WEEKLY PROGRESS UPDATE
FOR NOVEMBER 5 – NOVEMBER 9, 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 November 5 to November 9, 2001.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of November 9 is summarized in Table 1.

Table 1. Drilling progress as of November 9, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-187	J-1 Range Well (J1P-12)	290	184	
MW-188	J-1 Range Well (J1P-13)	327	217	
MW-189	J-1 Range Well (J1P-4)	210	116	
MW-190	J-1 Range Well (J1P-11)	150	50	
MW-191	J-1 Range Well (J1P-15)	60		
PW-1	Central Impact Area Pump Test Well	208	79	
OW-3	Pump Test Observation Well	193	68	181-191
Boring 31	J-1 Range Soil Boring (J1IBA-1)	110		

bgs = below ground surface
bwt = below water table

Completed well installation of OW-3 (Observation Well). Awaiting sieve analysis for PW-1 (Pump Test Well). Completed drilling of MW-188 (J-1 Range) and commenced drilling of MW-187 (J-1 Range), MW-189 (J-1 Range), MW-190 (J-1 Range) and MW-191 (J-1 Range). Completed drilling of Boring 31 (J1IBA-1). Well development continued for newly installed observation and Central Impact Area wells.

Samples collected during the reporting period are summarized in Table 2. Groundwater profile samples were collected from MW-187 (J1P-12), MW-188 (J1P-13), MW-189 (J1P-4) and MW-190 (J1P-11). A groundwater sample was collected through the auger at Boring 31. Groundwater samples were collected from newly installed wells, including sample from MW-181 for uranium isotope analysis. Water samples were collected from the GAC treatment system. Surface water samples were collected from Snake Pond. Soil boring samples were collected from Boring 31 (J1IBA-1) and wells MW-189 (J1P-4) and MW-191 (J1P-15).

The Guard, EPA, and MADEP had a meeting on November 8 to discuss technical issues, including the following:

Attendees

Tina Dolen (IAGWSPO)
Bill Gallagher (IAGWSPO)
Karen Wilson (IAGWSPO)
COL Albert Bleakley (JPO)
Mike Minior (AFCEE)
Todd Borci (EPA)

Jane Dolan (EPA)	Mike Jasinski (EPA)	Desiree Moyer (EPA)
Len Pinaud (MADEP)	Mark Panni (MADEP)	Heather Sullivan (ACE)
John MacPherson (ACE)	Ellen Iorio (ACE)	Rob Foti (ACE)
Marc Grant (AMEC)	Scott Veenstra (AMEC – phone)	John Rice (AMEC)
Kim Harriz (AMEC)	Herb Colby (AMEC - phone)	Mark Applebee (AMEC – phone)
Larry Hudgins (Tetra Tech)	Dave Williams (MDPH)	Ken Gaynor (Jacobs)

Punchlist Items

#2 Access 90PZ208 (Corps). MADEP has not received required information from Corps to pursue a court order for access to private property. Heather Sullivan (ACE) continues to follow up with Ray Cottengaim (ACE).

#3 Provide comment on PCN sampling (EPA). Comments will require a couple more weeks.

#10 Provide Perchlorate results from Bourne wells (AMEC). Data expected today 11/8; will be emailed when available.

#14 Provide USGS age-dating proposal (IAGWSPO). Copy provided prior to meeting to EPA.

#17 Provide recommendation on how to handle HUTA soil with explosive detections (Corps). Recommendation distributed via email regarding two lifts. Recommendation for the two lifts is to backfill pits with soil and address as part of the FS. A third lift, Lift 3 from Test Pit 6, is not recommended to be backfilled; Corps to send email stating how this lift will be handled.

#18 Provide ammunition data cards for N Range UXO (Corps). Ammunition cards for 81mm mortars could not be found at Rock Island. Cards for 60mm mortars are at Rock Island, IAGWSPO has a copy.

#19 Schedule site visits with interviewee's 9, 24, 25 (Corps). Gina Tyo (ACE) to call Jane Dolan (EPA) regarding schedule for site visits. Ms. Dolan requested that a site visit also be scheduled with interviewee 30. Ms. Dolan reiterated her request for a list of the additional names identified for interviews.

SE Corner of Ranges Plume Maps

- Jane Dolan (EPA) indicated that although she did not agree totally with the current plume configurations, she would hold further comment in deference to the IART team's comments at the 12/04 Public meeting.
- Todd Borci (EPA) requested that at locations where there were singular detections of explosives (depicted by a dot not associated with a plume) that the well dots be associated with a concentration box.
- Discussion ensued on detection of perchlorate at 90MW0022 and whether this singular detection which is shown on the map as a plumelet, should be depicted as a dot instead. In accordance with EPA's recommendation, there was concurrence that the plumelet at this location would be made larger to be more obvious and a concentration box would be added. The depiction was left as a plumelet, since it appeared that this detection may be associated with upgradient and downgradient detections of perchlorate, similar to the pattern observed with HMX.
- Ms. Dolan requested that she be provided a summary of when the next samples will be (or were) collected for perchlorate analyses from J- Range wells. From these sampling dates, the due date for the analysis should be projected by adding 30 days. Ms. Dolan was particularly interested in data from 90MW0022.
- Ms. Dolan inquired if profile sampling for wells being drilled at the J-1 Range included Perchlorate analysis. Herb Colby (AMEC) indicated that perchlorate was not included as part of the profiling mostly because of the turn-around-time which was not quick enough to provide results useable for setting screens. In addition, reanalysis of wells that backtracked to the Interberm area were nondetect for perchlorate.

Schedule/Documents

Marc Grant (AMEC) distributed a Gantt Chart of the Combined Revised Schedule (dated 11/06) and Document List.

- Mr. Grant pointed out two differences in the 11/06 schedule and the schedule provided in Ben Gregson's (IAGWSPO) October 30 letter. The changes included removal of a Final J Ranges Report that had been discussed in the letter and change of due date for the Demo 1 Area Soil report and related FS deliverable reports (FS Screening report, etc.)
- Discussion ensued on whether the one-week extension provided for the Demo 1 Area Soil Report applied to the associated reports. This hadn't been mentioned in the email related the extension request. Mike Jasinski (EPA) requested that for future extensions requests needed to be made line by line covering every deliverable effected. Mr. Grant pointed out that it would be easier to recognize the dependency of the various tasks as exhibited in the Gantt chart. EPA requested a cover letter form the Guard for submittal of the latest Revised Combined Schedule (dated 11/06).
- The Document status table was reviewed. Regarding Documents Needing Comments the EPA had the following comments:
  - Central Impact Area Soil Report (TM 01-13) comments will be provided shortly.
  - MSP2 J-1 Range Vehicle Removal Letter Report comments to be provided by 11/15.
  - CDC Test Results Report comments to be provided 11/15.
  - Revised Phase IIb Report (TM 01-15) comments 11/15.
  - Draft Revised ASR comments not until 11/30.
  - Jane Dolan (EPA) provided verbal approval for the DU Report MOR, to provide email approval.
- Mark Panni (MADEP) stated that he had completed comment on the Demo 1 Area Groundwater FS and the comments were significant to the extent that they could impact the revised schedule. However, the comments had not been sent to the Guard to date. Mr. Panni to pursue expediting the transmission of his comments.

Decision Criteria Matrix Status

- Mike Jasinski (EPA) explained that the State and EPA have been working on the verbiage to the DCM. There were some criteria changes but significant changes are reflected only in the threshold criteria. The changes include mistakes that had not previously been corrected in the original matrix. The criteria change included adding as a Threshold Criteria 1 - the drinking water aquifer. Definitions will follow in a week.
- Todd Borci (EPA) indicated that there had been few changes to the narrative.
- Tina Dolen (IAGWSPO) indicated that the Guard could perhaps get back to EPA in a week or so from when the DCM was received with any questions.
- DCM presentation to be included in the January IART meeting.

Demo 1 Well Scoping

A figure of the proposed location of D1P-9, a well scoped to help define the terminus of the Demo 1 Area groundwater plume, was displayed. Rationale for selecting the proposed location was reviewed by Mark Applebee (AMEC).

- The proposed location for D1P-9 is located approximately ½ way between Frank Perkins and Pew Roads, along the center line of the plume, approximately 1200 feet west of MW-165. This location was chosen in an area thought to be within the 2-ppb contour to provide a low concentration detection to help determine the extent of the downgradient plume. After installation of this well, a second well would be installed 250 feet south of the D1P-9. The

plume boundaries could then be refined with 2 or 3 additional wells.

- Todd Borci (EPA) asked why the location wasn't accessed from the NBC Area, which could require a shorter access road. Historic aerial photographs indicate that a road was present along the valley. Mr. Applebee explained that the road from Frank Perkins would also be utilized for the installation of the treatment system.
- Mr. Borci also proposed that D1P-9 be installed only 600 feet out from MW-165. A well at this location would provide a greater probability of falling within the groundwater plume and require half of the clearing required for a road. Depending on the results from this well, a second well could be scoped further out to the west as needed or to the south. Because of the higher certainty of intersecting the plume, Mark Panni (EPA) favored Mr. Borci's approach.
- Karen Wilson (IAGWSPO) also favored this approach from a natural resources viewpoint, to preserve habitat. Ms. Wilson wondered if an ATV rig could be used so that establishing a permanent road could be avoided. John Rice (AMEC) indicated that in the moraine an ATV rig would not have enough power to advance a borehole to the required depth. Ken Gaynor (Jacobs) indicated that AFCEE had had success with temporary wood chip roads. Mike Jasinski/Mr. Borci (EPA) pointed out that the road would most likely be needed for the treatment system anyway.
- Heather Sullivan (ACE) indicated that the Guard would complete the RAC for a 1200-foot road, but start with a 600-foot road. Ms. Sullivan stated that currently two wells had been scoped for additional delineation of the Demo 1 groundwater plume.

CS-19 VOC Sampling

- Mike Minior (AFCEE) explained the circumstances surrounding the VOC detections in recently profiled boreholes in the CS-19 Area. Profiling had been completed for Well 58MW0020. A screen had been set for this well based on the explosive results (RDX at 0.27 ppb). Because of a lot of boulders in the area, deeper screens could not be set. VOC results received by the agencies after the well was installed showed a detection of TCE at 9 ppb, 40 feet below the RDX detection. A second adjacent borehole was drilled with a more powerful rig to pursue this detection under the assumption that it may represent an area of VOC contamination. TCE was not detected in profiling the second borehole. A screen was set at the depth of detection in the first borehole. The results in this well screen were non detect for TCE. Therefore, it was AFCEE's opinion that the TCE detection in the first borehole was inconsistent and sporadic and not likely representative of an area of concern. In addition, because the detection of TCE was 40 feet below the RDX detection, it would likely backtrack outside the area of CS-19 and therefore not be under AFCEE's purview.
- EPA disagreed with AFCEE's opinion, considering the 9-ppb detection of TCE as high relative to typical solvent detections at Camp Edwards and requiring further evaluation. At a minimum, EPA requested that a particle backtrack from the profile detection be provided so that the potential origin of the detection could be determined. Mike Jasinski (EPA) to contact Robert Gill (AFCEE) to discuss.

Disposition of Drill Cuttings

- Karen Wilson (IAGWSPO) requested permission from EPA to remove drill cuttings instead of spreading them out at the drill sites. Spreading the drill cuttings at the drill sites may inhibit recovery of local vegetation. Drill cuttings could be approved for other use such as backfill.
- Bill Gallagher (IAGWSPO) explained that a composite sample is collected of the drill cuttings and compared to a background sample collected from the immediate area. If there are no detections of explosives above the background concentration, the drill cuttings have been

dispersed in the surrounding area. Activities are in accordance with the IDW Plan.

- Todd Borci (EPA) requested information on drill sites that had explosive detections in the drill cuttings. John Rice (AMEC) indicated that he could recall only one, but indicated that this information could be compiled. Mr. Borci indicated that once the piles were determined to be clean, they could be reused. Mr. Gallagher indicated that this would preclude the need to collect the background samples at each drill site.

Former A Range Update

Ellen Iorio (ACE) distributed a one-page handout that summarized ordnance discoveries on Former A Range.

- Larry Hudgins (Tetra Tech) explained that initially, two caches of 3.5" practice rockets had been discovered buried in the roadway. In addition to these caches, 9 caches of expended rockets were discovered among the 4 survey areas during anomaly excavation. The rockets were obviously intentionally buried as they were neatly stacked just below the surface. Other items were also found on the range, totaling 558 munitions. 35 BIPs were conducted on the range by Tetra Tech, the majority on 37mm and 40mm anti-aircraft projectiles.
- Todd Borci (EPA) stated that he would like similar detail provided verbally (didn't expect written handout) as fieldwork for Munitions Survey Project proceeds. For the rockets, for example, nitroglycerin and perchlorate are known constituents in the propellant. Therefore, soil sampling for these constituents following the rocket discoveries may have been appropriate. Therefore, EPA would like to know as much as possible as the activities proceed so that investigation decisions can be made at the time of discoveries.

MSP/HUTA/AIRMAG Update

Ellen Iorio (ACE) requested information on status/approval for workplans for these projects so that the projects could proceed.

- HUTA - Comments on Workplan to be provided by EPA on 11/15. Joe Dauchy (Tetra Tech) will be in town next week to answer questions.
- BA-1 Workplan - Workplan and HASP will be provided by midday Tuesday, 10/13. Todd Borci (EPA) explained that although EPA won't comment on HASPs, comment on the Workplan can be provided by 11/15. Fieldwork to start Monday 11/29.
- AirMag/MSP - Tetra Tech is preparing a table that shows how the 17,000 anomalies are being handled. The Corps will provide today, 11/08, a statement of work on all items in the MSP to show how they are laid out in areas. No comment from the agencies is required until the Workplan is received, unless omissions are noted. Workplans will be submitted by 11/16. Comments on the J Range scope of work and two other areas: area around MW-1 and areas around MW-26 and MW-59 would be appreciated ASAP, possibly week of 11/26.
    - Currently, Tetra Tech field personnel are proceeding with reconnaissance of cultural features.
    - With respect to the AirMag Intrusive Investigation Workplan and Response to Comment 7 on the MSP Report, Jane Dolan (EPA) requested a protocol for handling potentially contaminated soil when doing excavation of anomalies. Tetra Tech should overlay excavation polygons with AMEC soil grids so that areas that may be contaminated can be identified; coordinate with Herb Colby (AMEC). Ms. Dolan requested for the J-Range excavations that the polygons be taped off in the field and that site visits be arranged to these areas. Ms. Dolan to prepare list of sites where pre-excavation sampling should be conducted. Sampling of other areas will depend on what is found in excavation. Corps to coordinate contractor to sample areas.

Miscellaneous

- Jane Dolan (EPA) requested more information on the detection of gross alpha in MW-181 profile sample. Marc Grant (AMEC) and others provided summary. Well is located on the north side of the building at the western end in the area of the former wastewater holding tank. The profile sample collected at the water table had a detection of gross alpha at 544 pCi/L, which is 30X greater than the screening criteria of 15 pCi/L. Currently, the lab is trying to recover enough sample to reanalyze. A gross alpha sample has also been collected from the well, and should be available in 2 weeks. Ms. Dolan requested a faster turn around time and information on whether uranium isotope analysis could be done (in accordance with Ogden's September 26, 2000 letter to EPA). COL Bleakley explained that gross alpha is a measurement of the total radioactivity and Uranium would be a contributor to that activity. Therefore, the Uranium analysis would only be warranted if the gross alpha exceedance was confirmed. Mike Jasinski (EPA) requested that AMEC determine if Uranium analysis could be conducted.
- Ms. Dolan inquired about the Monthly Water Supply Reports. Len Pinaud (MADEP) indicated that it appears that formal reports are not provided to the DEP.
- Ms. Dolan inquired about the letter regarding the revised perchlorate method. Following approval, could perchlorate soil sampling be started? Mr. Grant indicated that the lab is still trying to achieve a lower MDL (1.5 ppb) for soil. Hopefully, the answer will be provided this week.
- Rob Foti (ACE) stated that the revised ASR had been submitted 10/31 and the Guard was awaiting comment. The project is being transferred from Rock Island to a contractor (to be named).
- Ms. Dolan requested a validation schedule for the RRA containment pad water samples. Scott Veenstra (AMEC) to check.

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 MW-147M1 (J-3 Range) and MW-147M2 (J-3 Range) had detections of RDX and HMX that were confirmed by PDA spectra. The detections were similar to previous sampling rounds.

- Groundwater samples from MW-153M1 (J-3 Range) had a detection of RDX that was confirmed by PDA spectra. The detections was similar to previous sampling rounds.

- Groundwater samples from MW-178M1 (Central Impact Area) had a detection of RDX that was confirmed by PDA spectra. This is the fist time this well has been sampled. The RDX detection was similar to the profile sample results.

- Groundwater profile samples from MW-188 (J-1 Range) had detections of acetone (6 intervals), chloroform (10 intervals), 2-butanone (2 intervals), 1,3,5-trinitrobenzene (2 intervals), 1,3-dinitrobenzene (1 interval), 2,6-dinitrotoluene (1 interval), 4-nitrotoluene (2 intervals), nitroglycerin (11 intervals) and picric acid (3 intervals). No detections of explosives were confirmed by PDA.

3. DELIVERABLES SUBMITTED

October 2001 Monthly Progress Report No. 55	11/09/01
Weekly Progress Update, October 29 – November 2, 2001	11/09/01

4. SCHEDULED ACTIONS

Scheduled actions for the week of November 12 include installation of MW-187, MW-188 and continued drilling of MW-189, MW-190, and MW-191 and commence drilling of Boring 32 (J1IBA-2). Commence soil sampling at the Gun and Mortar Position for verification of MCPA and MCPP detections, GPR survey at the J-3 Range Demolition Area and groundwater sampling of newly installed Central Impact Area and J Range wells.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The Demo 1 Soil Report is being revised and will be submitted in December. The approach to delineate the downgradient portion of the plume was discussed at the 11/08/01 Technical Meeting. The next monitoring well (D1P-9) will be located approximately 600 feet west of Frank Perkins Road at the projected centerline of the plume. Additional monitoring well locations will be identified based on results of the first location. Responses to EPA comments on the Draft Feasibility Study for the Groundwater Operable Unit are being developed.

TABLE 2
SAMPLING PROGRESS
11/3/2001-11/9/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
ABB0031AAE	FIELDQC	11/07/2001	FIELDQC	0.00	0.00		
ABB0031AAT	FIELDQC	11/07/2001	FIELDQC	0.00	0.00		
ABB0031BAT	FIELDQC	11/07/2001	FIELDQC	0.00	0.00		
G187DAE	FIELDQC	11/06/2001	FIELDQC	0.00	0.00		
G187DBE	FIELDQC	11/08/2001	FIELDQC	0.00	0.00		
G187DKE	FIELDQC	11/09/2001	FIELDQC	0.00	0.00		
G187DKT	FIELDQC	11/09/2001	FIELDQC	0.00	0.00		
G188DAE	FIELDQC	11/07/2001	FIELDQC	0.00	0.00		
G188DHT	FIELDQC	11/08/2001	FIELDQC	0.00	0.00		
GAB31AAE	FIELDQC	11/08/2001	FIELDQC	0.00	0.00		
GAB31AAT	FIELDQC	11/08/2001	FIELDQC	0.00	0.00		
S191DAE	FIELDQC	11/09/2001	FIELDQC	0.00	0.00		
S191DCT	FIELDQC	11/09/2001	FIELDQC	0.00	0.00		
W149M1A	MW-149	11/09/2001	GROUNDWATER	237.00	247.00	136.00	146.00
W149SSA	MW-149	11/09/2001	GROUNDWATER	105.00	115.00	4.00	14.00
W173M1A	MW-173	11/08/2001	GROUNDWATER	243.00	253.00	110.20	120.20
W173M2A	MW-173	11/08/2001	GROUNDWATER	208.00	218.00	72.40	82.40
W173M3A	MW-173	11/08/2001	GROUNDWATER	188.00	198.00	52.20	62.20
W175M1A	MW-175	11/07/2001	GROUNDWATER	264.00	274.00	139.25	149.25
W175M2A	MW-175	11/08/2001	GROUNDWATER	199.00	209.00	74.45	84.45
W175M3A	MW-175	11/08/2001	GROUNDWATER	162.00	167.00	37.40	47.40
W181SSA	MW-181	11/07/2001	GROUNDWATER	32.00	42.00	0.00	10.00
W181SSA	MW-181	11/09/2001	GROUNDWATER	32.00	42.00	0.00	10.00
W181SSD	MW-181	11/09/2001	GROUNDWATER	32.00	42.00	0.00	10.00
DW110701	GAC WATER	11/07/2001	IDW	0.00	0.00		
G187DAA	MW-187	11/06/2001	PROFILE	110.00	110.00	4.40	4.40
G187DBA	MW-187	11/08/2001	PROFILE	120.00	120.00	14.40	14.40
G187DCA	MW-187	11/08/2001	PROFILE	130.00	130.00	24.40	24.40
G187DDA	MW-187	11/08/2001	PROFILE	140.00	140.00	34.40	34.40
G187DEA	MW-187	11/08/2001	PROFILE	150.00	150.00	44.40	44.40
G187DFA	MW-187	11/08/2001	PROFILE	160.00	160.00	54.40	54.40
G187DGA	MW-187	11/08/2001	PROFILE	170.00	170.00	64.40	64.40
G187DHA	MW-187	11/08/2001	PROFILE	180.00	180.00	74.40	74.40
G187DIA	MW-187	11/08/2001	PROFILE	190.00	190.00	84.40	84.40
G187DJA	MW-187	11/08/2001	PROFILE	200.00	200.00	94.40	94.40
G187DKA	MW-187	11/09/2001	PROFILE	210.00	210.00	104.40	104.40
G187DLA	MW-187	11/09/2001	PROFILE	220.00	220.00	114.40	114.40
G187DMA	MW-187	11/09/2001	PROFILE	230.00	230.00	124.40	124.40
G187DNA	MW-187	11/09/2001	PROFILE	240.00	240.00	134.40	134.40
G187DND	MW-187	11/09/2001	PROFILE	240.00	240.00	134.40	134.40
G187DOA	MW-187	11/09/2001	PROFILE	250.00	250.00	144.40	144.40
G187DOD	MW-187	11/09/2001	PROFILE	250.00	250.00	144.40	144.40
G187DPA	MW-187	11/09/2001	PROFILE	260.00	260.00	154.40	154.40

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
Other Sample Types methods are variable
SBD = Sample Begin Depth, measured in feet bgs
SED = Sample End Depth, measured in feet bgs
BWTS = Depth below water table, start depth, measured in feet
BWTE = Depth below water table, end depth, measured in feet

TABLE 2
SAMPLING PROGRESS
11/3/2001-11/9/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G187DQA	MW-187	11/09/2001	PROFILE	270.00	270.00	164.40	164.40
G187DRA	MW-187	11/09/2001	PROFILE	280.00	280.00	174.40	174.40
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50
G188DBA	MW-188	11/07/2001	PROFILE	130.00	130.00	19.50	19.50
G188DCA	MW-188	11/07/2001	PROFILE	140.00	140.00	29.50	29.50
G188DDA	MW-188	11/07/2001	PROFILE	150.00	150.00	39.50	39.50
G188DEA	MW-188	11/07/2001	PROFILE	160.00	160.00	49.50	49.50
G188DFA	MW-188	11/07/2001	PROFILE	170.00	170.00	59.50	59.50
G188DGA	MW-188	11/07/2001	PROFILE	180.00	180.00	69.50	69.50
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50
G188DIA	MW-188	11/07/2001	PROFILE	200.00	200.00	89.50	89.50
G188DJA	MW-188	11/07/2001	PROFILE	210.00	210.00	99.50	99.50
G188DKA	MW-188	11/07/2001	PROFILE	220.00	220.00	109.50	109.50
G188DLA	MW-188	11/07/2001	PROFILE	230.00	230.00	119.50	119.50
G188DMA	MW-188	11/07/2001	PROFILE	240.00	240.00	129.50	129.50
G188DNA	MW-188	11/07/2001	PROFILE	250.00	250.00	139.50	139.50
G188DND	MW-188	11/07/2001	PROFILE	250.00	250.00	139.50	139.50
G188DOA	MW-188	11/08/2001	PROFILE	260.00	260.00	149.50	149.50
G188DOD	MW-188	11/08/2001	PROFILE	260.00	260.00	149.50	149.50
G188DPA	MW-188	11/08/2001	PROFILE	270.00	270.00	159.50	159.50
G188DQA	MW-188	11/08/2001	PROFILE	280.00	280.00	169.50	169.50
G188DRA	MW-188	11/08/2001	PROFILE	290.00	290.00	179.50	179.50
G188DSA	MW-188	11/08/2001	PROFILE	300.00	300.00	189.50	189.50
G188DUA	MW-188	11/08/2001	PROFILE	320.00	320.00	209.50	209.50
G188DVA	MW-188	11/08/2001	PROFILE	327.00	327.00	216.50	216.50
G189DAA	MW-189	11/09/2001	PROFILE	105.00	105.00	11.40	11.40
G189DBA	MW-189	11/09/2001	PROFILE	110.00	110.00	16.40	16.40
G189DCA	MW-189	11/09/2001	PROFILE	120.00	120.00	26.40	26.40
G189DDA	MW-189	11/09/2001	PROFILE	130.00	130.00	36.40	36.40
G189DEA	MW-189	11/09/2001	PROFILE	140.00	140.00	46.40	46.40
G189DFA	MW-189	11/09/2001	PROFILE	150.00	150.00	56.40	56.40
G189DGA	MW-189	11/09/2001	PROFILE	160.00	160.00	66.40	66.40
G189DHA	MW-189	11/09/2001	PROFILE	170.00	170.00	76.40	76.40
G189DIA	MW-189	11/09/2001	PROFILE	180.00	180.00	86.40	86.40
G189DJA	MW-189	11/09/2001	PROFILE	190.00	190.00	96.40	96.40
G189DKA	MW-189	11/09/2001	PROFILE	200.00	200.00	106.40	106.40
G189DLA	MW-189	11/09/2001	PROFILE	210.00	210.00	116.40	116.40
G190DAA	MW-190	11/09/2001	PROFILE	110.00	110.00		
G190DAE	MW-190	11/09/2001	PROFILE	0.00	0.00		
G190DBA	MW-190	11/09/2001	PROFILE	120.00	120.00		
G190DBD	MW-190	11/09/2001	PROFILE	120.00	120.00		
G190DCA	MW-190	11/09/2001	PROFILE	130.00	130.00		
G190DDA	MW-190	11/09/2001	PROFILE	140.00	140.00		
GAB31AAA	B-31	11/08/2001	PROFILE	112.00	112.00	2.80	2.80

Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
Other Sample Types methods are variable
SBD = Sample Begin Depth, measured in feet bgs
SED = Sample End Depth, measured in feet bgs
BWTS = Depth below water table, start depth, measured in feet
BWTE = Depth below water table, end depth, measured in feet

TABLE 2
SAMPLING PROGRESS
11/3/2001-11/9/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
GAB31BAA	B-31	11/08/2001	PROFILE	121.00	121.00	11.80	11.80
ABB0031AAA	B-31	11/07/2001	SOIL BORING	5.00	7.00		
ABB0031AAD	B-31	11/07/2001	SOIL BORING	5.00	7.00		
ABB0031BAA	B-31	11/07/2001	SOIL BORING	10.00	12.00		
ABB0031CAA	B-31	11/07/2001	SOIL BORING	20.00	22.00		
ABB0031DAA	B-31	11/07/2001	SOIL BORING	30.00	32.00		
ABB0031EAA	B-31	11/07/2001	SOIL BORING	40.00	42.00		
ABB0031FAA	B-31	11/07/2001	SOIL BORING	50.00	52.00		
ABB0031GAA	B-31	11/07/2001	SOIL BORING	60.00	62.00		
ABB0031HAA	B-31	11/07/2001	SOIL BORING	70.00	72.00		
ABB0031IAA	B-31	11/07/2001	SOIL BORING	80.00	82.00		
ABB0031JAA	B-31	11/07/2001	SOIL BORING	90.00	92.00		
ABB0031KAA	B-31	11/07/2001	SOIL BORING	100.00	102.00		
ABB0031PLMAAA	B-31	11/07/2001	SOIL BORING	108.00	110.00		
ABB0031PLMBAA	B-31	11/08/2001	SOIL BORING	110.00	112.00		
S189DAE	MW-189	11/07/2001	SOIL BORING	0.00	0.00		
S189DCA	MW-189	11/07/2001	SOIL BORING	10.00	12.00		
S189DDA	MW-189	11/07/2001	SOIL BORING	20.00	22.00		
S189DEA	MW-189	11/07/2001	SOIL BORING	30.00	32.00		
S189DFA	MW-189	11/07/2001	SOIL BORING	40.00	42.00		
S189DGA	MW-189	11/07/2001	SOIL BORING	50.00	52.00		
S189DHA	MW-189	11/07/2001	SOIL BORING	60.00	62.00		
S189DIA	MW-189	11/07/2001	SOIL BORING	70.00	72.00		
S189DJA	MW-189	11/08/2001	SOIL BORING	80.00	82.00		
S189DKA	MW-189	11/08/2001	SOIL BORING	90.00	92.00		
S191DAA	MW-191	11/09/2001	SOIL BORING	5.00	7.00		
S191DBA	MW-191	11/09/2001	SOIL BORING	10.00	12.00		
S191DCA	MW-191	11/09/2001	SOIL BORING	20.00	22.00		
S191DDA	MW-191	11/09/2001	SOIL BORING	30.00	32.00		
S191DEA	MW-191	11/09/2001	SOIL BORING	40.00	42.00		
S191DFA	MW-191	11/09/2001	SOIL BORING	50.00	52.00		
LKSNP0004AAA	LKSNP0004	11/07/2001	SURFACE WATEF	0.00	0.00		
LKSNP0004AAD	LKSNP0004	11/07/2001	SURFACE WATEF	0.00	0.00		
LKSNP0005AAA	LKSNP0005	11/07/2001	SURFACE WATEF	0.00	0.00		

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 10/20/01-11/9/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W147M1A	MW-147	10/24/2001	GROUNDWATER	167.00	177.00	94.00	104.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W147M1A	MW-147	10/24/2001	GROUNDWATER	167.00	177.00	94.00	104.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W147M2A	MW-147	10/25/2001	GROUNDWATER	150.00	160.00	77.00	87.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W147M2A	MW-147	10/25/2001	GROUNDWATER	150.00	160.00	77.00	87.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITR	YES
W153M1A	MW-153	10/24/2001	GROUNDWATER	199.00	209.00	108.00	118.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W178M1A	MW-178	10/31/2001	GROUNDWATER	257.00	267.00	117.00	127.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	8330N	1,3,5-TRINITROBENZENE	NO
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	8330N	1,3-DINITROBENZENE	NO
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	8330N	4-NITROTOLUENE	NO
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	8330N	NITROGLYCERIN	NO
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	8330N	PICRIC ACID	NO
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	OC21V	ACETONE	
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	OC21V	CHLOROFORM	
G188DAA	MW-188	11/07/2001	PROFILE	120.00	120.00	9.50	9.50	OC21V	METHYL ETHYL KETONE (2-BUT	
G188DBA	MW-188	11/07/2001	PROFILE	130.00	130.00	19.50	19.50	8330N	NITROGLYCERIN	NO
G188DBA	MW-188	11/07/2001	PROFILE	130.00	130.00	19.50	19.50	OC21V	ACETONE	
G188DBA	MW-188	11/07/2001	PROFILE	130.00	130.00	19.50	19.50	OC21V	METHYL ETHYL KETONE (2-BUT	
G188DCA	MW-188	11/07/2001	PROFILE	140.00	140.00	29.50	29.50	8330N	NITROGLYCERIN	NO
G188DCA	MW-188	11/07/2001	PROFILE	140.00	140.00	29.50	29.50	8330N	PICRIC ACID	NO
G188DCA	MW-188	11/07/2001	PROFILE	140.00	140.00	29.50	29.50	OC21V	ACETONE	
G188DDA	MW-188	11/07/2001	PROFILE	150.00	150.00	39.50	39.50	8330N	NITROGLYCERIN	NO
G188DDA	MW-188	11/07/2001	PROFILE	150.00	150.00	39.50	39.50	OC21V	ACETONE	
G188DEA	MW-188	11/07/2001	PROFILE	160.00	160.00	49.50	49.50	8330N	NITROGLYCERIN	NO
G188DEA	MW-188	11/07/2001	PROFILE	160.00	160.00	49.50	49.50	OC21V	ACETONE	
G188DFA	MW-188	11/07/2001	PROFILE	170.00	170.00	59.50	59.50	8330N	NITROGLYCERIN	NO
G188DGA	MW-188	11/07/2001	PROFILE	180.00	180.00	69.50	69.50	8330N	NITROGLYCERIN	NO
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50	8330N	1,3,5-TRINITROBENZENE	NO
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50	8330N	2,6-DINITROTOLUENE	NO
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50	8330N	4-NITROTOLUENE	NO
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50	8330N	NITROGLYCERIN	NO
G188DHA	MW-188	11/07/2001	PROFILE	190.00	190.00	79.50	79.50	OC21V	CHLOROFORM	
G188DIA	MW-188	11/07/2001	PROFILE	200.00	200.00	89.50	89.50	OC21V	CHLOROFORM	

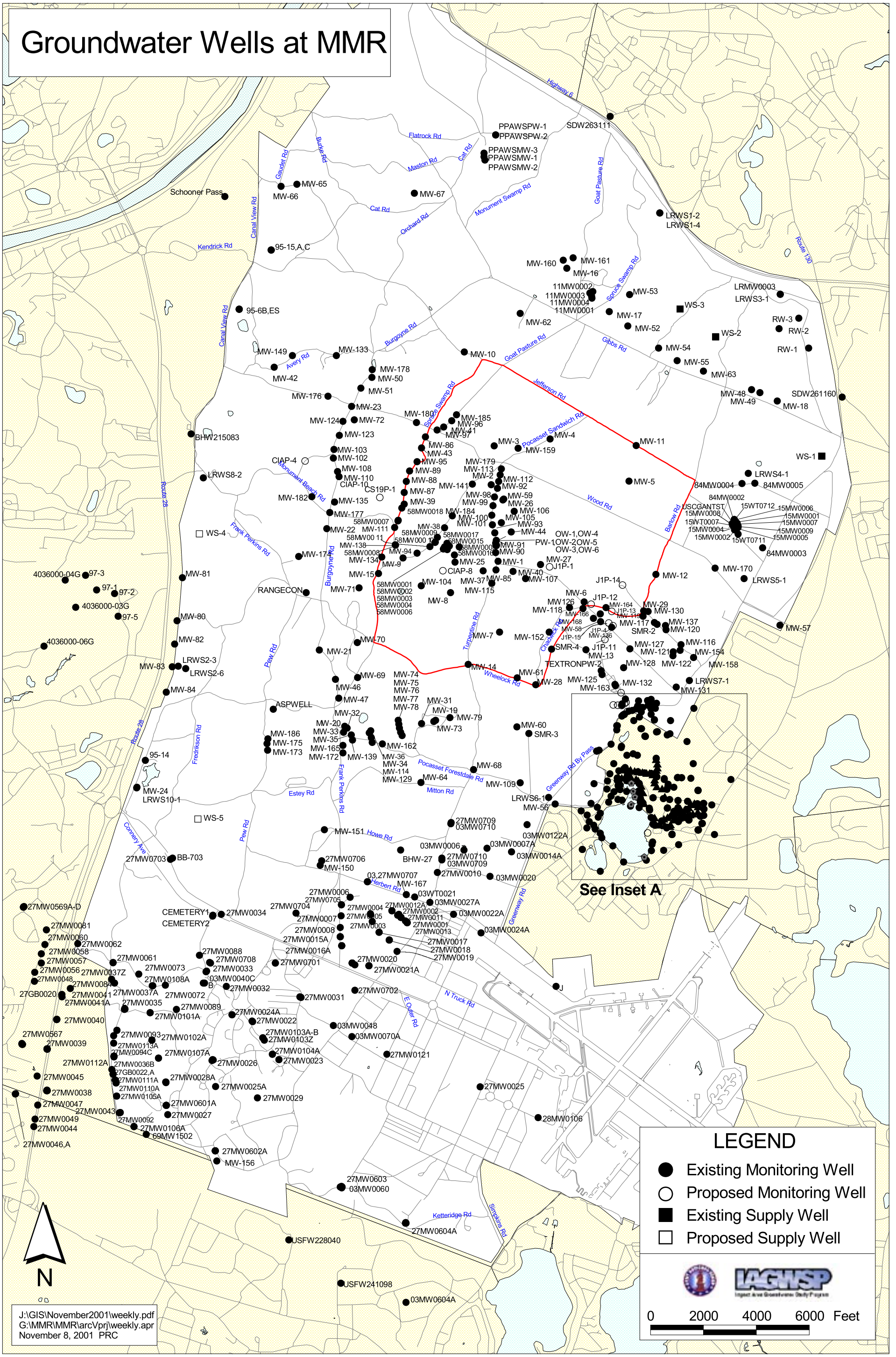
DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
SBD = SAMPLE COLLECTION BEGIN DEPTH IN FEET BGS
SED = SAMPLE COLLECTION END DEPTH IN FEET BGS
BWTS = DEPTH BELOW WATER TABLE, START DEPTH, MEASURED IN FEET
BWTE = DEPTH BELOW WATER TABLE,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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 10/20/01-11/9/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G188DLA	MW-188	11/07/2001	PROFILE	230.00	230.00	119.50	119.50	8330N	NITROGLYCERIN	NO
G188DND	MW-188	11/07/2001	PROFILE	250.00	250.00	139.50	139.50	8330N	NITROGLYCERIN	NO
G188DOA	MW-188	11/08/2001	PROFILE	260.00	260.00	149.50	149.50	OC21V	CHLOROFORM	
G188DOD	MW-188	11/08/2001	PROFILE	260.00	260.00	149.50	149.50	OC21V	CHLOROFORM	
G188DPA	MW-188	11/08/2001	PROFILE	270.00	270.00	159.50	159.50	8330N	NITROGLYCERIN	NO
G188DPA	MW-188	11/08/2001	PROFILE	270.00	270.00	159.50	159.50	OC21V	CHLOROFORM	
G188DQA	MW-188	11/08/2001	PROFILE	280.00	280.00	169.50	169.50	OC21V	CHLOROFORM	
G188DRA	MW-188	11/08/2001	PROFILE	290.00	290.00	179.50	179.50	OC21V	CHLOROFORM	
G188DSA	MW-188	11/08/2001	PROFILE	300.00	300.00	189.50	189.50	OC21V	CHLOROFORM	
G188DUA	MW-188	11/08/2001	PROFILE	320.00	320.00	209.50	209.50	OC21V	CHLOROFORM	
G188DVA	MW-188	11/08/2001	PROFILE	327.00	327.00	216.50	216.50	8330N	PICRIC ACID	NO
G188DVA	MW-188	11/08/2001	PROFILE	327.00	327.00	216.50	216.50	OC21V	ACETONE	
G188DVA	MW-188	11/08/2001	PROFILE	327.00	327.00	216.50	216.50	OC21V	CHLOROFORM	

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

Groundwater Wells at MMR



LEGEND

- Existing Monitoring Well
- Proposed Monitoring Well
- Existing Supply Well
- Proposed Supply Well

0 2000 4000 6000 Feet

N

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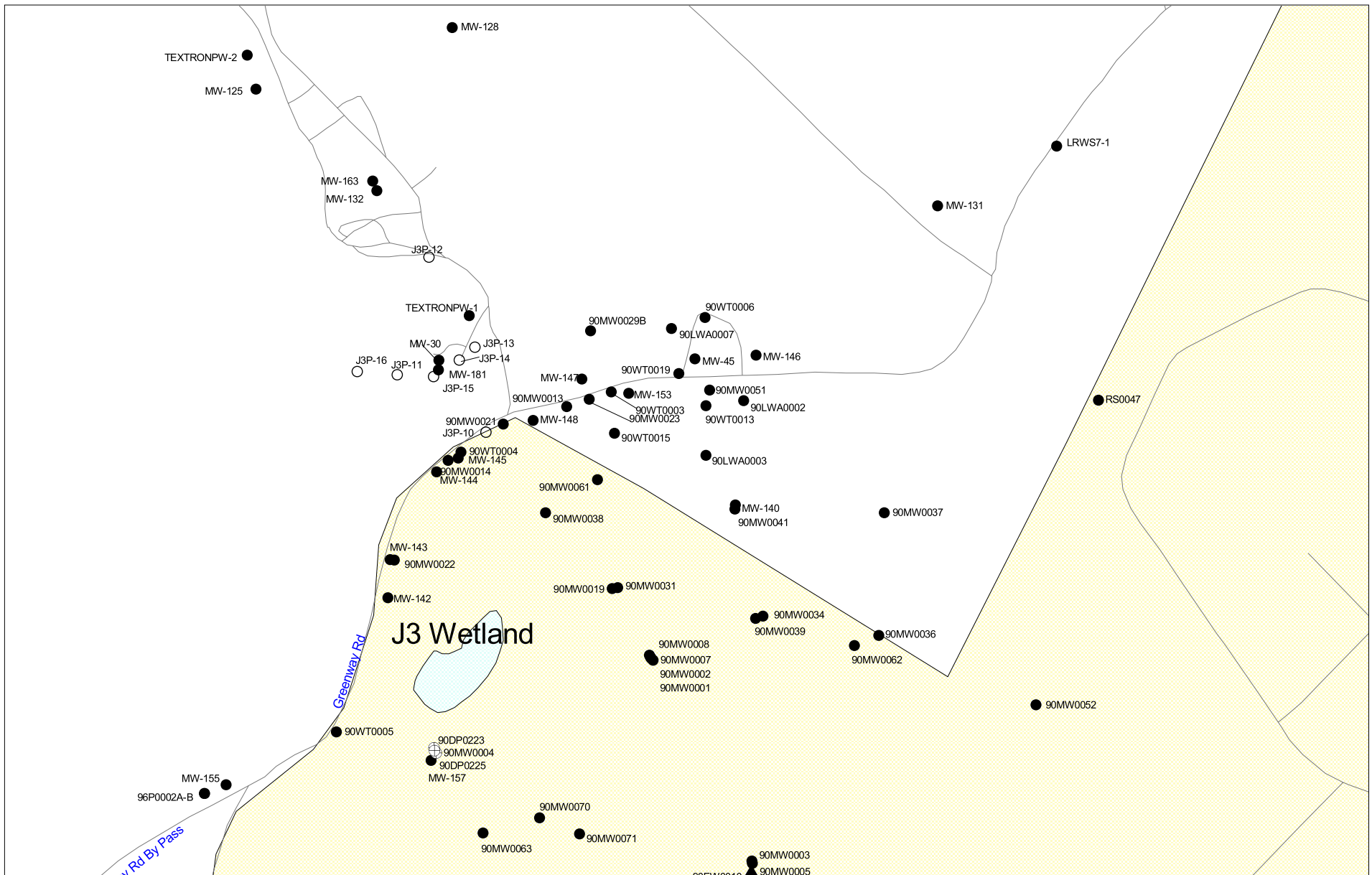
November 8, 2001 PRC



0 600 1200 Feet

Inset A

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November 8, 2001 PRC