WEEKLY PROGRESS UPDATE FOR NOVEMBER 1 – NOVEMBER 5, 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 November 1 to November 5, 1999.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of November 5 is summarized in Table 1.

	Table 1. Drilling progress as of November 5, 1999									
Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)						
MW-57	Sandwich far field	327	240							
MW-79	Demo 1 response well	200	110	89-99 116-126 156-166						
	w ground surface w 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 base water supply wells, the second round of the off-base water supply wells, and the third round of priority group 1 far field wells. Groundwater profile samples were collected from MW-57 and MW-79; locations and drilling status for these wells are indicated in Table 1. Soil samples were collected from the potential RDX source areas at area 3 and 11, in accordance with the Phase II (a) Workplan. Post excavation soil samples were collected from Demo 2 and the J Range where the UXO detonation was conducted on October 2.

The Guard, EPA, and MADEP had a meeting on November 4 to discuss technical issues, including the following:

- Jacobs Engineering gave an update on the future CS-19 investigation. The UXO survey will commence on November 18th. Surface soil sampling will commence on December 6th. They are awaiting funding for the deep soil sampling and well installation. Ogden stated that they received the agency comments on the Trenches FSP and will include the cleared area and the bunker in the investigation. UXO avoidance will be performed the week of December 6th. Ogden will check with the UXO contractor about a safety zone while performing avoidance work_since Jacobs is scheduled to be sampling in the vicinity at that time.
- Screen depths were selected for two locations. The draft boring log and profile data for MW-56 was faxed on Tuesday and the draft boring log and profile data for MW-57 was distributed at the meeting. It was agreed to set the remaining three screens for MW-56 at 60' to 70' bwt, 85' to 95' bwt, and 105' to 115' bwt. Tetrachloroethene was detected in the preliminary results for shallow profile samples from MW-57. It was agreed to set the first two screens in MW-57 at the water table and at 30' to 40' bwt. The EPA requested a backward particle track from the affected profile samples at MW-57, and a travel time for the previous particle track from MW-18M1.

- The status of the detonation craters at Demo 2 and the J Range were discussed. Approximately 55 gallons of soil has been excavated and containerized at Demo 2 and approximately 1 gallon of soil at the J Range D crater was excavated and containerized. The soil is awaiting characterization and off site disposal. Ogden will collect post excavation samples from these locations (done 11/5).
- The Demo 2 groundwater in relation to the LRWS 1 ZOC was discussed. It did not appear that the ZOC for LRWS 1 intersected Demo 2. Ogden will identify the ZOC that passes closest to Demo 2.
- A six-page handout of the forward and reverse particle tracks of DP-8 and DP-9 was provided. The data for DP-8 suggest a fairly large source area for RDX extending from near the center of the J-3 Range to the south to Greenway Road. An alternative explanation would be that a small source area existed along Greenway Road, and the resulting shallow RDX detection at DP-8 was inadvertently dragged down by the drilling process. The EPA asked what the Guard was proposing to do for these detections. The Guard stated that they would like to wait for Textron's response because the detections back track to the J-3 Range and that the groundwater is currently being captured by the FS-12 treatment system. The Guard stated that the draft letter to Textron will be ready for Agency review tomorrow (sent 11/5). EPA asked for a cross section of this area to show all the well screen depths. The Guard distributed a 1-page figure of a cross section that had been done previously.
- The Guard's request to reduce the analytes for the third round of Phase IIa wells was discussed. The EPA will review and have an answer by Tuesday (11/9). The proposal to delay sampling these wells in order to include the perchlorate analysis was also discussed. EPA indicated that this delay is unlikely.
- Selected EPA and DEP comments to the Mortar Targets FSP, Trenches FSP, and Tech Memo 99-2 were discussed.

Mortar Targets

General Comment 2 - EPA clarified that suspected targets were observed west of Turpentine Road and north of Wheelock Road during the recent flyover. The EPA requested that the suspected targets west of Turpentine be included in the investigation and get the same level of reconnaissance detail as the other targets. Ogden stated that the reconnaissance may be performed next week when the UXO contractor is onsite, but in any case this will be added to the plan.

Specific Comment 1 - Ogden indicated that targets will be sampled as proposed if UXO clearance indicates that the 40mm rounds are inert. If these are live rounds, access for sampling would likely be denied. The Guard will provide additional information on the training with these rounds, from Range Control records.

Specific Comment 6 - EPA questioned why proposed monitoring well PMT-1 is located so close to existing monitoring well MW-9. Ogden stated that PMT-1 location was chosen to be downgradient of a majority of the targets. EPA requested that the Guard review the profile data from MW-15.

Trenches

General Comment 2 - EPA partially approved the workplan under the condition that this work provides a first phase to the requirement, with additional investigations to be included at a later date. Ogden asked what would trigger the additional investigation. EPA stated that the geophysical survey or sampling results could trigger the additional investigations.

General Comment 3 - EPA stated that the plan does not address the location of former buildings. Ogden stated that the former buildings outside the Impact Area will be included in the Phase IIb workplan or the J Range workplan. EPA agreed that this would be acceptable provided a section is added to the FSP explaining this. EPA noted that the ASR contains a 1949 map (Appendix L-3) showing building locations.

Specific Comment 4 - EPA indicated that a trench was observed during the flyover west of Turpentine Road and should be included in the investigation. Ogden agreed to include a recon of this trench next week if possible, otherwise the recon will be discussed in the workplan.

DEP asked what was BK-2 used for. The Guard stated that it could have been used to view historic targets that no longer exit in that area or it could have been used to provide a side view of the J-1 Range.

Tech Memo 99-2

The Guard will prepare responses to the EPA comments on TM 99-2 and 99-3.

- The response to comments on the Response Plan for RDX Detections was discussed briefly. There appears to be general agreement on the approach, and EPA expects to approve the plan. If a different drilling technique is going to be used then a new approval will be required. A trial of an alternative drilling method is expected at the end of November or early December, using the Sonic rig that is currently completing far field wells.
- Ogden gave a summary of the current and future field activities which include continued Sonic
 drilling on MW-57 (Sandwich far field) and MW-56 (J Well far field) later next week, Barber drilling
 on MW-79 (upgradient Demo 1 well) which will move to MW-77 (Demo 1downgradient center line
 of particle track), continued groundwater development and sampling, and soil sampling at the targets
 at MW-1 and MW-25 (explosive source area investigation).
- Ogden received the EPA comments to comment responses for the Gun and Mortar FSP; change pages will be prepared showing the additional F Range grids, and the composite sampling approach.
- Paper copies of a 11/3/99 emailed letter describing the groundwater sampling plans were distributed for agency review.
- EPA asked the Guard to check out the grid on the northern section of the Old H range which is located close to Greenway Road. EPA does not want the samples collected from road construction materials.
- The Draft KD and U Range Tech Memo was distributed for agency review.
- Ogden stated that the J-3 Wetland Tech Memo will be provided to the Agencies by next week
- Ogden stated that they are currently working on the Background Groundwater Tech Memo and the Supplement to the Interim Results Report.

2. SUMMARY OF DATA RECEIVED

Rush data are summarized in Table 3. These data are for analyses that are performed on a fast turnaround time, typically 1-5 days. Explosive analyses for monitoring wells, and explosive and VOC analyses for groundwater profile samples, are conducted in this timeframe. The rush data are not validated, but are provided as an indication of the most recent preliminary results. Table 3 summarizes only detects, and does not show samples with non-detects.

The status of the detections with respect to confirmation using Photo Diode Array (PDA) spectra is indicated in Table 3. PDA is a procedure that has been implemented for the explosive analysis, to reduce the likelihood of false positive identifications. Where the PDA status is "YES" in Table 3, the detected compound is verified as properly identified. Where the status is "NO", the identification of an explosive has been determined to be a false positive. Where the status is blank, PDA has not yet been used to evaluate the detection, or PDA is not applicable because the analyte is a VOC. Most explosive detections verified by PDA are confirmed to be present upon completion of validation. Table 3 includes the following detections:

- The groundwater samples from well 15MW0007 had a detection of PETN that was not verified with the PDA spectra.
- The groundwater samples from MW-34M1 and MW-34M2 had detections of RDX. The PDA spectra verified the detections in both wells. RDX was detected in MW-34M2 in both the February and August 1999 sample rounds. RDX was detected in MW-34M1 in the August sample round, but not in the February sample round.
- Groundwater profile samples from MW-56 (J Well far field well) had detections of chloroform (15 intervals), toluene (7 intervals), acetone (2 intervals), and picric acid (1 interval). The picric acid was not verified by PDA spectra.
- Groundwater profile samples from MW-57 (Sandwich far field well) had detections of chloroform (8 intervals), PCE (5 intervals), toluene (1 interval), 111-TCA (1 interval), bromochloromethane (1 interval), 1,3,5-Trinitrobenzene (1 interval), RDX (1 interval), nitroglycerin (1 interval), picric acid (1 interval), and 3-nitrotoluene (1 interval). None of the explosive detections were verified by the PDA spectra.
- Groundwater profile samples from MW-76 (demo 1 response well) had detections of 2,4-dinitrotoluene (1 interval), 2-nitrotoluene (1 interval), 3-nitrotoluene (2 intervals), 4-nitrotoluene (1 interval), RDX (5 intervals), nitroglycerin (6 intervals), PETN (6 intervals), picric acid (3 intervals, and HMX (3 intervals). The PDA spectra only verified the RDX and HMX detections. A duplicate profile sample had a detection of 3-nitrotoluene that was verified by PDA spectra.
- Groundwater profile samples from MW-79 (demo 1 upgradient well) had detections of PETN (3 intervals), picric acid (3 intervals), and nitroglycerin (1 interval). None of the explosive detections were verified by the PDA spectra.
- The soil samples from the APC soil grid had detections of 2-amino-4,6-dinitrotoluene in 2 intervals, RDX in 3 intervals, and HMX in 2 intervals. PDA spectra verified these detections.
- A soil sample from the supplemental sampling at the Demo 2 UXO detonation crater had a detection of RDX that was verified by PDA spectra.

3. DELIVERABLES SUBMITTED

Draft Interim Results Report	11/1/99
Weekly Progress Update (Oct 18-22)	11/3/99
Weekly Progress Update (Oct 25-29)	11/5/99

4. SCHEDULED ACTIONS

Scheduled actions for the week of November 8 include completion of drilling MW-56b (J Well far field well), start drilling at MW-77 (demo 1 response well); development and sampling of newly installed wells; continued soil sampling of the potential RDX source areas located near MW-1, MW-25, and WT-13; reconnaissance of suspected targets and trench along Turpentine Road; and reconnaissance of cleared area south of the CS-19 bunker.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

Drilling was completed at the upgradient well (MW-79). The groundwater profile data for MW-79 had no detections of exposives that were verified by PDA spectra. The drill rig was set up on MW-77, the Demo 1 downgradient location on the centerline of the particle track.

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
03MW0007A-E	FIELDQC	11/2/1999	FIELDQC	0.00	0.00		
15MW0005-E	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
90LWA0007-E	FIELDQC	11/5/1999	FIELDQC	0.00	0.00		
G57DCE	FIELDQC	11/1/1999	FIELDQC	0.00	0.00		
G57DCT	FIELDQC	11/1/1999	FIELDQC	0.00	0.00		
G57DIE	FIELDQC	11/2/1999	FIELDQC	0.00	0.00		
G57DIT	FIELDQC	11/2/1999	FIELDQC	0.00	0.00		
G57DNE	FIELDQC	11/3/1999	FIELDQC	0.00	0.00		
G57DNT	FIELDQC	11/3/1999	FIELDQC	0.00	0.00		
G57DTE	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
G57DTT	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
G57DWE	FIELDQC	11/5/1999	FIELDQC	0.00	0.00	 	
G57DWT	FIELDQC	11/5/1999	FIELDQC	0.00	0.00		
G79MEE	FIELDQC	11/1/1999	FIELDQC	0.00	0.00		
HC03T1AAE	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
HC03U1CAT	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
HC11F1AAE	FIELDQC	11/5/1999	FIELDQC	0.00	0.00		
HC11GAAE	FIELDQC	11/4/1999	FIELDQC	0.00	0.00		
PPAWSMW-1-E	FIELDQC	11/3/1999	FIELDQC	0.00	0.00		
03MW0007A	03MW0007A	11/2/1999	GROUNDWATER	0.00	0.00	21.00	26.00
03MW0014A	03MW0014A	11/4/1999	GROUNDWATER			38.00	
03MW0020	03MW0020	11/2/1999	GROUNDWATER			36.00	
15MW0005	15MW0005	11/4/1999	GROUNDWATER			3.00	
27MW0017B	27MW0017B	11/5/1999	GROUNDWATER			21.00	
4036000-01G	4036000-01G	11/2/1999	GROUNDWATER			6.00	12.00
4036000-01GD	4036000-01G	11/2/1999	GROUNDWATER			6.00	
4036000-01GD	4036000-01G	11/2/1999	GROUNDWATER			6.00	
4036000-03G	4036000-04G	11/2/1999	GROUNDWATER			6.00	
4036000-04G	4036000-04G	11/2/1999	GROUNDWATER			6.00	
4036000-00G 4036003-01G	4036003-01G	11/3/1999	GROUNDWATER			0.00	12.00
4261000-02G	4261000-02G	11/3/1999	GROUNDWATER				
4261000-02G	4261000-02G	11/3/1999	GROUNDWATER				
4261000-03G	4261000-03G	11/3/1999	GROUNDWATER				
4261000-04G	4261000-04G	11/3/1999	GROUNDWATER				
4261000-00G	4261000-00G	11/3/1999	GROUNDWATER				
4261000-09G 4261000-10G	4261000-09G 4261000-10G	11/3/1999	GROUNDWATER				
4261000-10G 4261000-11G	4261000-10G 4261000-11G	11/3/1999	GROUNDWATER				
PPAWSMW-1	PPAWSMW-1	11/3/1999	GROUNDWATER			10.00	20.00
PPAWSMW-3	PPAWSMW-3	11/3/1999	GROUNDWATER			0.00	
	ii –					0.00	10.00
USCGANTST	USCGANTST MW-21	11/3/1999	GROUNDWATER			F9 00	60.00
W21M2A	MW-21	11/1/1999	GROUNDWATER GROUNDWATER			58.00	
W21M3A	11 i	11/1/1999				28.00	
W46DDA	MW-46	11/2/1999	GROUNDWATER			135.00	
W46M1A	MW-46	11/1/1999	GROUNDWATER			102.00	
W46M2A	MW-46	11/1/1999	GROUNDWATER			55.00	
W46M3A	MW-46	11/1/1999	GROUNDWATER			22.00	
W47DDA	MW-47	11/2/1999	GROUNDWATER			100.00	
W47M1A	MW-47	11/2/1999	GROUNDWATER			75.00	85.00

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
W47M1D	MW-47	11/2/1999	GROUNDWATER			75.00	85.00
W47M2A	MW-47	11/2/1999	GROUNDWATER			38.00	48.00
W47M3A	MW-47	11/2/1999	GROUNDWATER			21.00	31.00
W50DDA	MW-50	11/4/1999	GROUNDWATER			120.50	130.50
W50M1A	MW-50	11/4/1999	GROUNDWATER			90.00	100.00
W50M2A	MW-50	11/4/1999	GROUNDWATER			59.00	
W50M3A	MW-50	11/5/1999	GROUNDWATER			29.00	
W50SSA	MW-50	11/2/1999	GROUNDWATER			0.00	
W51DDA	MW-51	11/3/1999	GROUNDWATER			130.00	140.00
W51M1A	MW-51	11/3/1999	GROUNDWATER			90.00	100.00
W51M2A	MW-51	11/3/1999	GROUNDWATER			60.50	
W51M3A	MW-51	11/4/1999	GROUNDWATER			29.00	
W51SSA	MW-51	11/3/1999	GROUNDWATER			0.00	
W53DDA	MW-53	11/5/1999	GROUNDWATER			157.00	
W53M1A	MW-53	11/5/1999	GROUNDWATER			100.00	
W53M2A	MW-53	11/4/1999	GROUNDWATER			70.00	80.00
W53M2D	MW-53	11/4/1999	GROUNDWATER			70.00	
W53M3A	MW-53	11/4/1999	GROUNDWATER			40.00	50.00
W54DDA	MW-54	11/5/1999	GROUNDWATER			126.00	
W54M1A	MW-54	11/5/1999	GROUNDWATER			80.00	
W73SSA	MW-73	11/2/1999	GROUNDWATER			0.00	
DW1101	GAC WATER	11/1/1999	IDW	0.00	0.00		
DW1102	GAC WATER	11/2/1999	IDW	0.00	0.00		
DW1103	GAC WATER	11/3/1999	IDW	0.00	0.00		
DW1104	GAC WATER	11/4/1999	IDW	0.00	0.00		
SC4801	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC4802	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC4901	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC4902	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC5601	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC5602	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC5801	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC5802	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC6701	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC6702	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC7001	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC7002	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC7101	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC7102	GAC WATER	11/3/1999	IDW	0.00			
SC7601	GAC WATER	11/3/1999	IDW	0.00	0.00		
SC7602	GAC WATER	11/3/1999	IDW	0.00			
SC7901	GAC WATER	11/3/1999	IDW	0.00			
SC7902	GAC WATER	11/3/1999	IDW	0.00			
G57DCA	MW-57	11/1/1999	PROFILE	110.00	115.00	22.50	27.50
G57DDA	MW-57	11/1/1999	PROFILE		125.00	32.50	
G57DEA	MW-57	11/1/1999	PROFILE		135.00	42.50	
G57DFA	MW-57	11/1/1999	PROFILE		145.00	52.50	
G57DGA	MW-57	11/1/1999	PROFILE		155.00		
G57DHA	MW-57	11/1/1999	PROFILE		165.00		

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
G57DHD	MW-57	11/1/1999	PROFILE	160.00	165.00	72.50	77.50
G57DIA	MW-57	11/2/1999	PROFILE	170.00	175.00	82.50	87.50
G57DJA	MW-57	11/2/1999	PROFILE	180.00	185.00	92.50	97.50
G57DKA	MW-57	11/2/1999	PROFILE	190.00	195.00	102.50	107.50
G57DLA	MW-57	11/2/1999	PROFILE	200.00	205.00	112.50	117.50
G57DMA	MW-57	11/2/1999	PROFILE	210.00	215.00	122.50	127.50
G57DNA	MW-57	11/3/1999	PROFILE	220.00	225.00	132.50	137.50
G57DOA	MW-57	11/3/1999	PROFILE	230.00	235.00	142.50	147.50
G57DPA	MW-57	11/3/1999	PROFILE	240.00	245.00	152.50	157.50
G57DQA	MW-57	11/3/1999	PROFILE	250.00	255.00	162.50	167.50
G57DQD	MW-57	11/3/1999	PROFILE	250.00	255.00	162.50	167.50
G57DRA	MW-57	11/3/1999	PROFILE	260.00	265.00	172.50	177.50
G57DSA	MW-57	11/3/1999	PROFILE	270.00	275.00	182.50	187.50
G57DTA	MW-57	11/4/1999	PROFILE	280.00	285.00	192.50	197.50
G57DUA	MW-57	11/4/1999	PROFILE	290.00	295.00	202.50	207.50
G57DVA	MW-57	11/4/1999	PROFILE	300.00	305.00	212.50	217.50
G57DWA	MW-57	11/5/1999	PROFILE	310.00	315.00	222.50	227.50
G57DXA	MW-57	11/5/1999	PROFILE	317.00	322.00	229.50	234.50
G79MEA	MW-79	11/1/1999	PROFILE	140.00	140.00	49.70	49.70
G79MED	MW-79	11/1/1999	PROFILE	140.00	140.00	49.70	49.70
G79MFA	MW-79	11/1/1999	PROFILE	150.00	150.00	59.70	59.70
G79MGA	MW-79	11/1/1999	PROFILE	160.00	160.00	69.70	69.70
G79MHA	MW-79	11/1/1999	PROFILE	170.00	170.00	79.70	79.70
G79MIA	MW-79	11/1/1999	PROFILE	180.00	180.00	89.70	89.70
G79MJA	MW-79	11/1/1999	PROFILE	190.00	190.00	99.70	99.70
G79MKA	MW-79	11/1/1999	PROFILE	200.00	200.00	109.70	109.70
DEMO2PE1	DEMO2PE1	11/5/1999	SOIL GRID	0.00	0.25		
DEMO2PE2	DEMO2PE2	11/5/1999	SOIL GRID	0.00	0.25		
DEMO2PE3	DEMO2PE3	11/5/1999	SOIL GRID	0.00	0.25		
HC03T1AAA	HC03T1AAA	11/4/1999	SOIL GRID	0.00	0.25		
HC03T1BAA	HC03T1BAA	11/4/1999	SOIL GRID	0.25	0.50		
HC03T1CAA	HC03T1CAA	11/4/1999	SOIL GRID	0.50	1.00		
HC03U1AAA	HC03U1AAA	11/4/1999	SOIL GRID	0.00	0.25		
HC03U1BAA	HC03U1BAA	11/4/1999	SOIL GRID	0.25	0.50		
HC03U1CAA	HC03U1CAA	11/4/1999	SOIL GRID	0.50	1.00		
HC11F1AAA	HC11F1AAA	11/5/1999	SOIL GRID	0.00	0.25		
HC11F1BAA	HC11F1BAA	11/5/1999	SOIL GRID	0.25	0.50		
HC11F1CAA	HC11F1CAA	11/5/1999	SOIL GRID	0.50			
HC11G1AAA	HC11G1AAA	11/5/1999	SOIL GRID	0.00			
HC11G1BAA	HC11G1BAA	11/5/1999	SOIL GRID	0.25	0.50		
HC11G1CAA	HC11G1CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD03T1AAA	HD03T1AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03T1BAA	HD03T1BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03T1CAA	HD03T1CAA	11/4/1999	SOIL GRID	0.50			
HD03T3AAA	HD03T3AAA	11/4/1999	SOIL GRID	0.00			
HD03T3BAA	HD03T3BAA	11/4/1999	SOIL GRID	0.25			
HD03T3CAA	HD03T3CAA	11/4/1999	SOIL GRID	0.50			
HD03T5AAA	HD03T5AAA	11/4/1999	SOIL GRID	0.00			
HD03T5BAA	HD03T5BAA	11/4/1999	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

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HD03T5CAA	HD03T5CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD03T7AAA	HD03T7AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03T7BAA	HD03T7BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03T7CAA	HD03T7CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD03U1AAA	HD03U1AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03U1BAA	HD03U1BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03U1CAA	HD03U1CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD03U3AAA	HD03U3AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03U3BAA	HD03U3BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03U3CAA	HD03U3CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD03U5AAA	HD03U5AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03U5BAA	HD03U5BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03U5CAA	HD03U5CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD03U7AAA	HD03U7AAA	11/4/1999	SOIL GRID	0.00	0.25		
HD03U7BAA	HD03U7BAA	11/4/1999	SOIL GRID	0.25	0.50		
HD03U7CAA	HD03U7CAA	11/4/1999	SOIL GRID	0.50	1.00		
HD11F1AAA	HD11F1AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11F1BAA	HD11F1BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11F1CAA	HD11F1CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11F3AAA	HD11F3AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11F3BAA	HD11F3BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11F3CAA	HD11F3CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11F5AAA	HD11F5AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11F5BAA	HD11F5BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11F5CAA	HD11F5CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11F7AAA	HD11F7AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11F7BAA	HD11F7BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11F7CAA	HD11F7CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11G1AAA	HD11G1AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11G1BAA	HD11G1BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11G1CAA	HD11G1CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11G3AAA	HD11G3AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11G3BAA	HD11G3BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11G3CAA	HD11G3CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11G5AAA	HD11G5AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11G5BAA	HD11G5BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11G5CAA	HD11G5CAA	11/5/1999	SOIL GRID	0.50	1.00		
HD11G7AAA	HD11G7AAA	11/5/1999	SOIL GRID	0.00	0.25		
HD11G7BAA	HD11G7BAA	11/5/1999	SOIL GRID	0.25	0.50		
HD11G7CAA	HD11G7CAA	11/5/1999	SOIL GRID	0.50	1.00		
JRANGEDPE1	JRANGEDPE1	11/5/1999	SOIL GRID	0.00	0.25		

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

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BWTS = Depth below water table, start depth, measured in feet

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
15MW0007	15MW0007	10/22/1999	GROUNDWATER			43.00	54.00	8330N	PENTAERYTHRITOL TETRANITR	NO
W34M1A	MW-34	10/25/1999	GROUNDWATER			75.00	85.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W34M1D	MW-34	10/25/1999	GROUNDWATER			75.00	85.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W34M2A	MW-34	10/25/1999	GROUNDWATER			55.00	65.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G56DAA	MW-56	10/19/1999	PROFILE	76.00	81.00	5.00	10.00	8330N	PICRIC ACID	NO
G56DAA	MW-56	10/19/1999	PROFILE	76.00	81.00	5.00	10.00	OC21V	ACETONE	
G56DAA	MW-56	10/19/1999	PROFILE	76.00	81.00	5.00	10.00	OC21V	CHLOROFORM	
G56DBA	MW-56	10/19/1999	PROFILE	85.00	90.00	14.00	19.00	OC21V	ACETONE	
G56DBA	MW-56	10/19/1999	PROFILE	85.00	90.00	14.00	19.00	OC21V	CHLOROFORM	
G56DCA	MW-56	10/19/1999	PROFILE	90.00	95.00	19.00	24.00	OC21V	CHLOROFORM	
G56DDA	MW-56	10/19/1999	PROFILE	100.00	105.00	29.00	34.00	OC21V	CHLOROFORM	
G56DEA	MW-56	10/19/1999	PROFILE	110.00	115.00	39.00	44.00	OC21V	CHLOROFORM	
G56DEA	MW-56	10/19/1999	PROFILE	110.00	115.00	39.00	44.00	OC21V	TOLUENE	
G56DFA	MW-56	10/19/1999	PROFILE	120.00	125.00	49.00	54.00	OC21V	CHLOROFORM	
G56DGA	MW-56	10/19/1999		130.00	135.00	59.00	64.00	OC21V	CHLOROFORM	
G56DGA	MW-56	10/19/1999	PROFILE	130.00	135.00	59.00	64.00	OC21V	TOLUENE	
G56DHA	MW-56	10/20/1999	PROFILE	140.00	145.00	69.00	74.00	OC21V	CHLOROFORM	
G56DIA	MW-56	10/20/1999	PROFILE	150.00	155.00	79.00	84.00	OC21V	CHLOROFORM	
G56DIA	MW-56	10/20/1999	PROFILE	150.00	155.00	79.00	84.00	OC21V	TOLUENE	
G56DJA	MW-56	10/20/1999		160.00	165.00	89.00	94.00	OC21V	CHLOROFORM	
G56DKA	MW-56	10/20/1999	PROFILE	170.00	175.00	99.00	104.00	OC21V	CHLOROFORM	
G56DKA	MW-56	10/20/1999	PROFILE	170.00	175.00	99.00	104.00	OC21V	TOLUENE	
G56DOA	MW-56	10/21/1999	PROFILE	210.00	215.00	139.00	144.00	OC21V	CHLOROFORM	
G56DOA	MW-56	10/21/1999	PROFILE	210.00	215.00	139.00	144.00	OC21V	TOLUENE	
G56DPA	MW-56	10/21/1999	PROFILE	220.00	225.00	149.00	154.00	OC21V	CHLOROFORM	
G56DQA	MW-56	10/21/1999	PROFILE	230.00	235.00	159.00	164.00	OC21V	CHLOROFORM	
G56DQA	MW-56	10/21/1999	PROFILE	230.00	235.00	159.00	164.00	OC21V	TOLUENE	
G56DRA	MW-56	10/21/1999	PROFILE	240.00	245.00	169.00	174.00	OC21V	CHLOROFORM	
G56DTA	MW-56	10/21/1999	PROFILE	260.00	275.00	189.00	204.00	OC21V	TOLUENE	
G57DAA	MW-57	10/29/1999		88.00	93.00	0.50	5.50	8330N	1,3,5-TRINITROBENZENE	NO
G57DAA	MW-57	10/29/1999	PROFILE	88.00	93.00	0.50	5.50	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G57DAA	MW-57	10/29/1999	PROFILE	88.00	93.00	0.50		8330N	NITROGLYCERIN	NO
G57DAA	MW-57	10/29/1999	PROFILE	88.00	93.00	0.50	5.50	8330N	PICRIC ACID	NO

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OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G57DBA	MW-57	10/29/1999	PROFILE	98.00	103.00	10.50	15.50	8330N	3-NITROTOLUENE	NO
G57DBA	MW-57	10/29/1999	PROFILE	98.00	103.00	10.50	15.50	OC21V	CHLOROFORM	
G57DCA	MW-57	11/1/1999	PROFILE	110.00	115.00	22.50	27.50	OC21V	CHLOROFORM	
G57DDA	MW-57	11/1/1999	PROFILE	120.00	125.00	32.50	37.50	OC21V	CHLOROFORM	
G57DDA	MW-57	11/1/1999	PROFILE	120.00	125.00	32.50	37.50	OC21V	TETRACHLOROETHYLENE(PCE)	,
G57DEA	MW-57	11/1/1999	PROFILE	130.00	135.00	42.50	47.50	OC21V	CHLOROFORM	
G57DEA	MW-57	11/1/1999	PROFILE	130.00	135.00	42.50		OC21V	TETRACHLOROETHYLENE(PCE)	,
G57DEA	MW-57	11/1/1999	PROFILE	130.00	135.00	42.50		OC21V	TOLUENE	
G57DFA	MW-57	11/1/1999	PROFILE	140.00	145.00	52.50	57.50	OC21V	CHLOROFORM	
G57DFA	MW-57	11/1/1999	PROFILE	140.00	145.00	52.50	57.50	OC21V	TETRACHLOROETHYLENE(PCE)	,
G57DGA	MW-57	11/1/1999	PROFILE	150.00	155.00	62.50	67.50	OC21V	1,1,1-TRICHLOROETHANE	
G57DGA	MW-57	11/1/1999	PROFILE	150.00	155.00	62.50	67.50	OC21V	CHLOROFORM	
G57DGA	MW-57	11/1/1999	PROFILE	150.00	155.00	62.50	67.50	OC21V	TETRACHLOROETHYLENE(PCE)	
G57DHA	MW-57	11/1/1999	PROFILE	160.00	165.00	72.50		OC21V	CHLOROFORM	
G57DHA	MW-57	11/1/1999	PROFILE	160.00	165.00	72.50		OC21V	TETRACHLOROETHYLENE(PCE)	,
G57DTA	MW-57	11/4/1999	PROFILE	280.00	285.00	192.50		OC21V	BROMOCHLOROMETHANE	
G57DUA	MW-57	11/4/1999	PROFILE	290.00	295.00	202.50	207.50	OC21V	CHLOROFORM	
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	2,4-DINITROTOLUENE	NO
G76MAA	MW-76	10/18/1999		75.00	75.00	5.00		8330N	2-NITROTOLUENE	NO
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	3-NITROTOLUENE	NO
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	4-NITROTOLUENE	NO
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	NO
G76MAA	MW-76	10/18/1999		75.00	75.00	5.00		8330N	NITROGLYCERIN	NO
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	PENTAERYTHRITOL TETRANITR	
G76MAA	MW-76	10/18/1999	PROFILE	75.00	75.00	5.00		8330N	PICRIC ACID	NO
G76MBA	MW-76	10/18/1999	PROFILE	80.00	80.00	10.00	10.00	8330N	NITROGLYCERIN	NO
G76MBA	MW-76	10/18/1999	PROFILE	80.00	80.00	10.00	10.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G76MBA	MW-76	10/18/1999	PROFILE	80.00	80.00	10.00	10.00	8330N	PICRIC ACID	NO
G76MCA	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	3-NITROTOLUENE	NO
G76MCA	MW-76	10/19/1999		90.00	90.00	20.00		8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G76MCA	MW-76	10/19/1999		90.00	90.00	20.00		8330N	NITROGLYCERIN	NO
G76MCA	MW-76	10/19/1999		90.00	90.00	20.00	20.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
G76MCA	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	PENTAERYTHRITOL TETRANITR	NO

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OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G76MCA	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	PICRIC ACID	NO
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	3-NITROTOLUENE	YES
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	NITROGLYCERIN	ОИ
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G76MCD	MW-76	10/19/1999	PROFILE	90.00	90.00	20.00	20.00	8330N	PICRIC ACID	NO
G76MDA	MW-76	10/19/1999	PROFILE	100.00	100.00	30.00	30.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G76MDA	MW-76	10/19/1999	PROFILE	100.00	100.00	30.00		8330N	NITROGLYCERIN	NO
G76MDA	MW-76	10/19/1999	PROFILE	100.00	100.00	30.00	30.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
G76MDA	MW-76	10/19/1999	PROFILE	100.00	100.00	30.00	30.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G76MEA	MW-76	10/19/1999	PROFILE	110.00	110.00	40.00	40.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G76MEA	MW-76	10/19/1999	PROFILE	110.00	110.00	40.00	40.00	8330N	NITROGLYCERIN	NO
G76MEA	MW-76	10/19/1999	PROFILE	110.00	110.00	40.00	40.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
G76MEA	MW-76	10/19/1999	PROFILE	110.00	110.00	40.00	40.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G76MFA	MW-76	10/19/1999		120.00	120.00	50.00		8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	
G76MFA	MW-76	10/19/1999	PROFILE	120.00	120.00	50.00	50.00	8330N	NITROGLYCERIN	NO
G76MKA	MW-76	10/19/1999	PROFILE	170.00	170.00	100.00	100.00	8330N	PENTAERYTHRITOL TETRANITR	NO
G79MAA	MW-79	10/29/1999		100.00	100.00	9.70	9.70	8330N	NITROGLYCERIN	NO
G79MAA	MW-79	10/29/1999	PROFILE	100.00	100.00	9.70		8330N	PICRIC ACID	NO
G79MBA	MW-79	10/29/1999		110.00	110.00	19.70		8330N	PENTAERYTHRITOL TETRANITR	*
G79MBA	MW-79	10/29/1999	PROFILE	110.00	110.00	19.70		8330N	PICRIC ACID	NO
G79MCA	MW-79	10/29/1999		120.00	120.00	29.70		8330N	PENTAERYTHRITOL TETRANITR	
G79MDA	MW-79	10/29/1999	PROFILE	130.00	130.00	39.70	39.70	8330N	PENTAERYTHRITOL TETRANITR	NO
G79MDA	MW-79	10/29/1999	PROFILE	130.00	130.00	39.70	39.70	8330N	PICRIC ACID	NO
HCAPC1AAA	HCAPC1AAA	10/19/1999	SOIL GRID	0.00	0.25			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HCAPC1AAA	HCAPC1AAA	10/19/1999	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HCAPC1AAA	HCAPC1AAA	10/19/1999	SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
HCAPC1AAD	HCAPC1AAD	10/19/1999	SOIL GRID	0.00	0.25			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HCAPC1AAD	HCAPC1AAD		SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
HCAPC1AAD	HCAPC1AAD		SOIL GRID	0.00	0.25			8330N	OCTAHYDRO-1,3,5,7-TETRANITE	
HCAPC1BAA	HCAPC1BAA	10/19/1999	SOIL GRID	0.25	0.50			8330N	2-AMINO-4,6-DINITROTOLUENE	YES
HCAPC1BAA	HCAPC1BAA	10/19/1999	SOIL GRID	0.25	0.50			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	∦YES

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OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
HCAPC1BAA	HCAPC1BAA	10/19/1999	SOIL GRID	0.25	0.50			8330N	OCTAHYDRO-1,3,5,7-TETRANITE	YES
HCAPC1CAA	HCAPC1CAA	10/19/1999	SOIL GRID	0.50	1.00			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
SD2NWF	SD2NWF	10/26/1999	SOIL GRID	0.00	0.25			8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES

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