WEEKLY PROGRESS UPDATE
FOR JUNE 11 – JUNE 15, 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 June 11 to June 15, 2001.

1. SUMMARY OF ACTIONS TAKEN

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

Table 1. Drilling progress as of June 15, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-173	Demo 1 Area well (D1P-6)	220	87	

Bgs = below ground surface
Bwt = below water table

Commenced drilling of MW-173 (D1P-6). Well development continued for newly installed wells, which included development of MW-170 (KP-1) and MW-172 (D1P-5).

Samples collected during the reporting period are summarized in Table 2. Groundwater profile samples were collected for MW-173. Groundwater samples were collected for 2001 Long Term Monitoring and first round of newly installed wells (including MW-158 at J-2 Range, MW-159 at Cleared Area 8, and MW-163 at the J-3 Range burn pit). Split samples were collected at Snake Pond drive points. Soil grid samples were collected in association with BIPs at Mortar Target 9. A background soil cuttings sample was collected at the MW-139 well pad. Water samples were collected from the RRA Containment Pad and GAC system.

Pre- and post-detonation samples were collected in the HUTA. As part of the HUTA investigation, soil and wipe samples were collected from UXO and debris in Test Pit 3 and from debris in Test Pit 5. Soil samples were also collected from the bed of Test Pit 3 beneath UXO.

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

Demo 1 Area Plume Map

John Rice (AMEC) distributed a revised Demo 1 plume map. The map depicted concentration contours of RDX at non-detect, 2 ug/L, 50 ug/L, and 100 ug/L. Analytical results for Perchlorate and RDX were presented for each well in boxes. Proposed well D1P-6 was also shown at its location on Pew Road. Contour lines at the downgradient "west end" of the plume were open. Overall the presentation was acceptable to EPA and MADEP representatives. Discussion ensued on specific features of the figure:

- Profile results for D1P-5 were listed as non detect for RDX. Todd Borci (EPA) indicated that that was not his understanding. Mike Jasinski (EPA)/Mr. Rice confirmed that that there were RDX detections below 2 ug/L and that they were PDA verified as Yes, but qualified as having interference. Similarly, higher concentrations of RDX were detected in profile samples from MW-165 and were PDA verified Yes, also with interferent compounds.

Regular groundwater samples collected from these intervals in MW-165 were non detect for RDX. Therefore, it was likely that groundwater samples at D1P-5 would also show non-detect RDX concentrations. However, this can not be confirmed until the actual groundwater samples are collected and analyzed for D1P-5. Mr. Jasinski suggested that the box for D1P-5 say "awaiting groundwater results". Tech team agreed.

- Mr. Jasinski suggested that D1P-5 label be changed to MW-172 and that since D1P-6 would be finished by the time of the IART meeting, this well label be added with a box also saying "awaiting groundwater results". Tech team concurred.
- Mr. Rice indicated that a separate Perchlorate plume map could not be produced because data wasn't available. He indicated that D1P-5 had the highest priority for developing and sampling and that it could be sampled as early as next week. Perchlorate/explosives results would be put on rush.
- Todd Borci (EPA) requested that another feature on Pew Rd in the vicinity of D1P-6 be depicted on the map to help as a reference point.
- Discussion ensued on appropriate colors for concentration contours. LTC Bleakley (JPO) suggested the following color scheme: non detect – green; RDX 2 – blue, RDX 50 - yellow; RDX 100 – red. Tech team concurred.
- Mr. Rice to check on date of data as stated to be through 5/08/01.
- Demo 1 area plume map to be discussed as part of IART, Investigation Update, New Detects Agenda Item.

CS-18 and CS-19 Updates

Ken Gaynor (Jacobs) presented an update on CS-18 and CS-19. A one-page handout was distributed.

- No new activity was conducted for CS-18 since last week. Analytical results from sampling of new groundwater wells are expected next week. Particle backtrack from location 16MW0005 will be completed in early July.
- At CS-19, excavation of first 1-foot lift at one 40-foot trench was completed. Table of on-site lab explosive results was provided. Four samples were collected from 10-foot sections to one foot deep and homogenized. On-site lab explosive results show low concentrations of Amino-DNTS and TNT in surface soil. Mike Jasinski (EPA) requested a sketch of sampling locations in the trench. Mr. Gaynor to provide at next Tech meeting.
- Arrangements have been made with AMEC, Tetra Tech and USACE to adjust working schedules to allow sampling and minimal standby time. Jacobs works a 4-day schedule and then AMEC works a 4-day schedule. Any site visits must be prearranged through AFCEE.

J Range Snake Pond Response Plan

Mike Goydas (Jacobs), Jay Clausen (AMEC) and Don Walter (USGS) provided information on FS-12 particle tracks and Denis LeBlanc (USGS) provided information on USGS model particle tracks and proposed diffusion sampling approach for Snake Pond. Dave Hill (IAGWSPO) provided a one-page outline on J Range Response activities.

- Mike Goydas (Jacobs) explained that particle track modeling from MW-171 was completing using both the FS-12 Model and 2001 Regional Model. The Regional Model was used because it affords complete coverage of the top of the mound and has been recalibrated to 1,100 data points representative of YR 2000 conditions. The FS-12 Model is useful for predicting shallow groundwater flow. Two particles were forward and backtracked from MW-171. The forward particle track showed a steep upward, south-southwest flow path and discharge to Snake Pond in both models under both ambient and operational conditions. The two different models have different results for the backward tracks. The particle backtracks from the FS-12 Model travel in a more northwesterly direction than those from the ambient condition of the Regional Model. Due to the difference in calibration targets and

boundary conditions, the backward track from the FS-12 Model is likely more representative of the long-term ambient flow trajectory; whereas the Regional Model backtracks are more likely representative of the point of origin for the explosive detections.

- Jay Clausen (AMEC) distributed map of forward and back particle tracks produced using the AMEC model. The forward particle tracks were modeled with the FS-12 recovery system both on and off. Backward particle tracks were modeled with the FS-12 system off, as most of the contaminant migration likely occurred historically prior to the operation of the FS-12 system. Forward particle track under both conditions was similar to Jacobs' modeling showing a discharge to Snake Pond immediately (200-300 feet) south of the spit. The backward particle track showed an origin for the water at the J-3 Range. Don Walter (USGS) indicated that the backward particle track that the USGS* originally modeled was oriented more northerly. AMEC and USGS to verify orientation of backward particle track.
- Denis LeBlanc (USGS) indicated that the RDX detections at MW-171 are among the deepest in area. Particle tracks from other wells downgradient of J Ranges discharge to the northern portion of the Pond. There is likely no RDX-containing groundwater discharging further to the south within pond than the RDX-containing groundwater monitored by MW-171.
- Mr. LeBlanc (USGS) outlined the proposal the USGS developed to delineate the RDX discharge to Snake Pond using a similar approach as was used at Johns Pond for the SD-5 plume. Several differences between the conditions for the Johns Pond sampling and the Snake Pond sampling. These differences included:
    - Johns Pond plume was better defined than J Range RDX plume.
    - The shoreline geometry of Snake Pond is more complex than Johns Pond making discharge predictions more difficult.
    - RDX is not expected to pass through polyethylene (as PCE/TCE can), requiring the use of a different membrane for the samplers.
- Given these considerations Mr. LeBlanc outlined Four Steps to characterize surface water discharges to Snake Pond.
    1) USGS subregional model will be used to predict discharge locations for the observed RDX detections. Interpolate between RDX detections to infer an RDX zone and use the model to map a possible discharge area on the pond bottom.
    2) Lab test use of alternative membranes, such as dialysis membranes. Suspend diffusion samplers in MMR wells with known concentrations of RDX to confirm that low levels of RDX (less than 3 ug/L) are detected in diffusion samplers.
    3) Install one or two lines of diffusion samplers in Snake Pond in most likely area of discharge, lines within 500 feet south of the spit and across the northern lobe (cove) of the Pond to be considered.
    4) Based on results of the first three steps, multiple lines of diffusion samplers would be set across the predicted area of discharge of RDX-containing groundwater.
- Jane Dolan (EPA) inquired about the timing of sampling. Mr. LeBlanc indicated that membrane testing would be in late June. Early July would have data from testing. Build initial sampling lines in mid July. Pull out diffusion samplers in early August. Mr. Hill provided the agencies with a copy of the email sent to him from Mr. LeBlanc outlining the sampling approach at Ms. Dolan's request.
- Dave Hill (IAGWSPO) inquired if measuring of temperature gradient around the discharge area would be useful. Mr. LeBlanc indicated that pond bottom was sandy and therefore, the discharge was likely diffuse. Temperature gradients would show only areas of springs. Johns Pond results showed that VOC concentrations were consistent along the bottom in the area of discharge.
- Mr. LeBlanc indicated that differential head measurements (difference between head just below base of pond and surface water) as an indication of the discharge area, could be

collected, but that it would require a stable platform. Furthermore, the head differences would be very small (difficult to measure) around the hinge line (line where it switches from the groundwater discharging to the pond to the pond recharging the groundwater.)

- Mike Goydas (Jacobs) suggested developing particle tracks from wells with non detects to help bound the zone of RDX contaminated groundwater that is being discharged.
- Dave Williams (MDPH) requested that drive point sampling be conducted to sample pore water at pond base. Mr. LeBlanc indicated that this could be done with the measuring of head differential, but again that it would be difficult (platform required) with possibly questionable results and that he would like to consider it more.
- Len Pinaud (MADEP) requested that bathymetry of Snake Pond be added to the maps.
- EPA requested that Perchlorate be added to the sampling.
- Mr. Hill indicated that to support the modeling of an "RDX/Perchlorate zone" data was still needed from PZ208, 209, and 211. These will be sampled as soon as access agreements are finalized. AMEC to provide all necessary chemical data to USGS (including data for MW-147 and MW-153) so that zone footprint can be determined.
- Mr. LeBlanc to provide more detailed Work Plan and cost estimate to Mr. Hill next week. Mr. Hill to provide USGS Work Plan to agencies, following his review.
- Ms. Dolan requested that surface water along the northern cove of Snake Pond be sampled. Rose Forbes (AFCEE) pointed out the counselors at Camp GoodNews arrived today 6/14, so that any sampling would need to be coordinated with Camp GoodNews. In a discussion, subsequent to the meeting, Ben Gregson (IAGWSPO) agreed to collect surrface water samples (from 3 locations) next week, if the property owner permitted access.

Former D Range

- John Rice (AMEC) indicated that Mike Ciaranca (MAARNG) had requested that an alternative location be selected for the well at former D Range because the access road would require 200 ft of vegetation removal.
- Marc Grant (AMEC) said that alternative sampling could be done if the intent was to see if lead or other metals were leaching to groundwater. Data from current ranges that have been used for 30 years indicates that there was no significant leaching of lead into the ground.
- Todd Borci (EPA) pointed out that use history suggests that the old ranges were used more in the 1940's than the current ranges were used in 30 years. A well at one of the old ranges would have the purpose of not only assessing these ranges as a source of metals in groundwater but also assessing the possibility of general groundwater contamination resulting from practices at the old ranges.
- A site visit with Mr. Borci, Mr. Ciaranca, Ben Gregson (IAGWSPO), and Len Pinaud (MADEP) was scheduled at 12:30 to the former D Range to further evaluate proposed well location.

J Range Ground Geophysics

Raye Lahti (Tetra Tech) reviewed anomaly maps produced from J-1 and J-3 Range ground geophysical data. Maps were distributed. J-1 Range was split into 4 separate maps. J-3 Range was split into 3 zones each with a separate map.

- Mr. Lahti indicated that the geophysical subcontractor (UXB) had produced color contour maps of EM 61 response (measured in millivolts). Using a 4 mv threshold, Tetra Tech geophysicists outlined areas on the ranges that had a high spacial extent or significant amplitude anomalies as polygons. X marks on the map represent individual anomalies. X marks not contained in polygons represent scrap or near surface anomalies or other small anomalies.
- On the J-1 Range Area 3 map north of sec 62, the background was greater than 4 mv. North

of sec 65, the background was greater than 15 mv. This data suggests that in this northern portion of the J-1 Range, the soil is saturated with metal, possibly from targeting. The exception is the 2000-meter berm, which is relatively free of anomalies.

- Jane Dolan (EPA) inquired if a correlation would be made between the AirMag and the ground geophysics data at the 2000m Berm at J-1 Range, since the AirMag showed anomalies but the EM-61 did not. Mr. Lahti responded that the ground geophysical was much more detailed than the AirMag. This would be addressed in the J Range geophysical report.
- In response to Todd Borci's (EPA) question regarding how the anomalies would be prioritized, Leo Montroy (Tetra Tech) indicated that data was still preliminary. Tetra Tech wanted to do a quick field check of some items to factor into a prioritization list. Factors would include surface features, cultural debris and observations that had been made during the survey in order to come up with a prioritization list. Ms. Dolan requested to be involved with field truthing site visits.
- Todd Borci (EPA) requested prioritization be focused on the area between the 1000m and 150m berms. Ellen Iorio (ACE) indicated that this information could possibly be provided ahead of the report schedule in mid July.
- EPA requested copies of the UXB color contour maps of the J-3 Range. Mike Jasinski (EPA) indicated that this information would be useful in the agencies' review of the J-1/J-3/L Ranges Additional Delineation Work Plan. Ms. Dolan to go over UXB maps with Ms. Iorio at end of meeting to indicate which maps are of interest so that copying can be minimized.

AIRMAG Secondary Target List

- Tetra Tech provided an AirMag secondary target list to the agencies.
- Secondary target list was developed using a 500-lb limit for anomalies.
- Todd Borci (EPA) requested the Guard provide an approach for ground truthing the secondary target list. Mr. Borci to call Ben Gregson (IAGWSPO) to discuss.

IART Action Items and Agenda

Jim Murphy (EPA) led discussion regarding IART meeting.

- CPT Meyer is working on a response to Action Item 2.
- Herb Colby (AMEC) composed a memo regarding the status of the non-aqueous phase liquid at MW-164 for Action Item 5, agencies indicated that this was acceptable for IART distribution.
- Regarding Action Item 7, Colonel Bailey (MAARNG) would be asked who was providing instructions for distribution of ASP items, possibly to be at dry run.
- Action Item 8 to be reworded to indicate that USACE was developing a new contract to provide a contractor for TOSC services.
- Regarding Action Item 9, Jane Dolan (EPA) provided report copy.
- Regarding Action Item 11, it was pointed out that this meant that figures should be readable, particularly the data (possibly having the capability of zooming in using the laptop) and that all wells should be properly labeled.
- Regarding Action Item 14, (a) CS-18/CS-19 updates should be specified as presentations for July or August IART; (c) JPO would provide ZOCs (if approved by State) and text status of water supply project. (f) Bioslurry Process handout needed to be added as an agenda item. Handout provided by Scott Veenstra (AMEC) during punchlist discussion was approved for distribution.

June 21 Tech Meeting Proposed Agenda

- J Range Response Plan (feedback from agencies).
- Possible D1P-6 (MW-173) screen selection.
- Possible discussion of Phase IIb soil data from GA/GB and Cleared Areas, as available.
- Mortar Target 9 Update, intrusive clearance and additional delineation.

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 from MW-161S (Demo 2 area) and a duplicate sample had detections of RDX that were verified by PDA spectra. This is the first time this well was sampled and no profile samples were collected when it was drilled.

- Groundwater samples collected from MW-166M1, MW-166M2, and MW-166M3 (J-1 Range 1000m Berm area) had detections of RDX that were verified by PDA spectra. MW-166M2 and MW-166M3 also had detections of HMX that were also verified by PDA spectra. This is the first time these wells have been sampled. There were similar detections in the profile samples.

- Groundwater samples collected from MW-171M2 (Snake Pond spit well) had a detection of RDX that was verified by PDA spectra. This is the first time this well has been sampled. The detections of RDX were similar in the profile samples collected from this well.

- Groundwater samples collected from MW-40M1 (center of Central Impact Area) had a detection of RDX that was verified by PDA spectra. This detection is similar to the results from previous sampling rounds.

- Groundwater samples collected from MW-40S (center of Central Impact Area) had detections of TNT, 2A-DNT, and 4A-DNT that were verified by PDA spectra. This is the first time TNT was detected in samples collected from this well. Detections of 2A-DNT and 4A-DNT were similar to the detections in previous sampling rounds

3. DELIVERABLES SUBMITTED

Weekly Progress Update, May 28 – June 1, 2001	6/11/01
Final Central Impact Area Groundwater Report (Tech Memo 01-6)	6/12/01
Draft Central Impact Area Groundwater FS Screening Report (Tech Memo 01-11)	6/12/01

4. SCHEDULED ACTIONS

Scheduled actions for the week of June 18 include installation of MW-173 (D1P-6), continue development of newly installed wells; continue sampling the 1st through 4th rounds of newly installed wells (including MW-170 and MW-171), and continue sampling Long Term Groundwater Monitoring 2001. Intrusive clearance will continue at Mortar Target 9 to prepare for additional delineation sampling as part of the Rapid Response Action Program.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

Additional downgradient well location, MW-173 on Pew Road is in the process of being drilled. Monitoring wells at MW-114, -129 and -139 are scheduled for the third round of monitoring in the upcoming weeks. Analysis of second round groundwater samples from newly installed wells is ongoing.

TABLE 2
SAMPLING PROGRESS
6/9/2001-6/15/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
3.A.1.00937.1.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.10.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.2.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.3.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.4.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.5.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.6.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.7.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.8.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00937.9.0	A.1.00937.R	06/14/2001	CRATER GRID	2.25	2.50		
3.A.1.00939.1.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.10.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.2.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.3.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.4.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.5.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.6.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.7.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.8.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00939.9.0	A.1.00939.R	06/14/2001	CRATER GRID	2.00	2.25		
3.A.1.00940.1.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.10.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.2.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.3.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.4.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.5.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.6.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.7.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.8.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.A.1.00940.9.0	A.1.00940.R	06/14/2001	CRATER GRID	0.75	1.00		
3.B.1.00938.4.0	B.1.00938.R	06/13/2001	CRATER GRID	0.25	0.50		
3.B.1.00938.5.0	B.1.00938.R	06/13/2001	CRATER GRID	0.25	0.50		
3.B.1.00948.4.0	B.1.00948.R	06/13/2001	CRATER GRID	0.25	0.50		
3.B.1.00948.5.0	B.1.00948.R	06/13/2001	CRATER GRID	0.25	0.50		
0.G.0.00094.0.T	TRIP BLANK 94	06/14/2001	FIELDQC	0.00	0.00		
G173DAE	FIELDQC	06/14/2001	FIELDQC	0.00	0.00		
G173DEE	FIELDQC	06/15/2001	FIELDQC	0.00	0.00		
HDA06050102AE	FIELDQC	06/11/2001	FIELDQC	0.00	0.00		
HDA06130101AE	FIELDQC	06/15/2001	FIELDQC	0.00	0.00		
W131SST	FIELDQC	06/11/2001	FIELDQC	0.00	0.00		
W143M1T	FIELDQC	06/13/2001	FIELDQC	0.00	0.00		
W158M2T	FIELDQC	06/12/2001	FIELDQC	0.00	0.00		
W163SST	FIELDQC	06/15/2001	FIELDQC	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 2
SAMPLING PROGRESS
6/9/2001-6/15/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
3.B.1.00938.2.0	B.1.00938.R	06/13/2001	GAUZE WIPE	0.25	0.50		
3.B.1.00938.3.0	B.1.00938.R	06/13/2001	GAUZE WIPE	0.25	0.50		
3.B.1.00948.2.0	B.1.00948.R	06/13/2001	GAUZE WIPE	0.25	0.50		
3.B.1.00948.3.0	B.1.00948.R	06/13/2001	GAUZE WIPE	0.25	0.50		
3.D.1.00954.2.0	D.1.00954.O	06/13/2001	GAUZE WIPE	1.00	1.25		
3.D.1.00954.3.0	D.1.00954.O	06/13/2001	GAUZE WIPE	1.00	1.25		
5.D.1.00934.2.0	D.1.00934.O	06/12/2001	GAUZE WIPE	0.75	1.00		
5.D.1.00934.3.0	D.1.00934.O	06/12/2001	GAUZE WIPE	0.75	1.00		
90SNP001	90SNP001	06/15/2001	GROUNDWATER	0.00	0.00		
90SNP002	90SNP002	06/15/2001	GROUNDWATER	0.00	0.00		
ECMWSNP02D	ECMWSNP02	06/13/2001	GROUNDWATER	0.00	0.00		
ECMWSNP02S	ECMWSNP02	06/13/2001	GROUNDWATER	45.00	50.00		
W120SSA	MW-120	06/14/2001	GROUNDWATER	103.00	113.00	0.00	10.00
W130DDA	MW-130	06/11/2001	GROUNDWATER	320.00	330.00	214.49	224.49
W130M1A	MW-130	06/11/2001	GROUNDWATER	160.00	170.00	54.49	64.49
W131M2A	MW-131	06/11/2001	GROUNDWATER	195.00	205.00	96.60	106.60
W131SSA	MW-131	06/11/2001	GROUNDWATER	96.00	106.00	0.00	10.00
W136M1A	MW-136	06/12/2001	GROUNDWATER	124.00	134.00	15.30	25.30
W136SSA	MW-136	06/12/2001	GROUNDWATER	107.00	117.00	0.00	10.00
W142M1A	MW-142	06/12/2001	GROUNDWATER	225.00	235.00	181.50	191.50
W142M2A	MW-142	06/12/2001	GROUNDWATER	140.00	150.00	96.50	106.50
W142SSA	MW-142	06/12/2001	GROUNDWATER	42.00	52.00	0.00	10.00
W143M1A	MW-143	06/13/2001	GROUNDWATER	144.00	154.00	111.10	121.10
W143M2A	MW-143	06/12/2001	GROUNDWATER	117.00	122.00	84.05	89.05
W143M3A	MW-143	06/13/2001	GROUNDWATER	107.00	112.00	74.10	79.10
W144M1A	MW-144	06/15/2001	GROUNDWATER	195.00	205.00	170.80	180.80
W148SSA	MW-148	06/15/2001	GROUNDWATER	61.00	71.00	0.00	10.00
W158M1A	MW-158	06/11/2001	GROUNDWATER	176.00	186.00	92.89	102.89
W158M2A	MW-158	06/11/2001	GROUNDWATER	125.00	135.00	41.86	51.86
W158SSA	MW-158	06/12/2001	GROUNDWATER	89.00	99.00	0.00	10.00
W159M1A	MW-159	06/13/2001	GROUNDWATER	178.00	188.00	50.90	60.90
W159SSA	MW-159	06/13/2001	GROUNDWATER	126.00	136.00	0.00	10.00
W163SSA	MW-163	06/14/2001	GROUNDWATER	38.00	48.00	0.00	10.00
W73SSA	MW-73	06/14/2001	GROUNDWATER	39.00	49.00	0.00	10.00
W79SSA	MW-79	06/14/2001	GROUNDWATER	89.00	99.00	0.00	10.00
DW061401	GAC WATER	06/14/2001	IDW	0.00	0.00		
PWPPC12JN1A	RRA CONTAINMENT	06/12/2001	IDW				
SC13902	SOIL CUTTINGS	06/11/2001	IDW	0.00	0.25		
G173DAA	MW-173	06/14/2001	PROFILE	140.00	140.00	6.60	6.60
G173DBA	MW-173	06/14/2001	PROFILE	150.00	150.00	16.60	16.60
G173DCA	MW-173	06/14/2001	PROFILE	160.00	160.00	26.60	26.60
G173DCD	MW-173	06/14/2001	PROFILE	160.00	160.00	26.60	26.60
G173DDA	MW-173	06/14/2001	PROFILE	170.00	170.00	36.60	36.60
G173DEA	MW-173	06/15/2001	PROFILE	180.00	180.00	46.60	46.60

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
6/9/2001-6/15/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G173DFA	MW-173	06/15/2001	PROFILE	190.00	190.00	56.60	56.60
G173DFD	MW-173	06/15/2001	PROFILE	190.00	190.00	56.60	56.60
G173DGA	MW-173	06/15/2001	PROFILE	200.00	200.00	66.60	66.60
G173DHA	MW-173	06/15/2001	PROFILE	210.00	210.00	76.60	76.60
3.B.1.00938.1.0	B.1.00938.R	06/13/2001	SOIL BRUSHING	0.25	0.50		
3.B.1.00948.1.0	B.1.00948.R	06/13/2001	SOIL BRUSHING	0.25	0.50		
3.D.1.00954.1.0	D.1.00954.O	06/13/2001	SOIL BRUSHING	1.00	1.25		
5.D.1.00934.1.0	D.1.00934.O	06/12/2001	SOIL BRUSHING	0.75	1.00		
HDA06050101AA	A06050101A	06/11/2001	SOIL GRID	0.00	0.25		
HDA06050101AD	A06050101A	06/11/2001	SOIL GRID	0.00	0.25		
HDA06050102AA	A06050102A	06/11/2001	SOIL GRID	0.00	0.25		
HDA06110101AA	A06110101	06/15/2001	SOIL GRID	0.00	0.25		
HDA06130101AA	A06130101	06/15/2001	SOIL GRID	0.00	0.25		

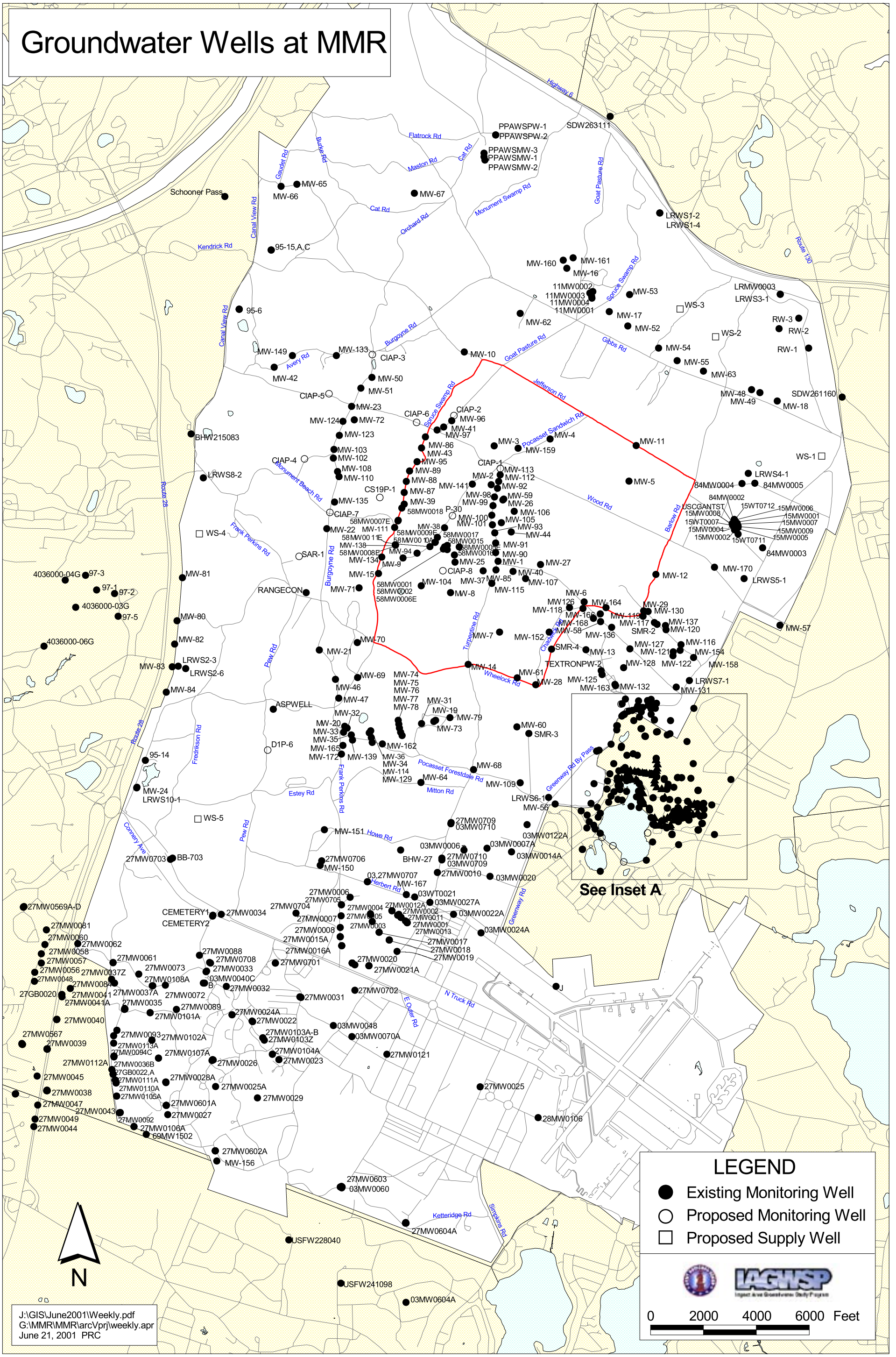
Profiling methods include: Volatiles and Explosives
Groundwater methods include: Volatiles, Semivolatiles, Explosives, Pesticides, Herbicides, Metals, and Wet Chemistry
Other Sample Types methods are variable
SBD = Sample Begin Depth, measured in feet bgs
SED = Sample End Depth, measured in feet bgs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

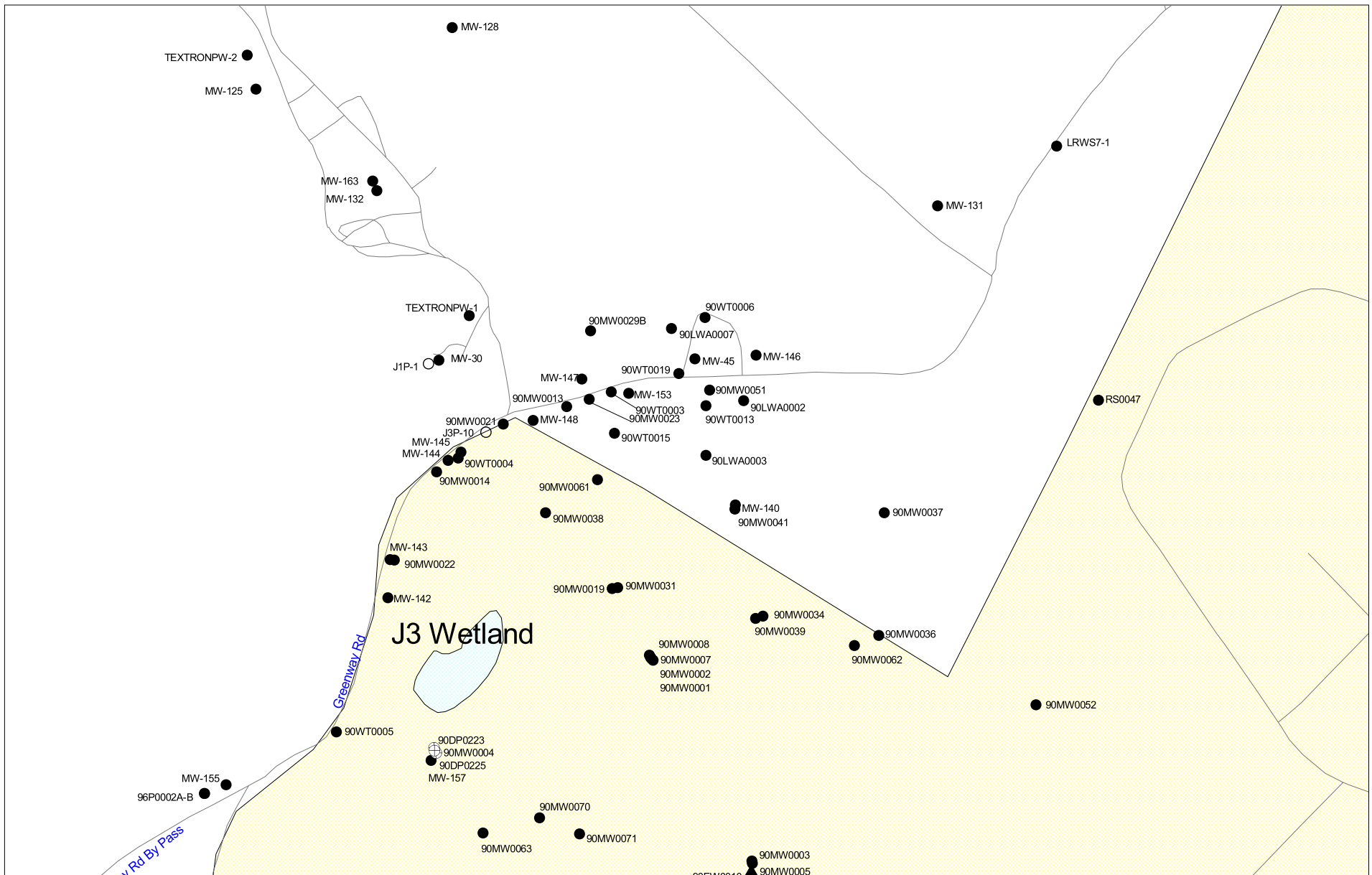
TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 5/26/01-6/16/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W161SSA	MW-161	06/08/2001	GROUNDWATER	145.00	155.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W161SSD	MW-161	06/08/2001	GROUNDWATER	145.00	155.00	0.00	10.00	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W166M1A	MW-166	05/31/2001	GROUNDWATER	218.00	223.00	108.80	113.80	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W166M2A	MW-166	06/01/2001	GROUNDWATER	150.00	160.00	40.80	50.80	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W166M2A	MW-166	06/01/2001	GROUNDWATER	150.00	160.00	40.80	50.80	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
W166M3A	MW-166	06/01/2001	GROUNDWATER	125.00	135.00	15.90	25.90	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W166M3A	MW-166	06/01/2001	GROUNDWATER	125.00	135.00	15.90	25.90	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
W171M2A	MW-171	05/31/2001	GROUNDWATER	81.00	86.00	79.60	84.60	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W40M1A	MW-40	06/02/2001	GROUNDWATER	132.00	142.00	9.50	19.50	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,3	YES
W40SSA	MW-40	06/02/2001	GROUNDWATER	116.00	142.00	0.00	10.00	8330N	2,4,6-TRINITROTOLUENE	YES
W40SSA	MW-40	06/02/2001	GROUNDWATER	116.00	142.00	0.00	10.00	8330N	2-AMINO-4,6-DINITROTOLUENE	YES
W40SSA	MW-40	06/02/2001	GROUNDWATER	116.00	142.00	0.00	10.00	8330N	4-AMINO-2,6-DINITROTOLUENE	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

Groundwater Wells at MMR





0 600 1200 Feet

Inset A

J:\GIS\May2001\all_mmr_wells_inset_a.pdf
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June 21, 2001 PRC