WEEKLY PROGRESS UPDATE
FOR SEPTEMBER 17 – SEPTEMBER 21, 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 September 17 to September 21, 2001.

1. SUMMARY OF ACTIONS TAKEN

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

Table 1. Drilling progress as of September 21, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-179	Central Impact Area Well (CIAP-1)	338	198	187-197, 329-339
MW-182	Central Impact Area Well (CIAP-9)	310	140	
MW-183	Central Impact Area Well (CIAP-4)	190		

Bgs = below ground surface
Bwt = below water table

Completed well installation of MW-179 (CIAP-1). Continued drilling of MW-182 (CIAP-9) and MW-183 (CIAP-4).

Samples collected during the reporting period are summarized in Table 2. Groundwater profile samples were collected from MW-182 (CIAP-9). Groundwater samples were collected as part of the August Long Term Groundwater Monitoring round. Samples were also collected from a residential well on Old Snake Pond Road. Surface soil samples were collected at well locations MW-179 (CIAP-1) and MW-184. Soil samples were collected from grids on J-1 Range. Post-Detonation soil samples were also collected at J-1 Range. Surface water samples were collected at Snake Pond Public Beach and Camp Good News Beach.

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

Attendees

Ben Gregson (IAGWSPO - phone)	Dave Hill (IAGWSPO)	Karen Wilson (IAGWSPO)
Bill Gallagher (IAGWSPO)	Tina Dolen (IAGWSPO)	CPT Bill Meyer (IAGWSPO)
LTC Bill Fitzpatrick (MAARNG)	COL Albert Bleakley (JPO)	Mike Jasinski (EPA)
Todd Borci (EPA)	Jane Dolan (EPA)	Jim Murphy (EPA)
Len Pinaud (MADEP)	Darrell Deleppo (ACE)	Ed Wise (ACE)
Heather Sullivan (ACE – phone)	Ellen Iorio (ACE)	Gina Tyo (ACE)
Marc Grant (AMEC)	Herb Colby (AMEC)	Mark Applebee (AMEC-phone)
Scott Veenstra (AMEC-phone)	Kim Harriz (AMEC)	Larry Hudgins (Tetra Tech)
Susan Stewart (Tetra Tech – phone)	Dave Williams (MDPH)	Adam Balogh (TRC)

MSP Status

Ellen Iorio (ACE) provided an overview of the MSP status.

- HUTA1 is awaiting backfilling. The ACE is working with Karen Wilson (IAGWSPO) on the site restoration plan, which will be prepared in the next couple weeks. Decisions need to be made concerning the topsoil, whether it will be used elsewhere. The restoration probably won't be completed this year as part of the area will be used for the Central Impact Area pump test and will likely miss planting season. The area will likely be flattened out.
- The Demo 1 survey is completed, awaiting data validation. The Army Corps is attempting to expedite the validation process. The Slit trench and J-1 Vehicle pull have been completed. Survey of the 5th area at the ASP is continuing today. Approximately 1/3 of the area has been grubbed. An extension for completing the ASP Survey will be requested based on delays due to the base closure to contractors and addition of the 5th area outside the original scope. Digital maps for the Succonsette Pond are being processed. Area F at Former K Range is being worked on. UXO clearance at Former A Range continues where there is a huge amount of surface debris and ordnance items. Shipments of explosives for BIPs have been delayed, 1 BIP is pending. Two of four areas at Former A Range have been almost completed. The Guard will request an extension for this survey also.
- Karen Wilson (IAGWSPO) reported that verbal approval had been received from Hanni Dinkeloo (NHESP) regarding the Mortar Target 9 restoration; this work is scheduled to start next week.
- Mike Jasinski (EPA) requested a schedule to tie the MSP I work together; how and when MSP Phase I will come together. Ellen Iorio (ACE) to email schedule.
- Jane Dolan (EPA) requested hard copies of figures.
- Len Pinaud (MADEP) inquired about what should be forwarded to the IART team. CPT Meyer (IAGWSPO) to solicit input from team during MSP update presentation at 9/25 IART meeting.

Snake Pond Update

Dave Hill presented an overview on the USGS sampling activities at Snake Pond.

- The full-scale diffusion sampler grid will be laid out 9/20-21 by the USGS.
- Results from the field test transect showed no RDX detected in any sampler. RDX was detected in a sampler that was installed in a monitoring well on base. Exact concentrations had not been provided. Confirmation results may be available by next Thursday 9/27.
- The full-scale test will consist of 8 lines that bracket the first transect. There are 102 sampling points + QC samples that will be collected. The sampling density increases south of the spit where groundwater samples have had RDX detections. The samplers will likely be removed approximately 3 weeks from today 9/20.
- Dave Williams (MDPH) inquired about perchlorate analysis and other explosive compounds. Mr. Hill indicated that the samples were being analyzed for 8330N explosives.

- Tina Dolen (IAGWSPO) notified area residents via a mailing and called the Town Adminstrator and Selectmen, regarding the sampling. Dave Mason (Sandwich Health Dept) had recommended against posting at the Pond.

J Ranges Plume maps

Herb Colby distributed 3 proposed plume maps for the J-1, J-3, L Ranges areas depicting separate RDX, HMX and Perchlorate plumes.

- AMEC was also working on forward particle tracks with the FS-12 system turned on, to put on the maps. This information will provide confirmation that the plume orientation makes sense and to show which portions are captured by system. The northern extent of the range and is not influenced by the FS-12 system. The particle tracks will be added in the next day or two. Plume maps were also being drawn for some of cross sections such as the one along Greenway Road.
- Mike Jasinski (EPA) suggested that the proposed well locations be provided with labels.
- Len Pinaud (MADEP) suggested that areas shown as the Water Supply Wells ZOCs be indicated in the legend.
- Jane Dolan (EPA) inquired about the RDX plume map that showed a closed circle around detections near L Range. Why wasn't this line dashed given that there was no upgradient well showing a nondetection. Mr. Colby indicated that reverse particle tracks from this shallow well (90LWA0007) terminated just north of the well, indicating the source was local.
- Ms. Dolan requested that the plumes be overlain on the aerial photograph used for the Chemical box figures in order to show range areas for reference.
- Len Pinaud (MADEP) suggested that the plumes be re-drawn to include only those wells where explosives have been detected. Mr. Pinaud stated that as the investigation continued, the plume boundaries could be re-drawn to reflect the new data and to update the public.
- Ms. Dolan stated that she didn't agree that 90MW0054 was connected to the main plume, since 90EW0001 did not have an RDX detection. Regarding the HMX map, Ms. Dolan also did not agree that detections of HMX from 132S and 30S combined to form a plume at Greenway Road. Mr. Colby indicated that it would be easier to visualize the plumes if the maps are reviewed in conjunction with the cross sections that are being developed.
- It was suggested that the yellow line that denoted the Impact Area boundary be labeled.
- Regarding the Perchlorate map, Ms. Dolan asked why individual circles weren't drawn around scattered detections on the groundwater mound and northeast of the mound. Mr. Colby indicated that he wasn't comfortable doing this, as there were so many. The origins of these detections were likely local. Ms. Dolan indicated that it was her opinion that the scattered detections were the result of the top of the groundwater mound moving slightly during the last 50 years.
- Mike Jasinski (EPA) pointed out that there were many non detects in the plume drawn for Perchlorate between the 3 wells that had detections. Perhaps these detections were three separate slugs.
- Todd Borci (EPA) requested that another contour line be added around MW-163/-132, which had a significantly higher concentration than elsewhere. A 15 ppb contour line was suggested.
- COL Bleakley (JPO) pointed out that in IRP discussions the issue of whether plumes could be drawn around single wells had been drawn out for 6 months.
- EPA to provide comments prior to 9/27 Tech meeting and discuss further modifications at 9/27 Tech meeting.

Petroleum-like Material Analysis Update

- Herb Colby (AMEC) explained that the Woods Hole Group had preliminary results for the Gas Chromatograph analysis, but they had not been provided to AMEC. Mass Spectra results were expected in a week or two. Enough PLM was obtained from MW-45 to do the Mass Spectra analysis. A short GC/MS run was completed; the run time is being lengthened to get more information. Preliminary information indicates only that the material is an alkylated compound; no comparison between the PLM and standards has been made. EPH results were presented in Interim Report 2.
- Todd Borci (EPA) requested that any data, chromatographs be forwarded to the EPA as soon as the information becomes available.
- Jane Dolan (EPA) requested that 90MW0031 (115' bwt) and 90MW0019 (80' bwt), which haven't been sampled since 1999 be considered for sampling again.

Combined Groundwater Study and Munitions Survey Project Schedule

- Todd Borci (EPA) to send a letter granting extension for Demo 1 Draft FS till 10/02 and for the Gun and Mortar Revised Draft till 10/29.

Mr. Borci outlined the following comments on the revised schedule:

- Demo Area 1 Coordination meeting – discussion ensued among Mr. Borci, Mark Applebee (AMEC) and Marc Grant (AMEC) regarding setting up a coordination meeting about expectations for the Demo 1 Soil FS Screening Report. It was decided that AMEC/Guard would review comments, particularly UXO and vadose zone issues. If there are any outstanding questions, then a coordination meeting could be held prior to 10/22, if not than 10/22 would be OK for a meeting. Mr. Applebee indicated that AMEC would put more info together on UXO remedial alternatives to discuss at meeting.
- Final Demo 1 Soil Report – Mr. Borci questioned why "if needed" was specified for this report. Mr. Applebee indicated that the perhaps the Revised Draft Demo 1 Soil Report could be substituted for the Final Report. Mr. Borci to consider at the time the report is submitted.
- Central Impact Area – Groundwater and Targets Phase II Sampling were omitted from schedule. If the Targets sampling is going to be a part of PSI, this needs to be specified.
- J-2 Range Schedule – Either additional delineation needs to be completed or the range should go to COC Identification. Herb Colby (AMEC) indicated that approximately 1/3 of the additional delineation data had been received. The remaining data would likely be received by next Friday. By then, AMEC could recommend if additional data needed to be collected. Additional scoping meeting set for 10/11. AMEC to provide data tables to EPA as available.
- J-1, J-3, L Ranges Schedule – Additional Delineation Work Plan #2 needs to be added.
- Gun & Mortar Schedule – There should be a G&M Operable Unit under the Feasibility Study Schedule. Additional delineation sampling should be added to a Post Screening Investigation. Bill Gallagher (IAGWSPO) stated that whether to complete additional delineation as part of the characterization phase or during the FS stage needed to be discussed internally.
- HUTA-1 – HUTA Interim Report isn't listed.
- MSP Phase I – combined revised document submittal date needs to be added per Ellen Iorio's (ACE) proposed schedule.
- AirMag Target List – the field work is shown as completed, isn't more field work planned? Would an extension request be submitted for the field work.
- Former K, Demo Area 2, Former A – Munitions Survey Reports for these areas need to combined into the Phase IIb Soil/Groundwater Characterization Report of these areas. Mr. Borci offered to extend the Site Characterization Report deadline for these areas to 01/09/02

in order to incorporate the MSP information.

- Central Impact Area FS Screening Report – Mr. Borci requested that a deadline for this report be set for 12/31. Mr. Gallagher pointed out that in the Guard's opinion, this was too soon, since HUTA2 and targets data would not be included. Therefore, the level of detail needed to complete the FS screening would not be available. Mike Jasinski (EPA) suggested that a scoping meeting be set for 10/04 to discuss the FS Screening Report scope.
- Central Impact Area PSI - What activities will be included in the PSI. Sufficient time needs to be built into the schedule to complete these activities.
- HUTA2 – No report in schedule.
- Feasibility Study HUTA1 – UXO – No such Operable Unit. HUTA1 – UXO should be addressed under the Central Impact Area soil FS. There should be a UXO FS that addresses UXO not included in any other areas. The same applies to remedial selection. Receive comments on Tech memo 01-7 by end of October.
- ITE Treatability Studies – no soil studies listed.
- Mr. Grant to revise schedule and send out early next week.

Miscellaneous

- COL Bleakley (JPO) distributed an IRP plume map to be included in the community guide. Email comments from agencies expected by next week.
- Todd Borci (EPA) requested a list and graphical depiction of all wells that were never sampled for VOCs.
- Mr. Borci requested a list of wells in the SE Ranges that hadn't been analyzed for explosives in a while.
- Mr. Borci requested that in the Dye proposal, a sentence be added to justify grid locations in Demo Area 1.
- Mr. Borci requested that the Schooner Pass and Comfort Station supply wells be sampled for Perchlorate, based on detection of perchlorate in MW-66S at GP-16.
- Marc Grant (AMEC) to check on past sampling schedule at Schooner Pass well.
- Jane Dolan (EPA) requested a copy of the USGS' Tritium-Helium dating proposal.
- Ms. Dolan requested a report on the instrument Nick Iaiennaro used to detect inert rounds.
- Mike Jasinski (EPA) requested information on follow-on Treatability Studies per recommendations in the report. Scott Veenstra (AMEC) indicated that Guard/Corps/AMEC would be discussing scope of additional treatability work internally on October 16.

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 from 58MW0009E (CS-19) had detections of 2A-DNT, 4A-DNT, RDX and HMX that were confirmed by PDA spectra. The previous round of sampling had similar detections.

- Groundwater samples from 58MW0001 (CS-19) had detections of RDX and HMX that were confirmed by PDA spectra. The previous round of sampling had similar detections.

- Groundwater samples from 58MW0018B (CS-19), 90MW0022 (FS-12) and MW-141M2 (Central Impact Area) had detections of RDX that were confirmed by PDA spectra. The previous round of sampling had similar detections.

- Groundwater samples from 90LWA0007 (FS-12) had detections of 2,6-DNT, 2-nitrotoluene, 3-nitrotoluene, 4A-DNT, 4-nitrotoluene, and picric acid. The 2,6-DNT was confirmed by PDA spectra. None of the detected compounds have ever been validated as present in this well.

- Groundwater samples and a duplicate sample from 90WT0004 (FS-12) had detections of HMX that were confirmed by PDA spectra. HMX has been detected in this well in previous rounds.

- Groundwater samples from MW-141S (Central Impact Area) had detections of TNT and 2,6-DNT. This was the first time 2,6-DNT has been detected in this well. The previous rounds of sampling had only confirmed detections of TNT.

- Groundwater samples from MW-19S (Demo 1) had detections of TNT, 2,6-DNT, 2A-DNT, 4A-DNT, RDX, TNX, DNX, MNX, and HMX that were confirmed by PDA spectra. Previous rounds of sampling had similar detections. This was the first time this well has been analyzed using method 8330NX which enables TNX, DNX, and MNX to be detected.

- Groundwater samples from MW-31S (Demo 1) had detections of TNT, 2,4-DNT, 2A-DNT, 4A-DNT, RDX, DNX, MNX, TNX, and HMX that were confirmed by PDA spectra. The previous round of sampling had similar detections, except that this was the first time analysis using the 8330NX method.

- Groundwater samples from MW-84D (Canal View Rd) had detections of TNT and 2,6-DNT. The 2,6-DNT was confirmed by PDA spectra. This was the first time any explosives have been confirmed by PDA at this well location.

- Groundwater samples from MW-84M1 (Canal View Rd) had a detection of 2,6-DNT that was confirmed by PDA spectra. This was the first time any explosives have been confirmed by PDA at this well location.

- Groundwater samples from MW-84M2 (Canal View Rd) had a detection of 2,4-DNT that was not confirmed by PDA. Explosives have not been previously detected in this well.

3. DELIVERABLES SUBMITTED

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4. SCHEDULED ACTIONS

Scheduled actions for the week of September 24 include well installation of MW-182 (CIAP-9), continued drilling of MW-183 (CIAP-4), commence MW-184 (P-30), and commence redrilling of MW-177 (CIAP-7). Groundwater sampling will continue for the August LTM round. Excavation of UXO detonation craters will commence.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

An additional downgradient well location (D1P-8) on Pew Road will be drilled in the coming weeks. Analysis of second, third, and fourth round groundwater samples from newly installed wells is ongoing. The groundwater Feasibility Study is being prepared and will be submitted next week.

TABLE 2
SAMPLING PROGRESS
9/15/2001-9/21/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HDJ1200108SS10	J1200108S	09/21/2001	CRATER GRID	0.00	0.25		
HDJ1200108SS9	J1200108S	09/21/2001	CRATER GRID	0.00	0.25		
58MW0002E	FIELDQC	09/19/2001	FIELDQC	0.00	0.00		
97-3E	FIELDQC	09/20/2001	FIELDQC	0.00	0.00		
97-3T	FIELDQC	09/20/2001	FIELDQC	0.00	0.00		
G182DDE	FIELDQC	09/21/2001	FIELDQC	0.00	0.00		
G182DJE	FIELDQC	09/21/2001	FIELDQC	0.00	0.00		
HC05DA1BAT	FIELDQC	09/20/2001	FIELDQC	0.00	0.00		
HC05DA1CAE	FIELDQC	09/20/2001	FIELDQC	0.00	0.00		
HDJ1200108SS9E	FIELDQC	09/21/2001	FIELDQC	0.00	0.00		
S184DAE	FIELDQC	09/19/2001	FIELDQC	0.00	0.00		
11OSPR	RS0011	09/21/2001	GROUNDWATER				
58MW0002	58MW0002	09/19/2001	GROUNDWATER	122.00	127.00	4.60	9.60
97-1	97-1	09/20/2001	GROUNDWATER	83.00	93.00	60.60	70.60
97-3	97-3	09/20/2001	GROUNDWATER	75.00	85.00	33.50	43.50
LKSNP0004AAA	LKSNP0004	09/19/2001	GROUNDWATER	0.00	1.00		
LKSNP0005AAA	LKSNP0005	09/19/2001	GROUNDWATER	0.00	1.00		
LRMW0003	LRMW0003	09/19/2001	GROUNDWATER	95.00	105.00	69.68	79.68
LRMW0003D	LRMW0003	09/19/2001	GROUNDWATER	95.00	105.00	69.68	79.68
SDW263111	SDW263111	09/20/2001	GROUNDWATER	99.00	109.00	0.00	10.00
W172M1A	MW-172	09/21/2001	GROUNDWATER	199.00	209.00	134.00	144.00
W172M2A	MW-172	09/21/2001	GROUNDWATER	199.00	209.00	134.00	144.00
G182DAA	MW-182	09/19/2001	PROFILE	190.00	190.00	20.40	20.40
G182DBA	MW-182	09/19/2001	PROFILE	200.00	200.00	30.40	30.40
G182DCA	MW-182	09/20/2001	PROFILE	210.00	210.00	40.40	40.40
G182DDA	MW-182	09/20/2001	PROFILE	220.00	220.00	50.40	50.40
G182DDD	MW-182	09/20/2001	PROFILE	220.00	220.00	50.40	50.40
G182DEA	MW-182	09/20/2001	PROFILE	230.00	230.00	60.40	60.40
G182DFA	MW-182	09/20/2001	PROFILE	240.00	240.00	70.40	70.40
G182DGA	MW-182	09/20/2001	PROFILE	250.00	250.00	80.40	80.40
G182DHA	MW-182	09/20/2001	PROFILE	260.00	260.00	90.40	90.40
G182DIA	MW-182	09/20/2001	PROFILE	270.00	270.00	100.40	100.40
G182DJA	MW-182	09/21/2001	PROFILE	280.00	280.00	110.40	110.40
G182DKA	MW-182	09/21/2001	PROFILE	290.00	290.00	120.40	120.40
G182DLA	MW-182	09/21/2001	PROFILE	300.00	300.00	130.40	130.40
S179DAA	MW-179	09/19/2001	SOIL BORING	0.00	0.25		
S184DAA	MW-184	09/19/2001	SOIL BORING	0.00	0.25		
HC05DA1AAA	05DA	09/20/2001	SOIL GRID	0.00	0.25		
HC05DA1BAA	05DA	09/20/2001	SOIL GRID	0.25	0.50		
HC05DA1CAA	05DA	09/20/2001	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
BWTE = Depth below water table, end depth, measured in feet

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 8/23/01-9/21/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
58MW0009E	58MW0009E	08/29/2001	58MW0009E	133.00	138.00	6.50	11.50	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
58MW0009E	58MW0009E	08/29/2001	58MW0009E	133.00	138.00	6.50	11.50	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
58MW0009E	58MW0009E	08/29/2001	58MW0009E	133.00	138.00	6.50	11.50	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0009E	58MW0009E	08/29/2001	58MW0009E	133.00	138.00	6.50	11.50	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
58MW0001	58MW0001	08/29/2001	GROUNDWATER	122.00	127.00	4.78	9.78	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
58MW0001	58MW0001	08/29/2001	GROUNDWATER	122.00	127.00	4.78	9.78	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
58MW0018B	58MW0018B	09/04/2001	GROUNDWATER	176.00	186.00	34.55	44.55	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	2,6-DINITROTOLUENE	YES*
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	2-NITROTOLUENE	NO
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	3-NITROTOLUENE	NO
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	4-NITROTOLUENE	NO
90LWA0007	90LWA0007	09/03/2001	GROUNDWATER	92.00	102.00	0.00	10.00	8330N	PICRIC ACID	NO
90MW0022	90MW0022	09/05/2001	GROUNDWATER	112.00	117.00	72.79	77.79	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
90WT0004	90WT0004	09/07/2001	GROUNDWATER	35.00	45.00	3.00	13.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
90WT0004-D	90WT0004	09/07/2001	GROUNDWATER	35.00	45.00	3.00	13.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W141M2A	MW-141	08/27/2001	GROUNDWATER	162.00	172.00	34.00	44.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W141SSA	MW-141	08/24/2001	GROUNDWATER	128.00	138.00	0.00	10.00	8330N	2,4,6-TRINITROTOLUENE	NO
W141SSA	MW-141	08/24/2001	GROUNDWATER	128.00	138.00	0.00	10.00	8330N	2,6-DINITROTOLUENE	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	2,4,6-TRINITROTOLUENE	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	2,6-DINITROTOLUENE	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	2-AMINO-4,6-DINITROTOLUENE	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	4-AMINO-2,6-DINITROTOLUENE	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	HEXAHYDRO-1,3,5-TRINITROSO	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	HEXAHYDRO-1,3-DINITROSO-5-I	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	HEXAHYDRO-1-MONONITROSO-	YES
W19SSA	MW-19	08/24/2001	GROUNDWATER	38.00	48.00	0.00	10.00	8330NX	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	2,4,6-TRINITROTOLUENE	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	2,4-DINITROTOLUENE	YES*
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	2-AMINO-4,6-DINITROTOLUENE	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	4-AMINO-2,6-DINITROTOLUENE	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES

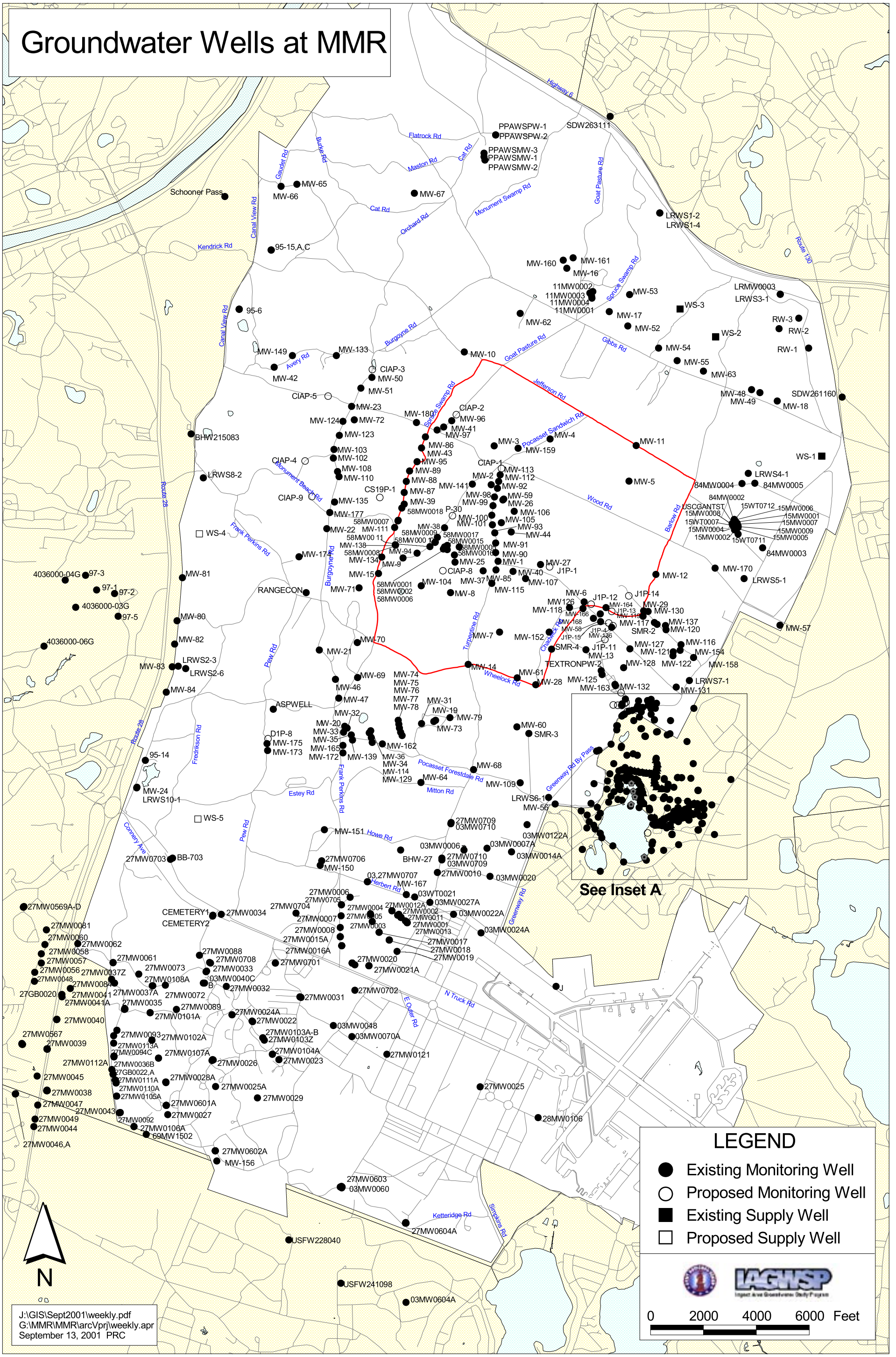
DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
SBD = SAMPLE COLLECTION BEGIN DEPTH IN FEET BGS
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS
BWTS = DEPTH BELOW WATER TABLE, START DEPTH, MEASURED IN FEET
BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET
PDA/YES = Photo Diode Array, Detect Confirmed
PDA/NO = Photo Diode Array, Detect Not Confirmed

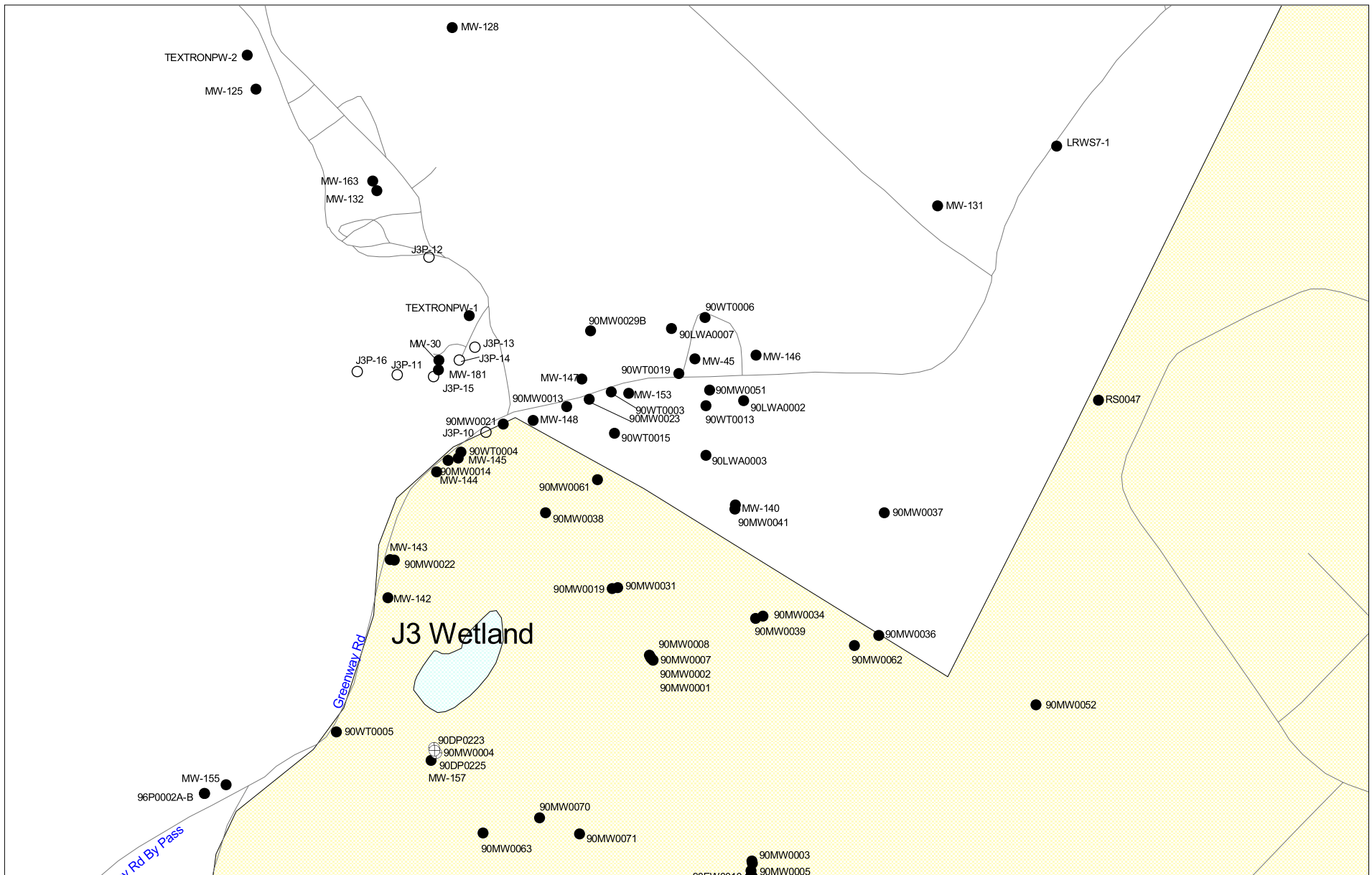
TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 8/23/01-9/21/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	HEXAHYDRO-1,3,5-TRINITROSO	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	HEXAHYDRO-1,3-DINITROSO-5-I	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	HEXAHYDRO-1-MONONITROSO	YES
W31SSA	MW-31	08/24/2001	GROUNDWATER	98.00	103.00	13.00	18.00	8330NX	OCTAHYDRO-1,3,5,7-TETRANITI	YES
W84DDA	MW-84	08/23/2001	GROUNDWATER	142.00	152.00	109.00	119.00	8330NX	2,4,6-TRINITROTOLUENE	NO
W84DDA	MW-84	08/23/2001	GROUNDWATER	142.00	152.00	109.00	119.00	8330NX	2,6-DINITROTOLUENE	YES
W84M1A	MW-84	08/24/2001	GROUNDWATER	140.00	150.00	103.00	113.00	8330NX	2,6-DINITROTOLUENE	YES
W84M2A	MW-84	08/27/2001	GROUNDWATER	104.00	114.00	67.00	77.00	8330NX	2,4-DINITROTOLUENE	NO

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
SBD = SAMPLE COLLECTION BEGIN DEPTH IN FEET BGS
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS
BWTS = DEPTH BELOW WATER TABLE, START DEPTH, MEASURED IN FEET
BWTE = DEPTH BELOW WATER TABLE, END DEPTH, MEASURED IN FEET
PDA/YES = Photo Diode Array, Detect Confirmed
PDA/NO = Photo Diode Array, Detect Not Confirmed

Groundwater Wells at MMR





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Inset A

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September 13, 2001 PRC