WEEKLY PROGRESS UPDATE FOR JULY 23 – JULY 27, 2001

EPA REGION I ADMINISTRATIVE ORDERS SDWA 1-97-1019 & 1-2000-0014 MASSACHUSETTS MILITARY RESERVATION TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period from July 23 to July 27, 2001.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of July 27 is summarized in Table 1.

Table 1. Drilling progress as of July 27, 2001									
Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)					
MW-175	Demo 1 Area Well (D1P-7)	332	208	162-167 199-209 264-274					
	w ground surface w water table								

Completed installation of MW-175 (D1P-7).

Samples collected during the reporting period are summarized in Table 2. Groundwater samples were collected as part of the August Long Term Groundwater Monitoring round. Soil samples were collected at the J-2 Range and at BIP craters on the J-2 and Gravity Ranges. Soil samples were collected as part of the bottom survey at the Demo 1 Area. As part of the HUTA investigation, pre- and post detonation soil samples were collected in Test Pit 5.

The Guard, EPA, and MADEP had a meeting on July 26 to discuss technical issues, including the following:

Attendees

Ben Gregson (IAGWSPO)	Dave Hill (IAGWSPO)	CPT Bill Meyer (IAGWSPO)
Bill Gallagher (IAGWSPO)	Karen Wilson (IAGWSPO)	Tina Dolen (IAGWSPO)
LTC Albert Bleakley (JPO)	Todd Borci (EPA)	Mike Jasinski (EPA-phone)
Jane Dolan (EPA)	Jim Murphy (EPA)	Len Pinaud (MADEP)
Mark Panni (MADEP)	Darrell Deleppo (ACE)	Heather Sullivan (ACE)
John MacPherson (ACE)	Ed Wise (ACE)	Ellen Iorio (ACE)
Gina Tyo (ACE)	Marc Grant (AMEC)	John Rice (AMEC)
Kim Harriz (AMEC)	Jay Clausen (AMEC-phone)	Scott Veenstra (AMEC-phone)
Herb Colby (AMEC)	Larry Hudgins (Tetra Tech)	Leo Montroy (Tt-phone)
Ken Gaynor (Jacobs)	Dave Williams (MDPH)	LTC Bill Fitzpatrick (MAARNG)

Well Locations in Demo 1 and Central Impact Area

- John Rice (AMEC) distributed maps showing existing and potential drilling locations at Demo 1; requesting EPA input on next location for D1P-8. Suggested location was 2N position approximately 200 ft north of D1P-7.
- Karen Wilson (IAGWSPO) indicated that this location had been identified as possible box turtle habitat and it would have to be discussed with Hanni Dinkeloo (NHESP), although it

- probably could be approved.
- Heather Sullivan (ACE) pointed out that pre-scoping of the potential drilling locations had indicated that significant vegetation clearance would be required at this location. Todd Borci (EPA) questioned the necessity of making the drill pads so large. But agreed that this location should be pursued as the follow-up to D1P-7.
- For proposed Central Impact Area locations, Mr. Rice requested that well installation be initiated at CIAP-5 location instead of the CIAP-1 location due to logistical problems. Mr. Borci concurred.
- Discussion ensued on final location of CIAP-2. The original location on Goat Pasture Rd
 was not acceptable because of the presence of previously undisturbed habitat. Alternative
 locations on Goat Pasture (further north in a previously disturbed area) and Spruce Swamp
 had been suggested. After reflection, Mr. Borci indicated that the alternative location on
 Goat Pasture Rd was preferred.
- Mr. Borci further requested that all 8 proposed Central Impact Area wells be installed in FY01 as previously agreed by the Guard. He further requested an enforceable deadline for installation of these 8 wells be set for October 1. The remaining five locations could be discussed/finalized at next (8/2) Tech meeting.
- Mr. Borci inquired if the same drill rig would be used to drill the next well as was used to drill the last well, considering that recent profile results have had problems with the detection of interferent compounds. Mr. Rice indicated that the drill rig would be broken down and cleaned to determine if there was some residual material in the drill rods or casing that was contributing to the interferent compounds detected in profiling. Mr. Borci requested that field blanks be collected prior to reinitiating sampling with this rig.

Demo 1 Historical Bottom Survey

- John MacPherson (ACE) indicated that the test pits had been completed and EPA and MADEP had observed pits. Todd Borci's (EPA) questions regarding pits at anomalies 87 and 108 had been addressed. Further excavation at Anomaly 87 showed that native soil was determined to be 1 foot deeper than originally estimated. Native soil at Anomaly 108 was determined to be 4 ft bgs as originally estimated. The test pits were backfilled on Wednesday 7/25.
- Mike Jasinski (EPA) inquired about the high PID readings (>2000) that were recorded for test pits (such as at Anomaly 108) in which nothing significant was observed. Ellen Iorio (ACE) indicated that samples collected for VOC analysis may shed light on this.
- Mark Panni (MADEP) requested that tables of findings include observations such as odor (even lack of) particularly in the cases were the high PID readings were observed. Selection of anomalies for intrusive excavation was set to be discussed in association with next week's AirMag presentation.

Ground Truthing - AirMag

- Larry Hudgins (Tetra Tech) indicated that the primary ground truthing list had been completed. Tetra Tech would begin excavation of the secondary list tomorrow 7/27.
- Ellen Iorio (ACE) indicated that the Guard was awaiting a response from EPA regarding the items that they had proposed to intrusively investigate. Todd Borci (EPA) replied that they had assumed that they had until 8/2 to respond. Ms. Iorio indicated that they had hoped to do hand excavation in these areas prior to next week's Tech meeting so that this information could be included in the AirMag presentation.
- Karen Wilson (IAGWSPO) indicated that the hand excavation could likely be approved without a Record of Action.

Mike Jasinski (EPA) indicated that he would prefer to wait and review the material more
closely before agreeing to these anomalies as the only ones to investigate further. Mr. Borci
agreed that he to would like to review the data further prior to committing.

Mortar Target 9 Discussion

- Scott Veenstra (AMEC) was looking for EPA's concurrence on a letter that had been
 emailed 7/25 that discussed modifications to the Work Plan Addendum that would describe
 the changes in the soil management approach post excavation. The letter included the
 following changes: the Former H Range will be addressed under the FUDS program; soil
 washing has been eliminated and been replaced by post excavation management that
 includes a certification that the soil is free of UXO; and the location of the management area
 will be where the HUTA soil is processed.
- The schedule for activities at Mortar Target 9 is mobilization on Wednesday 8/1, soil moved on 8/2, staging of soil at HUTA pad for certification prior to off-site disposal. The contractor anticipates 3 to 5 days to move soil to the HUTA, weather dependent. Air Show scheduled for 8/4 may impact schedule. Marc Grant (AMEC) pointed out that the original enforceable deadline which the EPA had set for soil removal was 7/28. The Guard was looking for a response from the EPA to their request for a schedule extension to relieve this deadline.
- Mike Jasinski (EPA) inquired if the soil would be moved using 18-wheelers. Dave Hill (IAGWSPO) said that that was the intention but access to the HUTA area would first be confirmed.
- Karen Wilson (IAGWSPO) relayed that in the meeting with Hanni Dinkeloo (NHESP) on site
 restoration issues, agreement had been reached on a site reference soil, methods to
 characterize reference site, and process to do plant transplants. The reference site is
 located SE of Demo 2 partially on the power line cut and part just north of the cut. Optimal
 time period for planting was determined to be mid September to mid October.
- Plan and schedule for restoration should be completed by the 3rd week in August. Final plan
 would be needed in September. A site characterization to include a biological assay needs
 to be completed. Areas that can be used to donate plugs then need to be identified.
 NHESP would like the site characterization and donor areas to be specified in the plan. A
 schedule for site restoration activities and sequence of events will be available shortly.
- In response to inquiries regarding removal of soil from soil washing pad, Dave Hill (IAGWSPO) indicating that following removal, the pad was washed down and the water captured in the sumps and pumped to drums. Jane Dolan (EPA) indicated that during her site visit this morning 7/26, the sumps were observed to be backing up and the pad didn't appear to be deconned completely. John MacPherson (ACE) to provide description of what had been done by next week.
- Mr. Veenstra requested that the resolution meeting for the Draft COWR be held on 8/9. Ms. Dolan requested that comments on questions sent 7/25 and requested by 8/2 be addressed by 7/30. Mr. Veenstra indicated that the Guard would attempt to respond to this request, but that he could not make a commitment to 7/30. EPA indicated that any early submittal would be helpful.
- Mr. Veenstra further indicated that the Supplemental Delineation Report for Mortar Target 9
 was scheduled for an 8/2 submittal.

Petroleum-like Material

 Herb Colby (AMEC) indicated that the Woods Hole Group was on board to do the forensic fingerprint. Final approval from the Guard was needed. Four samples were scoped to be analyzed: Q profile sample from MW-170, sample of JP-8, sample of diesel, and sample from MW-45.

- Jane Dolan (EPA) asked why MW-164 was not considered for fingerprinting. Mr. Colby indicated that there wasn't sufficient sample remaining from the profile sample to use in the analysis. However, Mr. Colby would check to determine if sufficient sample remained to do the analysis, so that a comparison could be done between MW-164 and MW-170.
- Ms. Dolan also inquired about library spectra, couldn't they be used to identify JP-8 and diesel? Mr. Colby indicated that the chemists preferred to have spectra runs on the same instrument at the same time under the same conditions when doing comparisons.
- Ben Gregson (IAGWSPO) inquired if any assessment of how the material might have been found at the depth had been completed. Mr. Colby indicated that this was one of the objectives of the Additional Delineation program in this area. AMEC was also considering the possibility that the material may have been encountered at the top of the water table and not noticed and then dragged down as part of the drilling process. John Rice (AMEC) was fairly confident that the PLM was not from the drill rig as all the drill rig fluids were tested and these fluids did not match any of these materials.
- Later in the meeting Len Pinaud (MADEP) wondered if borings to the water table at J-1 Range in the vicinity of MW-164 and MW-168 could be considered. Mr. Colby indicated that these had been considered potentially for the Second Additional Delineation Workplan.

MSP/Ground Water Study Integration

Marc Grant reviewed four areas where the data being acquired for the Munitions Survey Project could be used for the characterization of different range areas, but where the characterization study had a deliverable schedule that was not compatible with the MSP deliverable schedule. Mr. Grant attempted to point out these areas to determine how the MSP data could be integrated better into the project as a whole, and how deliverable schedules should be adjusted to accommodate the integration.

- <u>AirMag Target validation</u> The AirMag target validation is likely to lead to additional site
 characterization tasks. However, the Soil Report has already been completed for the
 Central Impact Area. Therefore, the Guard/EPA need to decide if additional soil work
 proposed to be conducted pursuant to the MSP project should be incorporated into the Final
 Soil Report or should it be completed under the Post-Screening Investigation (PSI).
- <u>Demo 1 Historical Bottom Survey</u> Draft PSI Work Plan is due by 9/25. However, validated data for recent trenches sampling will not be completed in time for incorporation in the Work Plan. Would like to hold Work Plan until validated data is received.
- J-1 Range Anomaly Excavation Should this information be added to an Additional Delineation Work Plan 2 as has been discussed informally? Should Work Plan 2 be added to the official schedule?
- Phase II(b) MSP is addressing three sites included in the Phase IIb. It would be helpful if the Phase IIb Report could be delayed to incorporate the data from the MSP. This would change the final report submittal date of 11/20/01 to 2/26/02.
- Todd Borci (EPA) requested that these scheduling issues be outlined in a letter that the agencies can review and then these issues can be discussed in the 8/2 Tech meeting.
- Ellen Iorio (ACE) further pointed out on the MSP schedule that was distributed, 65 days was
 used as the time period between the draft letter reports and final letter reports. This is the
 standard time frame typically used, but she was uncertain of EPA's time requirements for
 review
- Jane Dolan (EPA) noted that on the MSP schedule, the AirMag report date was listed as 8/23, hadn't that schedule been moved up? Ms. Iorio indicated that it had but that the Demo 1 investigation was taking a little longer and that the schedules fluctuated weekly, so the original schedule dates were used in preparing the overall Project Schedule.

Other Items

- Todd Borci (EPA) asked if WS-1 had been drilled? As it was his understanding that this well
 had been moved? EPA requested that this well be profiled since it was near MW-18 where
 TCE had been detected. LTC Albert Bleakley (JPO) to inquire, however profiling was not
 typically within the scope of work for water supply wells.
- Jane Dolan (EPA) asked how EPA could get a copy of the Weekly Progress updates for the Water Supply project. Len Pinaud (MADEP) to check.
- Heather Sullivan (ACE) inquired as to what the EPA may be considering for the locations and schedule of future wells in the Demo 1 area, once the D1P-8 location was completed?
 Todd Borci (EPA) indicated that Mark Grant (AMEC) should include this in his letter regarding scheduling issues.
- Bill Gallagher (IAGWSPO) to provide this year's training schedule to Dave Williams (MDPH).

IART Action Items and Agenda

- 1. Why so many anomalies at the Impact Area boundary? Larry Hudgins (Tetra Tech) to address. Citizens are concerned that munitions are at Impact Area boundary. Todd Borci (EPA) indicated that it needs to be explained that we do have AirMag coverage outside boundary. Mr. Hudgins pointed out that there are fence lines, posts and other metallic items that mark the boundary that contribute to the anomalies seen there on the AirMag maps.
- 2. Action Items 2 and 3 Update of Snake Pond Posting/mercury warning in red To be addressed by MADEP and EPA with AFCEE, MDPH, JPO and IAGWSPO.
- Future Agenda Items
 - CS-18 and CS-19 to be updated by AFCEE (first on agenda)
 - Central Impact Area Soil Report
 - Phase IIb Report (include SAR update)
 - New Detects Update
- In IART mailing, dates that the IART members will be receiving documents should be spelled out so that they can be prepared for the meeting.
- Jane Dolan (EPA) pointed out that the New Detects map handout did not include well MW-158 where there was an unvalidated detection of perchlorate. The map should be shifted to the SE so that all the J Range area is covered on one map.
- Ms. Dolan commented regarding the DU presentation that she thought that the slide that
 listed a bullet item saying the <u>contractor</u> recommended no additional work with regard to DU
 should have read that the <u>Guard</u> recommended per the typical manner of addressing
 recommendations. This bullet was also inappropriately added after the dry run. Ben
 Gregson (IAGWSPO) pointed out that since this was a technical recommendation it was
 appropriate that it be stated as the contractor's.

Next Tech Meeting Topics

On-site Lab
AirMag Ground Truthing Presentation
Petroleum Like Material
Mortar Target 9
Schedule/Document Status
Water Supply

Comment Resolution Meetings Demo 1 Soil CIA GW FSSR + general FS Comments MSP scheduling issues

Mike Jasinski (EPA) requested that any site visits scheduled for Wednesdays and Thursdays be confirmed by Tuesday and be listed on the agenda.

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:

- Groundwater samples collected at MW-132S (J-3 Range) had detections of HMX and RDX that were verified by PDA. HMX was detected in the previous sampling rounds in similar concentrations. The RDX was detected in approximately half the concentration it was detected in the previous round.
- The groundwater profile samples from MW-175 had detections of nitroglycerin (17 intervals), PETN (6 intervals), 3-nitrotoluene (3 intervals), 4-nitrotoluene (1 interval), picric acid (2 intervals), 2A-DNT (10 intervals), 4A-DNT (3 intervals), 2,6-DNT (9 intervals), and 2,4-DANT (5 intervals). The 2,4-DANT, 2,6-DNT and 3-nitrotoluene detections, and one of the 2A-DNT detections were verified by PDA.

3. DELIVERABLES SUBMITTED

Weekly Progress Update, July 16 – July 20, 2001

7/25/01

4. SCHEDULED ACTIONS

Scheduled actions for the week of July 30 include commence drilling CIAP-5; continue August Long Term groundwater monitoring, and continue soil sampling at J-2 Range.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

An additional downgradient well location MW-175 (D1P-7) was completed. One more additional location (D1P-8) has been scoped by the Guard and approved by EPA. The survey conducted to identify the base of the disposal/burn areas with the Demo 1 Area was completed. Analysis of first, second, and third round groundwater samples from newly installed wells is ongoing.

OCDEN ID	LOCID OR WELL ID	DATE CAMPLED	CAMPLE TVDE	CDD	CED	DW/TC	DW/TE
OGDEN_ID	<u> </u>	DATE SAMPLED		SBD	SED	BWTS	BWTE
HCA07180101AA	A07180101	07/23/2001	CRATER GRAB	0.00			
HCA07180102AA	A07180102	07/23/2001	CRATER GRAB	0.00	0.25		
HDA07160103AA	A07160103	07/23/2001	CRATER GRAB	0.00	0.25		
HDA07180101AA	A07180101	07/23/2001	CRATER GRAB	0.00	0.25		
HDA07180102AA	A07180102	07/23/2001	CRATER GRAB	0.00	0.25		
HDA07180103AA	A07180103	07/23/2001	CRATER GRAB	0.00	0.25		
5.A.1.01020.1.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.10.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.2.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.3.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.4.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.5.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.6.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.7.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.8.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01020.9.0	A.1.01020.R	07/25/2001	CRATER GRID	3.00	3.25		
5.A.1.01021.1.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.10.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.2.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.3.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.4.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.5.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.6.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.7.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.8.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
5.A.1.01021.9.0	A.1.01021.R	07/25/2001	CRATER GRID	2.50	2.75		
D1.F.3.00034.1.0	D1.3.00034	07/24/2001	CRATER GRID	3.00	3.25		
D1.F.3.00043.1.0	D1.3.00043	07/23/2001	CRATER GRID	2.00	2.25		
HDJ23.5IN1AAA	J23.5IN1	07/26/2001	CRATER GRID	0.00	0.25		
0.G.0.00108.0.T	TRIP BLANK 108	07/25/2001	FIELDQC	0.00	0.00		
0.G.0.00109.0.T	TRIP BLANK 109	07/27/2001	FIELDQC	0.00	0.00		
HC101AC1AAE	FIELDQC	07/23/2001	FIELDQC	0.00	0.00		
HC101BB1AAE	FIELDQC	07/24/2001	FIELDQC	0.00	0.00		
HC101EB1AAE	FIELDQC	07/25/2001	FIELDQC	0.00			
HC101GE1AAE	FIELDQC	07/26/2001	FIELDQC	0.00	0.00	t	
HDA07160103AT	FIELDQC	07/24/2001	FIELDQC	0.00	0.00		
HDA07180103AE	FIELDQC	07/23/2001	FIELDQC	0.00	0.00		
W12SST	FIELDQC	07/26/2001	FIELDQC	0.00	0.00		
W154M1T	FIELDQC	07/24/2001	FIELDQC	0.00	0.00		
W5SST	FIELDQC	07/23/2001	FIELDQC	0.00	0.00		
W10DDA	MW-10	07/25/2001	GROUNDWATER		361.50	196.70	206.70
W10M1A	MW-10	07/23/2001	GROUNDWATER	280.00			134.10
W115M1A	MW-115	07/22/2001	GROUNDWATER	138.00			30.40
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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
W115SSA	MW-115	07/22/2001	GROUNDWATER	116.00		0.00	10.00
W12SSA	MW-12	07/25/2001	GROUNDWATER	96.70	106.70	0.00	10.00
W13DDA	MW-13	07/26/2001	GROUNDWATER	220.00	225.00	142.07	147.07
W13SSA	MW-13	07/25/2001	GROUNDWATER	73.00	83.00	0.00	10.00
W152M1A	MW-152	07/24/2001	GROUNDWATER	250.00	260.00	142.10	152.10
W152M1A	MW-152	07/24/2001	GROUNDWATER	250.00	260.00	142.10	152.10
W152M2A	MW-152	07/24/2001	GROUNDWATER	154.00	164.00	46.30	56.30
W152M2A	MW-152	07/24/2001	GROUNDWATER	154.00	164.00	46.30	56.30
W153M1A	MW-153	07/24/2001	GROUNDWATER	199.00	209.00	105.90	115.90
W153M2A	MW-153	07/24/2001	GROUNDWATER	144.00	154.00	50.90	60.90
W153M3A	MW-153	07/24/2001	GROUNDWATER	124.00	134.00	31.00	41.00
W154M1A	MW-154	07/24/2001	GROUNDWATER	187.50	192.50	89.30	94.30
W154M1D	MW-154	07/24/2001	GROUNDWATER	187.50	192.50	89.30	94.30
W154SSA	MW-154	07/24/2001	GROUNDWATER	98.00	108.00	0.00	10.00
W155M1A	MW-155	07/24/2001	GROUNDWATER	124.00	134.00	96.60	106.60
W155M2A	MW-155	07/24/2001	GROUNDWATER	45.00	55.00	17.60	27.60
W15DDA	MW-15	07/23/2001	GROUNDWATER	324.00	334.00	213.00	223.00
W15DDD	MW-15	07/23/2001	GROUNDWATER	324.00	334.00	213.00	223.00
W15SSA	MW-15	07/23/2001	GROUNDWATER	105.00	115.00	0.00	10.00
W16DDA	MW-16	07/23/2001	GROUNDWATER	355.00	360.00	219.40	224.40
W16SSA	MW-16	07/23/2001	GROUNDWATER	125.00	135.00	0.00	10.00
W174SSA	MW-174	07/25/2001	GROUNDWATER	190.00	200.00	0.00	10.00
W174SSD	MW-174	07/25/2001	GROUNDWATER	190.00	200.00	0.00	10.00
W17DDA	MW-17	07/27/2001	GROUNDWATER	320.00	330.00	192.00	202.00
W17M1A	MW-17	07/27/2001	GROUNDWATER	220.00	230.00	92.00	102.00
W17M2A	MW-17	07/27/2001	GROUNDWATER	190.00	200.00	63.00	73.00
W17M3A	MW-17	07/27/2001	GROUNDWATER	160.00	170.00	34.00	44.00
W17SSA	MW-17	07/27/2001	GROUNDWATER	120.00	130.00	0.00	10.00
W18DDA	MW-18	07/26/2001	GROUNDWATER	265.00	275.00	218.70	228.70
W18M1A	MW-18	07/26/2001	GROUNDWATER	171.00	176.00	125.60	130.60
W18M2A	MW-18	07/26/2001	GROUNDWATER	107.00	112.00	61.70	66.70
W18SSA	MW-18	07/26/2001	GROUNDWATER	35.00	45.00	0.00	10.00
W21M3A	MW-21	07/27/2001	GROUNDWATER	196.00	206.00	21.20	31.20
W23DDA	MW-23	07/27/2001	GROUNDWATER	272.00	282.00	142.34	152.34
W3DDA	MW-3	07/27/2001	GROUNDWATER				217.30
W3DDD	MW-3	07/27/2001	GROUNDWATER	262.00	267.00	212.30	217.30
W3M1A	MW-3	07/27/2001	GROUNDWATER	240.00	245.00	189.70	194.70
W3M2A	MW-3	07/27/2001	GROUNDWATER	180.00	185.00	129.70	134.70
W5DDA	MW-5	07/23/2001	GROUNDWATER	335.00	340.00	217.10	222.10
W5DDA	MW-5	07/23/2001	GROUNDWATER	-	340.00	217.10	225.10
W5M1A	MW-5	07/25/2001	GROUNDWATER		215.00		97.07
W5M1D	MW-5	07/25/2001	GROUNDWATER		215.00	92.07	97.07
W5M2A	MW-5	07/24/2001	GROUNDWATER		175.00		27.34
W5M2A	MW-5	07/24/2001	GROUNDWATER	170.00	175.00		57.34

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
W5SSA	MW-5	07/23/2001	GROUNDWATER	119.00	129.00	1.10	11.10
D1.F.3.00038.1.0	D1.3.00038	07/26/2001	SOIL GRID	2.00	2.25		
D1.F.3.00038.2.0	D1.3.00038	07/26/2001	SOIL GRID	3.00	3.25		
D1.F.3.00040.1.0	D1.3.00040	07/25/2001	SOIL GRID	2.00	2.25		
D1.F.3.00040.2.0	D1.3.00040	07/25/2001	SOIL GRID	2.00	2.25		
D1.F.3.00042.1.0	D1.3.00042	07/24/2001	SOIL GRID	0.50	0.75		
D1.F.3.00044.1.0	D1.3.00044	07/25/2001	SOIL GRID	3.00	5.00		
D1.F.3.00044.3.0	D1.F.00044	07/24/2001	SOIL GRID	10.00	10.25		
D1.F.3.00087.1.0	D1.3.00087	07/26/2001	SOIL GRID	3.00	3.25		
D1.F.3.00087.2.0	D1.3.00087	07/26/2001	SOIL GRID	3.00	3.25		
D1.F.3.00108.1.0	D1.3.00108	07/25/2001	SOIL GRID	3.00	3.25		
D1.F.3.00108.2.0	D1.3.00108	07/25/2001	SOIL GRID	4.00	4.25		
D1.F.3.00156.1.0	D1.3.00156	07/26/2001	SOIL GRID	2.00	2.25		
D1.F.3.00156.2.0	D1.3.00156	07/26/2001	SOIL GRID	3.00	3.25		
HC101AC1AAA	101AC	07/23/2001	SOIL GRID	0.00	0.25		
HC101AC1BAA	101AC	07/23/2001	SOIL GRID	0.25	0.50		
HC101AC1CAA	101AC	07/23/2001	SOIL GRID	0.50	1.00		
HC101BB1AAA	101BB	07/24/2001	SOIL GRID	0.00	0.25		
HC101BB1BAA	101BB	07/24/2001	SOIL GRID	0.25	0.50		
HC101BB1CAA	101BB	07/24/2001	SOIL GRID	0.50	1.00		
HC101BC1AAA	101BC	07/24/2001	SOIL GRID	0.00	0.25		
HC101BC1AAD	101BC	07/24/2001	SOIL GRID	0.00	0.25		
HC101BC1BAA	101BC	07/24/2001	SOIL GRID	0.25	0.50		
HC101BC1CAA	101BC	07/24/2001	SOIL GRID	0.50	1.00		
HC101BD1AAA	101BD	07/24/2001	SOIL GRID	0.00	0.25		
HC101BD1BAA	101BD	07/24/2001	SOIL GRID	0.25	0.50		
HC101BD1CAA	101BD	07/24/2001	SOIL GRID	0.50	1.00		
HC101BE1AAA	101BE	07/24/2001	SOIL GRID	0.00	0.25		
HC101BE1BAA	101BE	07/24/2001	SOIL GRID	0.25	0.50		
HC101BE1CAA	101BE	07/24/2001	SOIL GRID	0.50	1.00		
HC101DE1AAA	101DE	07/25/2001	SOIL GRID	0.00	0.25		
HC101DE1AAD	101DE	07/25/2001	SOIL GRID	0.00	0.25		
HC101DE1BAA	101DE	07/25/2001	SOIL GRID	0.25	0.50		
HC101DE1CAA	101DE	07/25/2001	SOIL GRID	0.50	1.00		
HC101DF1AAA	101DF	07/25/2001	SOIL GRID	0.00	0.25		
HC101DF1BAA	101DF	07/25/2001	SOIL GRID	0.25	0.50		
HC101DF1CAA	101DF	07/25/2001	SOIL GRID	0.50	1.00		
HC101DG1AAA	101DG	07/25/2001	SOIL GRID	0.00	0.25		
HC101DG1BAA	101DG	07/25/2001	SOIL GRID	0.25	0.50		
HC101DG1CAA	101DG	07/25/2001	SOIL GRID	0.50	1.00		
HC101EB1AAA	101EB	07/25/2001	SOIL GRID	0.00	0.25		
HC101EB1AAD	101EB	07/25/2001	SOIL GRID	0.00	0.25		
HC101EB1BAA	101EB	07/25/2001	SOIL GRID	0.25	0.50		
HC101EB1CAA	101EB	07/25/2001	SOIL GRID	0.50	1.00		

Profiling methods include: Volatiles and Explosives

Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry Other Sample Types methods are variable

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OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HC101EC1AAA	101EC	07/25/2001	SOIL GRID	0.00	0.25		
HC101EC1BAA	101EC	07/25/2001	SOIL GRID	0.25	0.50		
HC101EC1CAA	101EC	07/25/2001	SOIL GRID	0.50	1.00		
HC101ED1AAA	101ED	07/25/2001	SOIL GRID	0.00	0.25		
HC101ED1BAA	101ED	07/25/2001	SOIL GRID	0.25	0.50		
HC101ED1CAA	101ED	07/25/2001	SOIL GRID	0.50	1.00		
HC101EE1AAA	101EE	07/26/2001	SOIL GRID	0.00	0.25		
HC101EE1BAA	101EE	07/26/2001	SOIL GRID	0.25	0.50		
HC101EE1CAA	101EE	07/26/2001	SOIL GRID	0.50	1.00		
HC101EF1AAA	101EF	07/26/2001	SOIL GRID	0.00	0.25		
HC101EF1BAA	101EF	07/26/2001	SOIL GRID	0.25	0.50		
HC101EF1CAA	101EF	07/26/2001	SOIL GRID	0.50	1.00		
HC101GE1AAA	101GE	07/26/2001	SOIL GRID	0.00	0.25		
HC101GE1AAD	101GE	07/26/2001	SOIL GRID	0.00	0.25		
HC101GE1BAA	101GE	07/26/2001	SOIL GRID	0.25	0.50		
HC101GE1CAA	101GE	07/26/2001	SOIL GRID	0.50	1.00		
HC101GF1AAA	101GF	07/26/2001	SOIL GRID	0.00	0.25		
HC101GF1BAA	101GF	07/26/2001	SOIL GRID	0.25	0.50		
HC101GF1CAA	101GF	07/26/2001	SOIL GRID	0.50	1.00		
HC101GG1AAA	101GG	07/26/2001	SOIL GRID	0.00	0.25		
HC101GG1BAA	101GG	07/26/2001	SOIL GRID	0.25	0.50		
HC101GG1CAA	101GG	07/26/2001	SOIL GRID	0.50	1.00		
HC101GH1AAA	101GH	07/26/2001	SOIL GRID	0.00	0.25		
HC101GH1BAA	101GH	07/26/2001	SOIL GRID	0.25	0.50		
HC101GH1CAA	101GH	07/26/2001	SOIL GRID	0.50	1.00		
HC101GI1AAA	101GI	07/25/2001	SOIL GRID	0.00	0.25		
HC101GI1AAD	101GI	07/25/2001	SOIL GRID	0.00	0.25		
HC101GI1BAA	101GI	07/25/2001	SOIL GRID	0.25	0.50		
HC101GI1CAA	101GI	07/25/2001	SOIL GRID	0.50	1.00		
HD101AB1BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB2BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB3BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB4BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB5BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB6BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB7BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB8BAA	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AB8BAD	101AB	07/23/2001	SOIL GRID	1.50	2.00		
HD101AC1AAA	101AC	07/23/2001	SOIL GRID	0.00	0.25		
HD101AC1BAA	101AC	07/23/2001	SOIL GRID	0.25	0.50		
HD101AC1CAA	101AC	07/23/2001	SOIL GRID	0.50	0.00		
HD101AC1CAA	101AC	07/23/2001	SOIL GRID	0.50	1.00		
HD101CA1AAA	101CA	07/25/2001	SOIL GRID	0.00	0.25		
HD101CA2AAA	101CA	07/25/2001	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

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SED = Sample End Depth, measured in feet bgs

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OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HD101CA3AAA	101CA	07/25/2001	SOIL GRID	0.00	0.25		
HD101CA4AAA	101CA	07/25/2001	SOIL GRID	0.00	0.25		
HD101CA5AAA	101CA	07/25/2001	SOIL GRID	0.00	0.25		
HD101CA5AAD	101CA	07/25/2001	SOIL GRID	0.00	0.25		
HD101E1AAA	101E	07/26/2001	SOIL GRID	0.00	0.25		
HD101E1BAA	101E	07/26/2001	SOIL GRID	0.25	0.50		
HD101E1CAA	101E	07/26/2001	SOIL GRID	0.50	1.00		

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

TABLE 3 DETECTED COMPOUNDS-UNVALIDATED SAMPLES COLLECTED 7/7/01-7/27/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G175DBA	MW-175	07/18/2001	PROFILE	145.00	145.00	20.90	20.90	8330N	NITROGLYCERIN	NO
G175DCA	MW-175	07/18/2001	PROFILE	155.00	155.00	30.90	30.90	8330N	NITROGLYCERIN	NO
G175DCA	MW-175	07/18/2001	PROFILE	155.00	155.00	30.90	30.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DCD	MW-175	07/18/2001	PROFILE	155.00	155.00	30.90	30.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DCD	MW-175	07/18/2001	PROFILE	155.00	155.00	30.90	30.90	8330N	NITROGLYCERIN	Ю
G175DDA	MW-175	07/18/2001	PROFILE	165.00	165.00	40.90	40.90	8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G175DEA	MW-175	07/18/2001	PROFILE	175.00	175.00	50.90	50.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DEA	MW-175	07/18/2001	PROFILE	175.00	175.00	50.90	50.90	8330N	NITROGLYCERIN	NO
G175DEA	MW-175	07/18/2001	PROFILE	175.00	175.00	50.90	50.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DFA	MW-175	07/18/2001	PROFILE	185.00	185.00	60.90	60.90	8330N	NITROGLYCERIN	NO
G175DFD	MW-175	07/18/2001	PROFILE	185.00	185.00	60.90	60.90	8330N	NITROGLYCERIN	NO
G175DGA	MW-175	07/19/2001	PROFILE	195.00	195.00	70.90	70.90	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
G175DGA	MW-175	07/19/2001	PROFILE	195.00	195.00	70.90	70.90	8330N	NITROGLYCERIN	NO
G175DIA	MW-175	07/19/2001	PROFILE	215.00	215.00	90.90	90.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DIA	MW-175	07/19/2001	PROFILE	215.00	215.00	90.90	90.90	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
G175DIA	MW-175	07/19/2001	PROFILE	215.00	215.00	90.90	90.90	8330N	NITROGLYCERIN	NO
G175DIA	MW-175	07/19/2001	PROFILE	215.00	215.00	90.90	90.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DJA	MW-175	07/19/2001	PROFILE	225.00	225.00	100.90	100.90	8330N	2,6-DINITROTOLUENE	YES
G175DJA	MW-175	07/19/2001	PROFILE	225.00	225.00	100.90	100.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DJA	MW-175	07/19/2001	PROFILE	225.00	225.00	100.90	100.90	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
G175DJA	MW-175	07/19/2001	PROFILE	225.00	225.00	100.90	100.90	8330N	NITROGLYCERIN	NO
G175DJA	MW-175	07/19/2001	PROFILE	225.00	225.00	100.90	100.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DKA	MW-175	07/19/2001	PROFILE	235.00	235.00	110.90	110.90	8330N	NITROGLYCERIN	NO
G175DLA	MW-175	07/19/2001	PROFILE	245.00	245.00	120.90	120.90	8330N	2,6-DINITROTOLUENE	YES
G175DLA	MW-175	07/19/2001	PROFILE	245.00	245.00	120.90	120.90	8330N	NITROGLYCERIN	NO
G175DLA	MW-175	07/19/2001	PROFILE	245.00	245.00	120.90	120.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DMA	MW-175	07/19/2001	PROFILE	255.00	255.00	130.90	130.90	8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G175DMA	MW-175	07/19/2001	PROFILE	255.00	255.00	130.90	130.90	8330N	2,6-DINITROTOLUENE	YES
G175DMA	MW-175	07/19/2001	PROFILE	255.00	255.00	130.90	130.90	8330N	NITROGLYCERIN	NO
G175DNA	MW-175	07/19/2001	PROFILE	265.00	265.00	140.90	140.90	8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G175DNA	MW-175	07/19/2001	PROFILE	265.00	265.00	140.90	140.90	8330N	2,6-DINITROTOLUENE	YES
G175DNA	MW-175	07/19/2001	PROFILE	265.00	265.00	140.90	140.90	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
G175DNA	MW-175	07/19/2001	PROFILE	265.00	265.00	140.90	140.90	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

TABLE 3 DETECTED COMPOUNDS-UNVALIDATED SAMPLES COLLECTED 7/7/01-7/27/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G175DOA	MW-175	07/19/2001	PROFILE		275.00		150.90	8330N	2,6-DINITROTOLUENE	YES
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	3-NITROTOLUENE	YES
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	4-NITROTOLUENE	NO
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	NITROGLYCERIN	NO
G175DOA	MW-175	07/19/2001	PROFILE	275.00	275.00	150.90	150.90	8330N	PICRIC ACID	NO
G175DPA	MW-175	07/19/2001	PROFILE	285.00	285.00	160.90	160.90	8330N	2,4-DIAMINO-6-NITROTOLUENE	YES
G175DPA	MW-175	07/19/2001	PROFILE	285.00	285.00	160.90	160.90	8330N	2,6-DINITROTOLUENE	YES
G175DPA	MW-175	07/19/2001	PROFILE	285.00	285.00	160.90	160.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DPA	MW-175	07/19/2001	PROFILE	285.00	285.00	160.90	160.90	8330N	NITROGLYCERIN	NO
G175DPA	MW-175	07/19/2001	PROFILE	285.00	285.00	160.90	160.90	8330N	PICRIC ACID	NO
G175DQA	MW-175	07/19/2001	PROFILE	295.00	295.00	170.90	170.90	8330N	NITROGLYCERIN	NO
G175DRA	MW-175	07/19/2001	PROFILE	305.00	305.00	180.90	180.90	8330N	2,6-DINITROTOLUENE	YES
G175DRA	MW-175	07/19/2001	PROFILE	305.00	305.00	180.90	180.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DRA	MW-175	07/19/2001	PROFILE	305.00	305.00	180.90	180.90	8330N	NITROGLYCERIN	NO
G175DSA	MW-175	07/19/2001	PROFILE	315.00	315.00	190.90	190.90	8330N	2,6-DINITROTOLUENE	YES
G175DSA	MW-175	07/19/2001	PROFILE	315.00	315.00	190.90	190.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DSA	MW-175	07/19/2001	PROFILE	315.00	315.00	190.90	190.90	8330N	3-NITROTOLUENE	YES
G175DSA	MW-175	07/19/2001	PROFILE		315.00		190.90	8330N	NITROGLYCERIN	NO
G175DSA	MW-175	07/19/2001	PROFILE	315.00	315.00	190.90	190.90	8330N	PENTAERYTHRITOL TETRANITE	NO
G175DTA	MW-175	07/19/2001	PROFILE	325.00	325.00	200.90	200.90	8330N	2,6-DINITROTOLUENE	YES
G175DTA	MW-175	07/19/2001	PROFILE	325.00	325.00	200.90	200.90	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G175DTA	MW-175	07/19/2001	PROFILE	325.00	325.00	200.90	200.90	8330N	3-NITROTOLUENE	YES
G175DTA	MW-175	07/19/2001	PROFILE	325.00	325.00	200.90	200.90	8330N	NITROGLYCERIN	NO
W132SSA	MW-132	06/15/2001	GROUNDWATER	37.00	47.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W132SSA	MW-132	06/15/2001	GROUNDWATER	37.00	47.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANIT	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

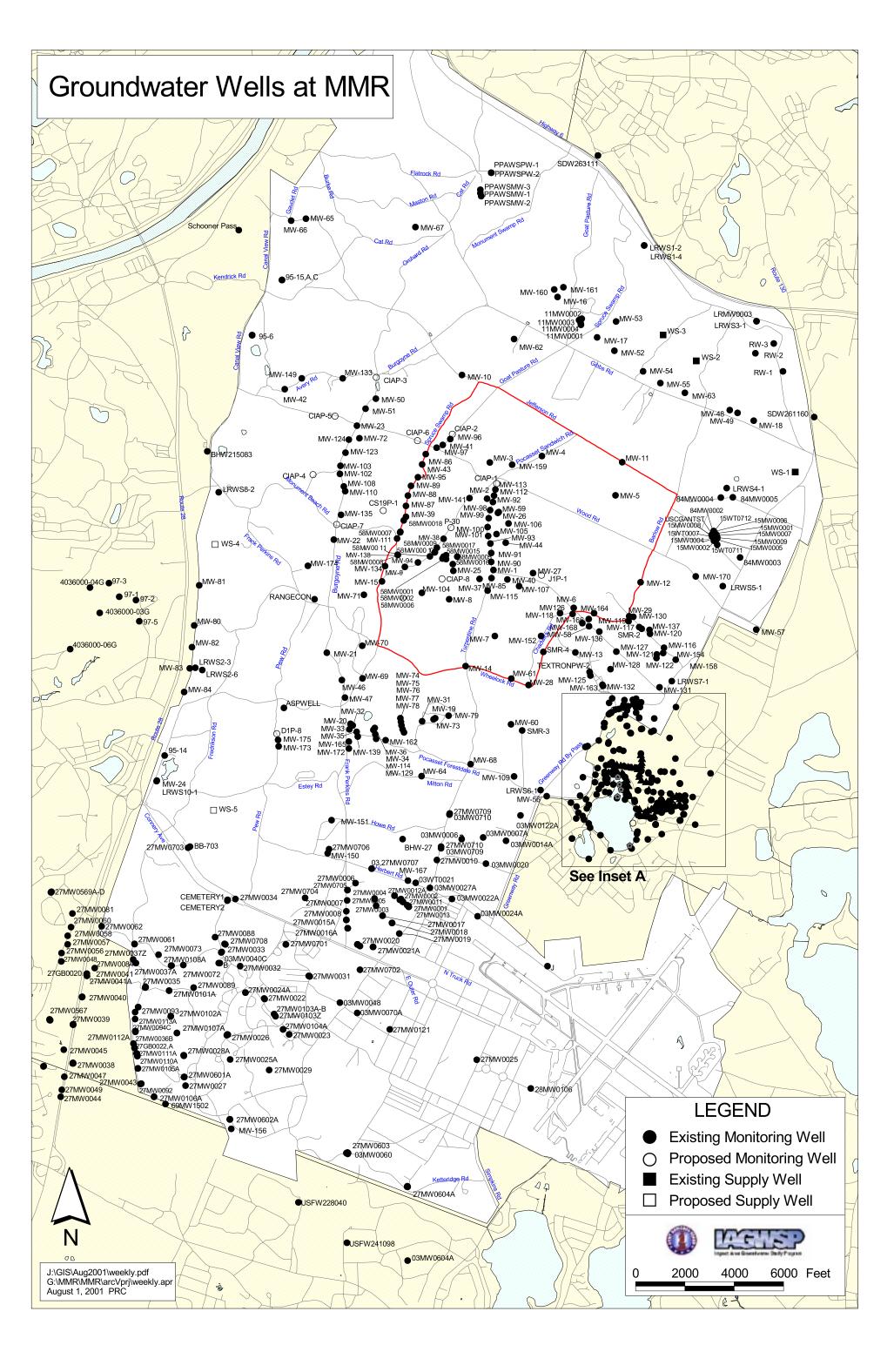
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PDA/YES = Photo Diode Array, Detect Confirmed

PDA/NO = Photo Diode Array, Detect Not Confirmed





600 1200 Feet 0

Inset A





