**4. SCHEDULED ACTIONS**

Scheduled actions for the week of October 18 include completion of drilling at MW-48 and MW-49; commence drilling on MW-49b and MW-56 (J well far field monitoring wells); development and sampling of newly installed wells; and continued ground water sampling of second round of supplemental IRP wells and the second round of the base water supply wells.

TABLE 2  
 SAMPLING PROGRESS  
 10/11-10/15

| OGDEN_ID    | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD  | SED  | BWTS   | BWTE   |
|-------------|------------------|--------------|-------------|------|------|--------|--------|
| G48DKT      | FIELDQC          | 10/12/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G48DME      | FIELDQC          | 10/13/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G48DSE      | FIELDQC          | 10/14/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G48DST      | FIELDQC          | 10/14/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G48DXE      | FIELDQC          | 10/15/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G48DXT      | FIELDQC          | 10/15/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G49DME      | FIELDQC          | 10/12/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| G49DQT      | FIELDQC          | 10/13/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| W82SST      | FIELDQC          | 10/12/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| WT711E      | FIELDQC          | 10/11/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| WT711T      | FIELDQC          | 10/11/1999   | FIELDQC     | 0.00 | 0.00 |        |        |
| 03MW0006    | 03MW0006         | 10/15/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| 03MW0022A   | 03MW0022A        | 10/14/1999   | GROUNDWATER |      |      | 71.00  | 76.00  |
| 03MW0024A   | 03MW0024A        | 10/14/1999   | GROUNDWATER |      |      | 70.00  | 75.00  |
| 03MW0027A   | 03MW0027A        | 10/14/1999   | GROUNDWATER |      |      | 64.00  | 69.00  |
| 03MW0048    | 03MW0048         | 10/15/1999   | GROUNDWATER |      |      | 52.00  | 57.00  |
| 03MW0070A   | 03MW0070A        | 10/14/1999   | GROUNDWATER |      |      | 0.00   | 0.00   |
| 03MW0707    | 03MW0707         | 10/14/1999   | GROUNDWATER |      |      | 4.00   | 14.00  |
| 03MW0709    | 03MW0709         | 10/14/1999   | GROUNDWATER |      |      | 7.00   | 17.00  |
| 03MW0709D   | 03MW0709         | 10/14/1999   | GROUNDWATER |      |      | 7.00   | 17.00  |
| 15MW0002    | 15MW0002         | 10/11/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| 15MW0004    | 15MW0004         | 10/11/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| 15MW0008    | 15MW0008         | 10/11/1999   | GROUNDWATER |      |      | 0.00   | 0.00   |
| 15MW0009    | 15MW0009         | 10/11/1999   | GROUNDWATER |      |      | 0.00   | 0.00   |
| 15WT0007    | 15WT0007         | 10/12/1999   | GROUNDWATER |      |      | 0.00   | 0.00   |
| 27MW0012A   | 27MW0012A        | 10/15/1999   | GROUNDWATER |      |      | 69.00  | 74.00  |
| 27MW0017A   | 27MW0017A        | 10/15/1999   | GROUNDWATER |      |      | 65.00  | 70.00  |
| 27MW0020Z   | 27MW0020Z        | 10/15/1999   | GROUNDWATER |      |      | 98.00  | 103.00 |
| 27MW702     | 27MW702          | 10/15/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| CEMETERY1   | CEMETERY1        | 10/14/1999   | GROUNDWATER |      |      |        |        |
| CEMETERY2   | CEMETERY2        | 10/14/1999   | GROUNDWATER |      |      |        |        |
| CEMETERY2D  | CEMETERY2D       | 10/14/1999   | GROUNDWATER |      |      |        |        |
| RANGECON    | RANGECON         | 10/14/1999   | GROUNDWATER |      |      |        |        |
| TEXTRON-PW1 | TEXTRON-PW1      | 10/15/1999   | GROUNDWATER |      |      |        |        |
| W81DDA      | MW-81            | 10/12/1999   | GROUNDWATER |      |      | 155.00 | 165.00 |
| W81M1A      | MW-81            | 10/13/1999   | GROUNDWATER |      |      | 99.00  | 109.00 |
| W81M2A      | MW-81            | 10/12/1999   | GROUNDWATER |      |      | 54.00  | 64.00  |
| W81M3A      | MW-81            | 10/13/1999   | GROUNDWATER |      |      | 24.00  | 29.00  |
| W81SSA      | MW-81            | 10/12/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| W82DDA      | MW-82            | 10/13/1999   | GROUNDWATER |      |      | 96.00  | 106.00 |
| W82M1A      | MW-82            | 10/13/1999   | GROUNDWATER |      |      | 75.00  | 85.00  |
| W82M2A      | MW-82            | 10/12/1999   | GROUNDWATER |      |      | 49.00  | 59.00  |
| W82M3A      | MW-82            | 10/12/1999   | GROUNDWATER |      |      | 25.00  | 35.00  |
| W82SSA      | MW-82            | 10/12/1999   | GROUNDWATER |      |      | 0.00   | 10.00  |
| W83DDA      | MW-83            | 10/12/1999   | GROUNDWATER |      |      | 105.00 | 115.00 |
| W83M1A      | MW-83            | 10/13/1999   | GROUNDWATER |      |      | 73.00  | 83.00  |
| W83M2A      | MW-83            | 10/13/1999   | GROUNDWATER |      |      | 48.00  | 58.00  |
| W83M3A      | MW-83            | 10/13/1999   | GROUNDWATER |      |      | 23.00  | 33.00  |

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  
 10/11-10/15

| OGDEN_ID   | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD    | SED    | BWTS   | BWTE   |
|------------|------------------|--------------|-------------|--------|--------|--------|--------|
| W83SSA     | MW-83            | 10/14/1999   | GROUNDWATER |        |        | 0.00   | 10.00  |
| WF13XA     | 90WT0013         | 10/11/1999   | GROUNDWATER |        |        | 2.00   | 12.00  |
| WT04XA     | 90WT0004         | 10/11/1999   | GROUNDWATER |        |        | 3.00   | 13.00  |
| WT711A     | 15WT0711         | 10/11/1999   | GROUNDWATER |        |        | 5.00   | 15.00  |
| WT712A     | 15WT0712         | 10/11/1999   | GROUNDWATER |        |        | 5.00   | 15.00  |
| WT712D     | 15WT0712         | 10/11/1999   | GROUNDWATER |        |        | 0.00   | 0.00   |
| GAC4812    | GAC WATER        | 10/12/1999   | IDW         | 0.00   | 0.00   |        |        |
| GAC4813    | GAC WATER        | 10/13/1999   | IDW         | 0.00   | 0.00   |        |        |
| GAC4814    | GAC WATER        | 10/14/1999   | IDW         | 0.00   | 0.00   |        |        |
| GAC4912    | GAC WATER        | 10/12/1999   | IDW         | 0.00   | 0.00   |        |        |
| GAC4913    | GAC WATER        | 10/13/1999   | IDW         | 0.00   | 0.00   |        |        |
| RS0003ARND | 3 Arnold Rd.     | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0003RAC  | 3 Raccoon Lane   | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0004OSNK | 4 Old Snake Pon  | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0006OSNK | 6 Old Snake Pon  | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0011OSNK | 11 Old Snake Po  | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0012OSNK | 12 Old Snake Po  | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0014ARND | 14 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0015ARND | 15 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0018OSNK | 18 Old Snake Po  | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0024ARND | 24 Arnold Rd.    | 10/13/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0033ARND | 33 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0034ARND | 34 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0036ARND | 36 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0039ARND | 39 Arnold Rd.    | 10/12/1999   | OTHER       | 0.00   | 0.00   |        |        |
| RS0040ARND | 40 Arnold Rd.    | 10/15/1999   | OTHER       | 0.00   | 0.00   |        |        |
| G48DHA     | MW-48            | 10/12/1999   | PROFILE     | 170.00 | 175.00 | 68.50  | 73.50  |
| G48DHD     | MW-48            | 10/12/1999   | PROFILE     | 170.00 | 175.00 | 68.50  | 73.50  |
| G48DIA     | MW-48            | 10/12/1999   | PROFILE     | 180.00 | 185.00 | 78.50  | 83.50  |
| G48DJA     | MW-48            | 10/12/1999   | PROFILE     | 190.00 | 195.00 | 88.50  | 93.50  |
| G48DKA     | MW-48            | 10/12/1999   | PROFILE     | 200.00 | 205.00 | 98.50  | 103.50 |
| G48DLA     | MW-48            | 10/12/1999   | PROFILE     | 210.00 | 215.00 | 108.50 | 113.50 |
| G48DMA     | MW-48            | 10/13/1999   | PROFILE     | 220.00 | 225.00 | 118.50 | 123.50 |
| G48DNA     | MW-48            | 10/13/1999   | PROFILE     | 230.00 | 235.00 | 128.50 | 133.50 |
| G48DOA     | MW-48            | 10/13/1999   | PROFILE     | 240.00 | 245.00 | 138.50 | 143.50 |
| G48DPA     | MW-48            | 10/13/1999   | PROFILE     | 250.00 | 255.00 | 148.50 | 153.50 |
| G48DQA     | MW-48            | 10/13/1999   | PROFILE     | 260.00 | 265.00 | 158.50 | 163.50 |
| G48DRA     | MW-48            | 10/13/1999   | PROFILE     | 270.00 | 275.00 | 168.50 | 173.50 |
| G48DSA     | MW-48            | 10/14/1999   | PROFILE     | 280.00 | 285.00 | 178.50 | 183.50 |
| G48DSD     | MW-48            | 10/14/1999   | PROFILE     | 280.00 | 285.00 | 178.50 | 183.50 |
| G48DTA     | MW-48            | 10/14/1999   | PROFILE     | 290.00 | 295.00 | 188.50 | 193.50 |
| G48DUA     | MW-48            | 10/14/1999   | PROFILE     | 300.00 | 305.00 | 198.50 | 203.50 |
| G48DVA     | MW-48            | 10/14/1999   | PROFILE     | 310.00 | 315.00 | 208.50 | 213.50 |
| G48DWA     | MW-48            | 10/14/1999   | PROFILE     | 320.00 | 325.00 | 218.50 | 223.50 |
| G48DXA     | MW-48            | 10/15/1999   | PROFILE     | 330.00 | 335.00 | 228.50 | 233.50 |
| G49DMA     | MW-49            | 10/12/1999   | PROFILE     | 190.00 | 195.00 | 119.50 | 124.50 |
| G49DNA     | MW-49            | 10/12/1999   | PROFILE     | 200.00 | 205.00 | 129.50 | 134.50 |
| G49DOA     | MW-49            | 10/12/1999   | PROFILE     | 210.00 | 215.00 | 139.50 | 144.50 |
| G49DPA     | MW-49            | 10/12/1999   | PROFILE     | 220.00 | 225.00 | 149.50 | 154.50 |

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 2  
 SAMPLING PROGRESS  
 10/11-10/15

| OGDEN_ID  | LOCID OR WELL ID | DATE SAMPLED | SAMPLE TYPE | SBD    | SED    | BWTS   | BWTE   |
|-----------|------------------|--------------|-------------|--------|--------|--------|--------|
| G49DQA    | MW-49            | 10/12/1999   | PROFILE     | 230.00 | 235.00 | 159.50 | 164.50 |
| G49DRA    | MW-49            | 10/13/1999   | PROFILE     | 240.00 | 245.00 | 169.50 | 174.50 |
| G49DRD    | MW-49            | 10/13/1999   | PROFILE     | 240.00 | 245.00 | 169.50 | 174.50 |
| G49DSA    | MW-49            | 10/13/1999   | PROFILE     | 250.00 | 255.00 | 179.50 | 184.50 |
| G49DTA    | MW-49            | 10/13/1999   | PROFILE     | 260.00 | 265.00 | 189.50 | 194.50 |
| G49DUA    | MW-49            | 10/13/1999   | PROFILE     | 270.00 | 275.00 | 199.50 | 204.50 |
| G49DVA    | MW-49            | 10/13/1999   | PROFILE     | 280.00 | 285.00 | 209.50 | 214.50 |
| G49DWA    | MW-49            | 10/13/1999   | PROFILE     | 290.00 | 295.00 | 219.50 | 224.50 |
| G49DXA    | MW-49            | 10/13/1999   | PROFILE     | 300.00 | 305.00 | 229.50 | 234.50 |
| G49DYA    | MW-49            | 10/14/1999   | PROFILE     | 307.00 | 312.00 | 236.50 | 241.50 |
| AC5CA1AAA | AC5CA1AAA        | 10/14/1999   | SOIL GRID   | 0.25   | 0.35   |        |        |
| AC5CA1BAA | AC5CA1BAA        | 10/14/1999   | SOIL GRID   | 0.35   | 0.40   |        |        |
| AC5CA1CAA | AC5CA1CAA        | 10/14/1999   | SOIL GRID   | 0.40   | 0.50   |        |        |
| AC5DA1AAA | AC5DA1AAA        | 10/14/1999   | SOIL GRID   | 0.25   | 0.35   |        |        |
| AC5DA1BAA | AC5DA1BAA        | 10/14/1999   | SOIL GRID   | 0.35   | 0.40   |        |        |
| AC5DA1CAA | AC5DA1CAA        | 10/14/1999   | SOIL GRID   | 0.40   | 0.50   |        |        |
| HCGHM1AAA | HCGHM1AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HCGHM1BAA | HCGHM1BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HCGHO1AAA | HCGHO1AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HCGHO1BAA | HCGHO1BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HCGHP1AAA | HCGHP1AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HCGHP1BAA | HCGHP1BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHO1AAA | HDGHO1AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO1BAA | HDGHO1BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHO2AAA | HDGHO2AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO2BAA | HDGHO2BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHO3AAA | HDGHO3AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO3BAA | HDGHO3BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHO4AAA | HDGHO4AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO4BAA | HDGHO4BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHO5AAA | HDGHO5AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO5AAD | HDGHO5AA         | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHO5BAA | HDGHO5BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHP1AAA | HDGHP1AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHP1BAA | HDGHP1BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHP2AAA | HDGHP2AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHP2BAA | HDGHP2BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHP3AAA | HDGHP3AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHP3BAA | HDGHP3BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHP4AAA | HDGHP4AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHP4BAA | HDGHP4BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |
| HDGHP5AAA | HDGHP5AAA        | 10/15/1999   | SOIL GRID   | 0.00   | 0.50   |        |        |
| HDGHP5BAA | HDGHP5BAA        | 10/15/1999   | SOIL GRID   | 1.50   | 2.00   |        |        |

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 3  
DETECTED COMPOUNDS-UNVALIDATED  
SAMPLES COLLECTED 9/27/99-10/15/99

| OGDEN_ID | LOCID OR WELL ID | SAMPLED   | SAMP_TYPE   | SBD    | SED    | BWTS   | BWTE   | METHOD | OGDEN_ANALYTE                | PDA |
|----------|------------------|-----------|-------------|--------|--------|--------|--------|--------|------------------------------|-----|
| G70DME   | FIELDQC          | 10/6/1999 | FIELDQC     | 0.00   | 0.00   |        |        | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| WL28XE   | FIELDQC          | 10/6/1999 | FIELDQC     | 0.00   | 0.00   |        |        | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| W37M2A   | MW-37            | 9/29/1999 | GROUNDWATER |        |        | 28.00  | 38.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WC2XXA   | 58MW0002         | 10/8/1999 | GROUNDWATER |        |        | 25.00  | 30.00  | 8330N  | 2-AMINO-4,6-DINITROTOLUENE   | YES |
| WC2XXA   | 58MW0002         | 10/8/1999 | GROUNDWATER |        |        | 25.00  | 30.00  | 8330N  | 4-AMINO-2,6-DINITROTOLUENE   | YES |
| WC2XXA   | 58MW0002         | 10/8/1999 | GROUNDWATER |        |        | 25.00  | 30.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WC2XXA   | 58MW0002         | 10/8/1999 | GROUNDWATER |        |        | 25.00  | 30.00  | 8330N  | OCTAHYDRO-1,3,5,7-TETRANITR  | YES |
| WC6EXA   | 58MW0006E        | 10/8/1999 | GROUNDWATER |        |        | 0.00   | 10.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WC9EXA   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | 4-AMINO-2,6-DINITROTOLUENE   | YES |
| WC9EXA   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WC9EXA   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | OCTAHYDRO-1,3,5,7-TETRANITR  | YES |
| WC9EXD   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | 4-AMINO-2,6-DINITROTOLUENE   | YES |
| WC9EXD   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WC9EXD   | 58MW0009E        | 9/28/1999 | GROUNDWATER |        |        | 21.00  | 26.00  | 8330N  | OCTAHYDRO-1,3,5,7-TETRANITR  | YES |
| WF03MA   | 90MW0003         | 10/7/1999 | GROUNDWATER |        |        | 60.00  | 65.00  | 8330N  | 1,3,5-TRINITROBENZENE        | NO  |
| WF03MA   | 90MW0003         | 10/7/1999 | GROUNDWATER |        |        | 60.00  | 65.00  | 8330N  | 2,6-DINITROTOLUENE           | NO  |
| WF03MA   | 90MW0003         | 10/7/1999 | GROUNDWATER |        |        | 60.00  | 65.00  | 8330N  | 3-NITROTOLUENE               | NO  |
| WF03MA   | 90MW0003         | 10/7/1999 | GROUNDWATER |        |        | 60.00  | 65.00  | 8330N  | 4-NITROTOLUENE               | NO  |
| WF03MA   | 90MW0003         | 10/7/1999 | GROUNDWATER |        |        | 60.00  | 65.00  | 8330N  | NITROGLYCERIN                | NO  |
| WF19XA   | 90WT0019         | 10/7/1999 | GROUNDWATER |        |        | 94.00  | 104.00 | 8330N  | 1,3,5-TRINITROBENZENE        | NO  |
| WF19XA   | 90WT0019         | 10/7/1999 | GROUNDWATER |        |        | 94.00  | 104.00 | 8330N  | 3-NITROTOLUENE               | NO  |
| WF19XA   | 90WT0019         | 10/7/1999 | GROUNDWATER |        |        | 94.00  | 104.00 | 8330N  | 4-NITROTOLUENE               | NO  |
| WF19XA   | 90WT0019         | 10/7/1999 | GROUNDWATER |        |        | 94.00  | 104.00 | 8330N  | TETRYL                       | NO  |
| WF22XA   | 90MW0022         | 9/30/1999 | GROUNDWATER |        |        | 80.00  | 85.00  | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| WF34XA   | 90MW0034         | 10/7/1999 | GROUNDWATER |        |        | 94.00  | 99.00  | 8330N  | 2-NITROTOLUENE               | NO  |
| WL14XA   | LRWS1-4          | 10/6/1999 | GROUNDWATER |        |        | 107.00 | 117.00 | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| WRW1XA   | RW-1             | 10/6/1999 | GROUNDWATER |        |        | 0.00   | 9.00   | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| WRW1XD   | RW-1             | 10/6/1999 | GROUNDWATER |        |        | 0.00   | 9.00   | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| G48DAA   | MW-48            | 10/8/1999 | PROFILE     | 100.00 | 105.00 | -1.50  | 3.50   | OC21V  | ACETONE                      |     |
| G48DAA   | MW-48            | 10/8/1999 | PROFILE     | 100.00 | 105.00 | -1.50  | 3.50   | OC21V  | CHLOROFORM                   |     |
| G48DBA   | MW-48            | 10/8/1999 | PROFILE     | 110.00 | 115.00 | 8.50   | 13.50  | OC21V  | CHLOROFORM                   |     |
| G48DCA   | MW-48            | 10/8/1999 | PROFILE     | 120.00 | 125.00 | 18.50  | 23.50  | OC21V  | CHLOROFORM                   |     |
| G48DDA   | MW-48            | 10/8/1999 | PROFILE     | 130.00 | 135.00 | 28.50  | 33.50  | OC21V  | CHLOROFORM                   |     |

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 9/27/99-10/15/99

| OGDEN_ID  | LOCID OR WELL ID | SAMPLED    | SAMP_TYPE   | SBD    | SED    | BWTS   | BWTE   | METHOD | OGDEN_ANALYTE                | PDA |
|-----------|------------------|------------|-------------|--------|--------|--------|--------|--------|------------------------------|-----|
| G48DEA    | MW-48            | 10/8/1999  | PROFILE     | 140.00 | 145.00 | 38.50  | 43.50  | OC21V  | CHLOROFORM                   |     |
| G48DFA    | MW-48            | 10/8/1999  | PROFILE     | 150.00 | 155.00 | 48.50  | 53.50  | OC21V  | CHLOROFORM                   |     |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | 8330N  | 2,4-DINITROTOLUENE           | NO  |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | 8330N  | NITROGLYCERIN                | NO  |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | OC21V  | ACETONE                      |     |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | OC21V  | CHLOROFORM                   |     |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | OC21V  | METHYL ETHYL KETONE (2-BUT.  |     |
| G49DAA    | MW-49            | 10/7/1999  | PROFILE     | 71.00  | 74.00  | 0.50   | 3.50   | OC21V  | TOLUENE                      |     |
| G49DBA    | MW-49            | 10/7/1999  | PROFILE     | 80.00  | 85.00  | 9.50   | 14.50  | OC21V  | CHLOROFORM                   |     |
| G49DCA    | MW-49            | 10/7/1999  | PROFILE     | 90.00  | 95.00  | 19.50  | 24.50  | OC21V  | CHLOROFORM                   |     |
| G49DDA    | MW-49            | 10/7/1999  | PROFILE     | 100.00 | 105.00 | 29.50  | 34.50  | OC21V  | CHLOROFORM                   |     |
| G49DEA    | MW-49            | 10/7/1999  | PROFILE     | 110.00 | 115.00 | 39.50  | 44.50  | OC21V  | CHLOROFORM                   |     |
| G49DFA    | MW-49            | 10/7/1999  | PROFILE     | 120.00 | 125.00 | 49.50  | 54.50  | OC21V  | CHLOROFORM                   |     |
| G49DGA    | MW-49            | 10/7/1999  | PROFILE     | 130.00 | 135.00 | 59.50  | 64.50  | OC21V  | CHLOROFORM                   |     |
| G49DKA    | MW-49            | 10/8/1999  | PROFILE     | 170.00 | 175.00 | 99.50  | 104.50 | OC21V  | CHLOROFORM                   |     |
| G49DMA    | MW-49            | 10/12/1999 | PROFILE     | 190.00 | 195.00 | 119.50 | 124.50 | OC21V  | CHLOROFORM                   |     |
| G49DNA    | MW-49            | 10/12/1999 | PROFILE     | 200.00 | 205.00 | 129.50 | 134.50 | OC21V  | CHLOROFORM                   |     |
| G49DOA    | MW-49            | 10/12/1999 | PROFILE     | 210.00 | 215.00 | 139.50 | 144.50 | OC21V  | CHLOROFORM                   |     |
| G49DOA    | MW-49            | 10/12/1999 | PROFILE     | 210.00 | 215.00 | 139.50 | 144.50 | OC21V  | TOLUENE                      |     |
| G49DPA    | MW-49            | 10/12/1999 | PROFILE     | 220.00 | 225.00 | 149.50 | 154.50 | OC21V  | CHLOROFORM                   |     |
| G49DQA    | MW-49            | 10/12/1999 | PROFILE     | 230.00 | 235.00 | 159.50 | 164.50 | OC21V  | CHLOROFORM                   |     |
| G49DRA    | MW-49            | 10/13/1999 | PROFILE     | 240.00 | 245.00 | 169.50 | 174.50 | OC21V  | CHLOROFORM                   |     |
| G49DSA    | MW-49            | 10/13/1999 | PROFILE     | 250.00 | 255.00 | 179.50 | 184.50 | OC21V  | CHLOROFORM                   |     |
| G49DSA    | MW-49            | 10/13/1999 | PROFILE     | 250.00 | 255.00 | 179.50 | 184.50 | OC21V  | CHLOROMETHANE                |     |
| G49DTA    | MW-49            | 10/13/1999 | PROFILE     | 260.00 | 265.00 | 189.50 | 194.50 | OC21V  | CHLOROFORM                   |     |
| G49DUA    | MW-49            | 10/13/1999 | PROFILE     | 270.00 | 275.00 | 199.50 | 204.50 | OC21V  | CHLOROFORM                   |     |
| G49DVA    | MW-49            | 10/13/1999 | PROFILE     | 280.00 | 285.00 | 209.50 | 214.50 | OC21V  | CHLOROFORM                   |     |
| G49DWA    | MW-49            | 10/13/1999 | PROFILE     | 290.00 | 295.00 | 219.50 | 224.50 | OC21V  | CHLOROFORM                   |     |
| G49DXA    | MW-49            | 10/13/1999 | PROFILE     | 300.00 | 305.00 | 229.50 | 234.50 | OC21V  | CHLOROFORM                   |     |
| G70DJD    | MW-70            | 10/5/1999  | PROFILE     | 220.00 | 220.00 | 93.00  | 93.00  | 8330N  | PENTAERYTHRITOL TETRANITR    | NO  |
| HCDEMO2NW | HCDEMO2NW        | 10/4/1999  | SOIL BORING |        |        |        |        | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | YES |
| HCDEMO2NW | HCDEMO2NW        | 10/4/1999  | SOIL BORING |        |        |        |        | 8330N  | OCTAHYDRO-1,3,5,7-TETRANITR  | YES |
| HDDEMO2NW | HDDEMO2NW        | 10/4/1999  | SOIL BORING |        |        |        |        | 8330N  | HEXAHYDRO-1,3,5-TRINITRO-1,3 | 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

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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 9/27/99-10/15/99

| OGDEN_ID  | LOCID OR WELL ID | SAMPLED   | SAMP_TYPE   | SBD  | SED  | BWTS | BWTE | METHOD | OGDEN_ANALYTE               | PDA |
|-----------|------------------|-----------|-------------|------|------|------|------|--------|-----------------------------|-----|
| HDDEMO2NW | HDDEMO2NW        | 10/4/1999 | SOIL BORING |      |      |      |      | 8330N  | OCTAHYDRO-1,3,5,7-TETRANITR | YES |
| HDJRANGED | HDJRANGED        | 9/30/1999 | SOIL BORING | 0.00 | 3.00 |      |      | 8330N  | TETRYL                      | YES |

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.

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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