WEEKLY PROGRESS UPDATE
FOR FEBRUARY 19 – FEBRUARY 23, 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 February 19 to February 23, 2001.

1. SUMMARY OF ACTIONS TAKEN

Drilling progress as of February 23 is summarized in Table 1.

Table 1. Drilling progress as of February 23, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-152	J Range Well (J1P-9)	280	171	
MW-153	J Range Well	293	198	124-134 144-154 199-209
MW-154	J Range Well (J2P-9)	323	223	98-108 187.5-192.5
MW-155	J Range Well (J3P-3)	180	151	

bgs = below ground surface
bwt = below water table

Completed well installation of MW-153 (between LP-3 and MW-45) and MW-154 (J2P-9). Commenced drilling of MW-155 (J3P-3). Drill rig at MW-152 (J1P-9) was taken off-site for repairs; the well at this location has not been installed. Continued development of the newly installed wells. Continued UXO clearance at drill pads for Phase IIb and Stage 2, J Range wells.

Samples collected during the reporting period are summarized in Table 2. Groundwater sampling continued for the first round of newly installed wells. Groundwater sampling for the second round of Stage 1, J-Range wells was completed. Groundwater profile samples were collected for MW-155. Soil samples were collected from a boring on J-3 Range. A groundwater sample was collected at the water table through the drill rig augers at this location. Soil samples were also collected at a supplemental BIP grid on the Gravity Range. Soil and wipe samples were collected from UXORM and debris in Test Pit 4 and Test Pit 6 as part of the HUTA investigation. Pre- and post-detonation soil samples were collected from Test Pit 4 in the HUTA.

The Guard, EPA, and MADEP had a meeting on February 22 to discuss technical issues, including the following:

Miscellaneous Punch List Discussions

- Demo 1 – As part of the punchlist review, a map depicting revised proposed well locations was distributed for Demo 1 by Marc Grant (AMEC). Mark Applebee (AMEC) described the proposed well locations and the rationale used to select them. D1P-3 was placed on the tank trail parallel to Frank Perkins road downgradient of the central most concentrated point of the known extent of RDX in groundwater. D1P-4 was also located on the tank trail, 200 feet south of the D1P-3 location. Todd Borci (EPA) felt that the D1P-4 location would not adequately define the southern plume boundary. Mr. Borci's intention was that this well would be placed east of the tank trail further east into the depression; however, he acknowledged that this was probably not feasible because of the limited accessibility of this location and of the need to remove a large portion of vegetation. Further discussion ensued among members of the Tech team and a final agreement was reached to place D1P-4 on Pocasset-Forestdale Road, 100 feet southeast of the projected southern extent of the plume. AMEC to try to minimize the size of the well pad within the constraints of the fire code and traffic issues.
- Dye Analyses – Intent of investigating 8321 analyses for non-target analytes was clarified by Jane Dolan (EPA). Ms. Dolan stated that EPA's primary interest in this discussion was that groundwater in the source area at Demo 1 be analyzed for dyes. Marc Grant (AMEC) indicated that this could be done based on the Method Detection Limit (MDL) study for dyes (Oct 4, 2000 letter; Analyses for explosives and dyes by method 8321). EPA will send a letter clarifying this request.

CS-18 and 19

George Peterson (Jacobs) provided an update on CS-18 and CS-19.

- Preparation activities continue for implementing the CS-18 Supplemental SI field work on March 12, 2001.
- Preparation activities continue for implementing the CS-19 Supplemental Rl field work on April 16, 2001.
- Synoptic water level round within the Impact Area was completed Friday 2/16/01; MW-127 was incorporated into the survey.

Water Supply Update

No new information was presented.

Munitions Survey Update

Larry Hudgins (Tetra Tech) provided an update on the Munitions Survey.

- For the HUTA 1 Investigation, screening of Test Pit #4, Lift 1A is complete and hand excavation of Lift 1B anomalies was complete. In Test Pit #4, one BIP is scheduled for 2/23. TP#4 Lift 1B final geophysics and QA/QC to be completed 2/23; excavation of Lift 1B expected 2/26. Hand excavation of Test Pit #6 Lift 1A anomalies is ongoing. Clearing of road around Test Pit #3 is ongoing.
- For the DU Survey the steel plates were removed from J-1 Range and transported to the staging area. The radiological survey and sampling will commence next week.

Doug Lam (Tetra Tech) presented the preliminary AIRMAG data and an update on the Geophysical Survey.

- AIRMAG data has been received for the J-Range areas, L Range and the O and P Ranges. The data lines were flown N/S over J-1 and J-3 Ranges in order to get the best coverage without encroaching on areas outside the base. This approach required the helicopter to fly at greater heights because of trees than for the J-2 Range Survey where the data lines were oriented along the axis of the range. As a result, the response of the instrument in coverage of the J-1 and J-3 ranges was approximately 1/3 of the response for the J-2 range. This lessened response lowers the probability of detecting single items. Data on the varying flying heights should be received from the contractor within the week so that the relative signal strength to flight elevation can be determined. Based on comparison to known objects in the field, it can then be assessed what the signal means in terms of the size of items.
- Doug Lam (Tetra Tech) presented an overview of the AIRMAG data on the three ranges. Contoured AIRMAG data maps for the three ranges were projected on the screen. Mr. Lam highlighted many of the higher amplitude anomalies observed on the maps and related them to known surface features on the ranges. Several higher amplitude and lower amplitude anomalies were pointed out that may represent features that have yet to be identified and are possibly subsurface features. These included several small, scattered anomalies in the vicinity of O, P, and K Ranges.
- Tetra Tech will set a target date next week for providing an interpretation of the AIRMAG data for Area 3, the J-Ranges. Area 1 AIRMAG data may be available for overview presentation at the next tech meeting.
- Data collected in the Prove-Out area were shown both for the EM61 mounted on a handcart and the EM61s incorporated into the KIMS system, to demonstrate the effectiveness of these methods for detecting buried objects. Both the handcart and KIMS system exceeded the 80% detection criteria established for approving the technologies. Will target next week to provide a Tech memo on the Prove-Out area data.
- In response to a question from Jane Dolan (EPA), Mr. Lam indicated that remaining surface metal at the J-2 Range included target plates, mortars at Disposal Area 1, and cultural features. All features are noted by UXO specialists which accompany the geophysicists completing the survey.
- KIMS system survey of the J-2 Range will be completed today. Survey of the southern portion of the J-2 Range using the hand cart will be completed by next Wednesday. KIMS system of the J-1 Range will begin today.

RRA Update

Scott Veenstra (AMEC) provided an overview on the RRA.

- Clean soils were moved 2/14 from the containment pad for use on Turpentine Road.
- Response to comments on Draft RRA Work Plan Addendum were submitted to the agencies. Jane Dolan (EPA) provided a verbal OK on the RCL. Len Pinaud (MADEP) indicated that MADEP had no significant comments. However, since the RAM modification is being completed under the MCP, the Work Plan and Field Sampling Plan need to be combined into one document. A letter will be sent out with these comments within the week.
- Draft FSP was sent out electronically on 2/12 and paper copies went out 2/21. Jane Dolan (EPA) expected to send out comments by close of business and indicated that there would be no major comments.

Groundwater Study

John Rice (AMEC) presented an update on the Groundwater Study.

- Installation of MW-153 (between LP-3 and MW-45) and MW-154 (J2P-9) were completed. Commenced drilling on MW-155 (J3P-3; revised location across from Treatment Plant entrance) and MW-156 (ASP-1). Next week will install wells at MW-155 and MW-156 and commence drilling of J3P-8 (Camp Goodnews).
- Groundwater sampling of second round for Stage 1, J-Range wells will be completed this week. Will continue sampling of newly installed wells next week.
- Continued UXO clearance of GS8P-1 well pad; lot of debris and heavier vegetation than expected is causing extra time to be spent clearing this pad. Completed ASP-1 pad this week. Next week UXO clearance of the J2P-10 pad will be completed.
- Soil samples are not being collected because the top inches of soil are frozen. Soil sampling of the supplemental BIP grids at the Gravity Range are being attempted today. Soil sampling at stage 2 supplemental BIP grids,and K Range grids next week are weather dependent.
- No vegetation removal was conducted this week. A biologist is on-site for reconnaissance of proposed well locations and RRA areas. Next week vegetation removal for drill pad for J2P-10 will be 10,000 sq. ft.
- Jane Dolan (EPA) inquired as to whether the J1P-1 well required the geophysical data to finalize the well location. Herb Colby (AMEC) indicated that the well was scoped to assess impacts from the 2000m Berm at J-1 and an unconfirmed EOD burial area. Ms. Dolan wanted to double check on the need for geophysical data to locate this well.
- Discussion ensued on urgency of selecting remaining J-Range well locations, that if these are not selected soon, then the J-Range schedule for deliverables can not be met. Meeting was set for 2:30pm today to discuss preliminary AIRMAG data with Doug Lam (Tetra Tech) with respect to selecting three well locations. Meeting to include Dave Hill (IAGWSPO), Bill Gallagher (AMEC), Jane Dolan (EPA), Todd Borci (EPA), Adam Balogh (TRC-phone), and Herb Colby (AMEC – phone). Follow-up to meeting: J1P-1 will not be installed at this time based on the lack of clear evidence of a disposal area on the airmag map. Monitoring wells J1P-5, J1P-6 and J1P-7 will be installed as "fence" wells, about 500 feet downgradient (northwest) of the J-1 Range, 1000m berm and wastewater disposal area. The fence will be located just northwest of the 150m berm. The fence will be oriented northeast/southwest, perpendicular to the inferred groundwater flow direction. (northwest parallel to the J-1 Range Road). The wells will be spaced approximately 90 feet apart with existing well MW-58 to be considered part of the fence.

Schedule/Document Status Update

Marc Grant (AMEC) provided Document Status Table and 3-Month Lookahead Schedule.

- Documents Having Comments - RCL for Tech-Memo 99-5 was submitted yesterday. RCL for Tech Memo 01-2 will be submitted today. Comment 7 response addresses the 8321 issue.
- USGS and agencies will discuss approaches on the Background GW issues. The resolution meeting is scheduled for next week. Todd Borci (EPA) indicated that the Guard should have their attorney's review the proposal to discharge treated groundwater with thallium above the MCL (regardless of whether it is a background concentration) since this may require a RCRA waiver. The assumption is that discharged water would be considered a waste.
- Documents Needing Comments- Comments were received on Tech-Memo 01-5. Comments from agencies were expected later today on the RRA Field Sampling Plan.

- Documents to be Submitted - An extension was received on the Demo 1 deliverables so schedule will be changed accordingly. Extension request for Gun & Mortar deliverables may be similar depending on results of COC Report. Extension was received for the UXO FS Screening Report and this schedule will also be changed. Central Impact Area GW Report is next major submittal.
- There were no major changes in the 3-Month Lookahead Schedule from last week.

CY2001 Long Term Monitoring Plan

Russ Johnson (AMEC) presented an overview of the LTM strategy for 2001.

- The intent of the scoping meeting is to predefine Guard and agency objectives/technical issues for the LTM so that the approval process can be streamlined and the LTM field schedule can be met.
- Monitoring wells considered for the LTM program are only those which have three rounds of groundwater data. The LTM is modified throughout the year as ongoing groundwater sampling enables other wells to meet this criteria. As the third round data are received for new wells, these wells are evaluated for potential inclusion in the LTM program.
- The LTM program has three objectives: 1) Define Areas of Explosive Detections – wells in this part of the program are typically comprised of Demo 1 wells, Central Impact Area wells and wells peripheral to these areas outside of the defined plumes. 2) Define Other Areas of Concern – wells in which other constituents have been detected above background/health advisories. 3) Comprehensive Annual Event – wells are selected to evaluate the overall quality of the aquifer at Camp Edwards regardless of detection history in specific areas.
- A data table is being produced to summarize all old and new wells (recently received 3 rounds of data). The table will provide concentrations and well locations. The plan is to review this table in detail with the agencies to discuss rationale for wells to include and constituents to evaluate. A tentative date of 3/15 was suggested for this meeting.
- Todd Borci (EPA) indicated that it was the agencies hope that enough data was now available that more specific target analyte lists could be developed, such as the Guard had suggested last year, but without sufficient data.
- Jay Clausen (AMEC) encouraged the agencies to review the Central Impact Area GW Report with respect to metals in groundwater, specifically as part of scoping the LTM Plan.

Miscellaneous

- Next IART meetings will be the 4th Tuesday of March, April, May. JPO needs to be informed to add to their calendar.

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-85M1 had detections of RDX and HMX that were verified by PDA spectra. Both compounds were detected in similar concentrations in the previous sampling round for this well.

- Groundwater samples collected from MW-130S had detections of RDX, HMX and 4A-DNT that were verified by PDA spectra. These compounds were detected in similar concentrations in the previous sampling round for this well.

- Groundwater samples collected from MW-141S had a detection of 2,4,6-TNT that was verified by PDA spectra. This was the first round of sampling for this well. 2,4,6-TNT was also detected in the profile sample collected at this depth, but at a slightly higher concentration.

- Groundwater samples collected from MW-141M2 had a detection of RDX that was verified by PDA spectra. This was the first round of sampling for this well. RDX was also detected in the profile sample collected at this depth, at a similar concentration.

- Groundwater samples collected from MW-144S had a detection of HMX that was verified by PDA spectra. This was the first round of sampling for this well. HMX was also detected in the profile sample collected at this depth, at a similar concentration.

- The groundwater profile samples from MW-155 had detections of acetone (4 intervals), chloroform (15 intervals), MEK (3 intervals), 2A-DNT (1 interval), picric acid (3 intervals), and 1,2,4-trichlorobenzene (1 interval). None of the explosive detections were verified by PDA spectra.

- The groundwater sample collected at the water table from boring B-23 on the J-3 Range had detections of acetone, chloroform, chloromethane, 2,4,6-TNT, nitoglycerin, and HMX. The 2,4,6-DNT and HMX were verified by PDA spectra.

- Post-detonation soil grid sample A021201 from the GS8P-1 drill pad had detections of 4A-DNT and Tetryl that were not verified by PDA spectra.

3. DELIVERABLES SUBMITTED

Weekly Progress Update (February 5 – February 9)	2/20/01
Weekly Progress Update (February 12 - February 16)	2/23/01

4. SCHEDULED ACTIONS

Scheduled actions for the week of February 26 include complete well installation of J1P-9 (MW-152), and J3P-3 (MW-155); commence drilling ASP-1 and J3P-8; continue groundwater sampling newly installed wells; continue development of newly installed wells; and attempt soil sampling of stage 2, supplemental BIP grids.

5. SUMMARY OF ACTIVITIES FOR DEMO 1

The Soil COC Report is being prepared. Locations for additional downgradient well(s) have been proposed. Groundwater samples are being analyzed and the results validated.

TABLE 2
SAMPLING PROGRESS
2/17/2001-2/23/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HDGR37MM5SS1	HDGR37MM5SS1	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS2	HDGR37MM5SS2	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS3	HDGR37MM5SS3	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS4	HDGR37MM5SS4	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS5	HDGR37MM5SS5	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS5D	HDGR37MM5SS5	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS6	HDGR37MM5SS6	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS7	HDGR37MM5SS7	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
HDGR37MM5SS8	HDGR37MM5SS8	02/22/2001	CRATER GRID	0.00	0.25	0.00	0.00
AB0023AAT	FIELDQC	02/21/2001	FIELDQC	0.00	0.00	0.00	0.00
AB0023CAE	FIELDQC	02/21/2001	FIELDQC	0.00	0.00	0.00	0.00
G155DAE	FIELDQC	02/22/2001	FIELDQC	0.00	0.00	0.00	0.00
G155DCT	FIELDQC	02/22/2001	FIELDQC	0.00	0.00	0.00	0.00
HDGR37MM5SSE	FIELDQC	02/22/2001	FIELDQC	0.00	0.00	0.00	0.00
W131M2T	FIELDQC	02/20/2001	FIELDQC	0.00	0.00	0.00	0.00
W147M1T	FIELDQC	02/23/2001	FIELDQC	0.00	0.00	0.00	0.00
W125M1A	MW-125	02/20/2001	GROUNDWATER	232.00	242.00	179.49	189.49
W125SSA	MW-125	02/19/2001	GROUNDWATER	50.00	60.00	0.00	10.00
W126M1A	MW-126	02/21/2001	GROUNDWATER	118.00	128.00	16.20	26.20
W126SSA	MW-126	02/21/2001	GROUNDWATER	99.00	109.00	0.00	10.00
W131M2A	MW-131	02/20/2001	GROUNDWATER	195.00	205.00	95.54	105.54
W131SSA	MW-131	02/20/2001	GROUNDWATER	96.00	106.00	0.00	10.00
W133M1A	MW-133	02/22/2001	GROUNDWATER	321.00	331.00	101.95	121.95
W136M1A	MW-136	02/19/2001	GROUNDWATER	224.00	234.00	114.60	124.60
W136SSA	MW-136	02/19/2001	GROUNDWATER	107.00	117.00	0.00	10.00
W146M1A	MW-146	02/23/2001	GROUNDWATER	166.00	171.00	71.58	76.58
W146SSA	MW-146	02/23/2001	GROUNDWATER	92.00	102.00	0.00	10.00
W147M1A	MW-147	02/23/2001	GROUNDWATER	167.00	177.00	89.97	99.97
W147M2A	MW-147	02/23/2001	GROUNDWATER	150.00	160.00	72.90	82.90
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30
G155DBA	MW-155	02/21/2001	PROFILE	50.00	50.00	21.30	21.30
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30
G155DDA	MW-155	02/22/2001	PROFILE	70.00	70.00	41.30	41.30
G155DEA	MW-155	02/22/2001	PROFILE	80.00	80.00	51.30	51.30
G155DFA	MW-155	02/22/2001	PROFILE	90.00	90.00	61.30	61.30
G155DGA	MW-155	02/22/2001	PROFILE	100.00	100.00	71.30	71.30
G155DHA	MW-155	02/22/2001	PROFILE	110.00	110.00	81.30	81.30
G155DIA	MW-155	02/22/2001	PROFILE	120.00	120.00	91.30	91.30
G155DJA	MW-155	02/22/2001	PROFILE	130.00	130.00	101.30	101.30
G155DKA	MW-155	02/22/2001	PROFILE	140.00	140.00	111.30	111.30
G155DLA	MW-155	02/22/2001	PROFILE	150.00	150.00	121.30	121.30
G155DMA	MW-155	02/22/2001	PROFILE	160.00	160.00	131.30	131.30

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
2/17/2001-2/23/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
G155DMD	MW-155	02/22/2001	PROFILE	160.00	160.00	131.30	131.30
G155DNA	MW-155	02/22/2001	PROFILE	170.00	170.00	141.30	141.30
G155DOA	MW-155	02/22/2001	PROFILE	180.00	180.00	151.30	151.30
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75
AB0023AAA	B-23	02/21/2001	SOIL BORING	5.00	9.00	0.00	1.75
AB0023AAA	B-23	02/21/2001	SOIL BORING	5.00	9.00	0.00	10.00
AB0023BAA	B-23	02/21/2001	SOIL BORING	10.00	14.00	0.00	1.75
AB0023BAA	B-23	02/21/2001	SOIL BORING	10.00	14.00	0.00	10.00
AB0023CAA	B-23	02/21/2001	SOIL BORING	15.00	17.00	0.00	1.75
AB0023CAA	B-23	02/21/2001	SOIL BORING	15.00	17.00	0.00	10.00
4.A.1.00623.1.0	A.1.00623.R	02/22/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.1.D	A.1.00623.R	02/22/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.10.0	A.1.00623.R	02/23/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.10.D	A.1.00623.R	02/23/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.2.0	A.1.00623.R	02/22/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.2.D	A.1.00623.R	02/22/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.3.0	A.1.00623.R	02/22/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.3.D	A.1.00623.R	02/22/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.4.0	A.1.00623.R	02/22/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.4.D	A.1.00623.R	02/22/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.5.0	A.1.00623.R	02/22/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.5.D	A.1.00623.R	02/22/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.6.0	A.1.00623.R	02/23/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.6.D	A.1.00623.R	02/23/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.7.0	A.1.00623.R	02/23/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.7.D	A.1.00623.R	02/23/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.8.0	A.1.00623.R	02/23/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.8.D	A.1.00623.R	02/23/2001	FIELDQC	2.25	2.50	0.00	0.00
4.A.1.00623.9.0	A.1.00623.R	02/23/2001	CRATER GRID	2.25	2.50	0.00	0.00
4.A.1.00623.9.D	A.1.00623.R	02/23/2001	FIELDQC	2.25	2.50	0.00	0.00
4.C.1.00616.1.0	C.1.00616.O	02/22/2001	SOIL BRUSHING	0.75	1.00	0.00	0.00
4.C.1.00616.2.0	C.1.00616.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.C.1.00616.3.0	C.1.00616.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.C.1.00618.1.0	C.1.00618.O	02/22/2001	SOIL BRUSHING	1.50	1.75	0.00	0.00
4.C.1.00618.2.0	C.1.00618.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
4.C.1.00618.3.0	C.1.00618.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
4.C.1.00621.1.0	C.1.00621.O	02/22/2001	SOIL BRUSHING	0.25	0.50	0.00	0.00
4.C.1.00621.2.0	C.1.00621.O	02/23/2001	GAUZE WIPE	0.25	0.50	0.00	0.00
4.C.1.00621.3.0	C.1.00621.O	02/23/2001	GAUZE WIPE	0.25	0.50	0.00	0.00
4.C.1.00622.1.0	C.1.00622.O	02/22/2001	SOIL BRUSHING	0.75	1.00	0.00	0.00
4.C.1.00622.2.0	C.1.00622.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.C.1.00622.3.0	C.1.00622.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.C.1.00624.1.0	C.1.00624.O	02/22/2001	SOIL BRUSHING	0.50	0.75	0.00	0.00
4.C.1.00624.2.0	C.1.00624.O	02/23/2001	GAUZE WIPE	0.50	0.75	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
2/17/2001-2/23/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
4.C.1.00624.3.0	C.1.00624.O	02/23/2001	GAUZE WIPE	0.50	0.75	0.00	0.00
4.D.1.00617.1.0	D.1.00617.O	02/22/2001	SOIL BRUSHING	1.50	1.75	0.00	0.00
4.D.1.00617.2.0	D.1.00617.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
4.D.1.00617.3.0	D.1.00617.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
4.D.1.00619.1.0	D.1.00619.O	02/22/2001	SOIL BRUSHING	0.75	1.00	0.00	0.00
4.D.1.00619.1.D	D.1.00619.O	02/22/2001	FIELDQC	0.75	1.00	0.00	0.00
4.D.1.00619.2.0	D.1.00619.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.D.1.00619.2.D	D.1.00619.O	02/23/2001	FIELDQC	0.75	1.00	0.00	0.00
4.D.1.00619.3.0	D.1.00619.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
4.D.1.00619.3.D	D.1.00619.O	02/23/2001	FIELDQC	0.75	1.00	0.00	0.00
4.D.1.00620.1.0	D.1.00620.O	02/22/2001	SOIL BRUSHING	1.00	1.25	0.00	0.00
4.D.1.00620.2.0	D.1.00620.O	02/23/2001	GAUZE WIPE	1.00	1.25	0.00	0.00
4.D.1.00620.3.0	D.1.00620.O	02/23/2001	GAUZE WIPE	1.00	1.25	0.00	0.00
6.C.2.00516.1.0	C.2.00516.O	02/22/2001	SOIL BRUSHING	0.75	1.00	0.00	0.00
6.C.2.00516.2.0	C.2.00516.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
6.C.2.00516.3.0	C.2.00516.O	02/23/2001	GAUZE WIPE	0.75	1.00	0.00	0.00
6.C.2.00517.1.0	C.2.00517.O	02/22/2001	SOIL BRUSHING	0.50	0.75	0.00	0.00
6.C.2.00517.2.0	C.2.00517.O	02/23/2001	GAUZE WIPE	0.50	0.75	0.00	0.00
6.C.2.00517.3.0	C.2.00517.O	02/23/2001	GAUZE WIPE	0.50	0.75	0.00	0.00
6.D.2.00518.1.0	D.2.00518.O	02/22/2001	SOIL BRUSHING	0.50	0.75	0.00	0.00
6.D.2.00518.2.0	D.2.00518.O	02/23/2001	GAUZE WIPE	0.50	0.75	0.00	0.00
6.D.2.00518.3.0	D.2.00518.O	02/23/2001	GAUZE WIPE	0.50	0.75	0.00	0.00
6.C.1.00625.1.0	C.1.00625.O	02/22/2001	SOIL BRUSHING	2.00	2.25	0.00	0.00
6.C.1.00625.2.0	C.1.00625.O	02/23/2001	GAUZE WIPE	2.00	2.25	0.00	0.00
6.C.1.00625.3.0	C.1.00625.O	02/23/2001	GAUZE WIPE	2.00	2.25	0.00	0.00
6.C.1.00626.1.0	C.1.00626.O	02/22/2001	SOIL BRUSHING	1.50	1.75	0.00	0.00
6.C.1.00626.2.0	C.1.00626.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
6.C.1.00626.3.0	C.1.00626.O	02/23/2001	GAUZE WIPE	1.50	1.75	0.00	0.00
6.C.1.00627.1.0	C.1.00627.O	02/22/2001	SOIL BRUSHING			0.00	0.00
6.C.1.00627.2.0	C.1.00627.O	02/23/2001	GAUZE WIPE			0.00	0.00
6.C.1.00627.3.0	C.1.00627.O	02/23/2001	GAUZE WIPE			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 2/3/01-2/23/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
W130SSA	MW-130	02/15/2001	GROUNDWATER	103.00	113.00	0.00	6.90	8330N	4-AMINO-2,6-DINITROTOLUENE	YES
W130SSA	MW-130	02/15/2001	GROUNDWATER	103.00	113.00	0.00	6.90	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W130SSA	MW-130	02/15/2001	GROUNDWATER	103.00	113.00	0.00	6.90	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
W141M2A	MW-141	02/10/2001	GROUNDWATER	162.00	172.00	31.70	41.70	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W141SSA	MW141	02/10/2001	GROUNDWATER	128.00	138.00	0.00	7.79	8330N	2,4,6-TRINITROTOLUENE	YES
W144SSA	MW-144	02/12/2001	GROUNDWATER	26.00	36.00	0.00	10.00	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
W85M1A	MW-85	02/10/2001	GROUNDWATER	137.50	147.50	17.70	27.70	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W85M1ADL	MW-85	02/10/2001	GROUNDWATER	137.50	147.50	17.70	27.70	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
W85M1A	MW-85	02/10/2001	GROUNDWATER	137.50	147.50	17.70	27.70	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30	8330N	PICRIC ACID	NO
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30	OC21V	1,2,4-TRICHLOROBENZENE	
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30	OC21V	ACETONE	
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30	OC21V	CHLOROFORM	
G155DAA	MW-155	02/21/2001	PROFILE	40.00	40.00	11.30	11.30	OC21V	METHYL ETHYL KETONE (2-BUT	
G155DBA	MW-155	02/21/2001	PROFILE	50.00	50.00	21.30	21.30	8330N	PICRIC ACID	NO
G155DBA	MW-155	02/21/2001	PROFILE	50.00	50.00	21.30	21.30	OC21V	ACETONE	
G155DBA	MW-155	02/21/2001	PROFILE	50.00	50.00	21.30	21.30	OC21V	CHLOROFORM	
G155DBA	MW-155	02/21/2001	PROFILE	50.00	50.00	21.30	21.30	OC21V	METHYL ETHYL KETONE (2-BUT	
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	8330N	2-AMINO-4,6-DINITROTOLUENE	NO
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	8330N	PICRIC ACID	NO
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	ACETONE	
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	CHLOROFORM	
G155DCA	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	METHYL ETHYL KETONE (2-BUT	
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	8330N	4-AMINO-2,6-DINITROTOLUENE	NO
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	8330N	PICRIC ACID	NO
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	ACETONE	
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	CHLOROFORM	
G155DCD	MW-155	02/22/2001	PROFILE	60.00	60.00	31.30	31.30	OC21V	METHYL ETHYL KETONE (2-BUT	
G155DDA	MW-155	02/22/2001	PROFILE	70.00	70.00	41.30	41.30	OC21V	CHLOROFORM	
G155DEA	MW-155	02/22/2001	PROFILE	80.00	80.00	51.30	51.30	OC21V	ACETONE	
G155DEA	MW-155	02/22/2001	PROFILE	80.00	80.00	51.30	51.30	OC21V	CHLOROFORM	
G155DFA	MW-155	02/22/2001	PROFILE	90.00	90.00	61.30	61.30	OC21V	CHLOROFORM	
G155DGA	MW-155	02/22/2001	PROFILE	100.00	100.00	71.30	71.30	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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 2/3/01-2/23/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G155DHA	MW-155	02/22/2001	PROFILE	110.00	110.00	81.30	81.30	OC21V	CHLOROFORM	
G155DIA	MW-155	02/22/2001	PROFILE	120.00	120.00	91.30	91.30	OC21V	CHLOROFORM	
G155DJA	MW-155	02/22/2001	PROFILE	130.00	130.00	101.30	101.30	OC21V	CHLOROFORM	
G155DKA	MW-155	02/22/2001	PROFILE	140.00	140.00	111.30	111.30	OC21V	CHLOROFORM	
G155DLA	MW-155	02/22/2001	PROFILE	150.00	150.00	121.30	121.30	OC21V	CHLOROFORM	
G155DMA	MW-155	02/22/2001	PROFILE	160.00	160.00	131.30	131.30	OC21V	CHLOROFORM	
G155DMD	MW-155	02/22/2001	PROFILE	160.00	160.00	131.30	131.30	OC21V	CHLOROFORM	
G155DNA	MW-155	02/22/2001	PROFILE	170.00	170.00	141.30	141.30	OC21V	CHLOROFORM	
G155DOA	MW-155	02/22/2001	PROFILE	180.00	180.00	151.30	151.30	OC21V	CHLOROFORM	
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	8330N	2,4,6-TRINITROTOLUENE	YES
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	8330N	NITROGLYCERIN	NO
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	8330N	OCTAHYDRO-1,3,5,7-TETRANIT	YES
GSB023SAADL	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	8330N	OCTAHYDRO-1,3,5,7-TETRANIT	YES
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	OC21V	ACETONE	
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	OC21V	CHLOROFORM	
GSB023SAA	B-23	02/21/2001	PROFILE	36.00	36.00	1.75	1.75	OC21V	CHLOROMETHANE	
HDA021201AA	HDA021201AA	02/16/2001	SOIL GRID	0.00	0.25			8330N	4-AMINO-2,6-DINITROTOLUENE	NO
HDA021201AA	HDA021201AA	02/16/2001	SOIL GRID	0.00	0.25			8330N	TETRYL	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

LEGEND

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

IAGWSP

0 0.5 1 Miles

See Inset A

J:\GIS\March2001\All_MMR_Wells.pdf
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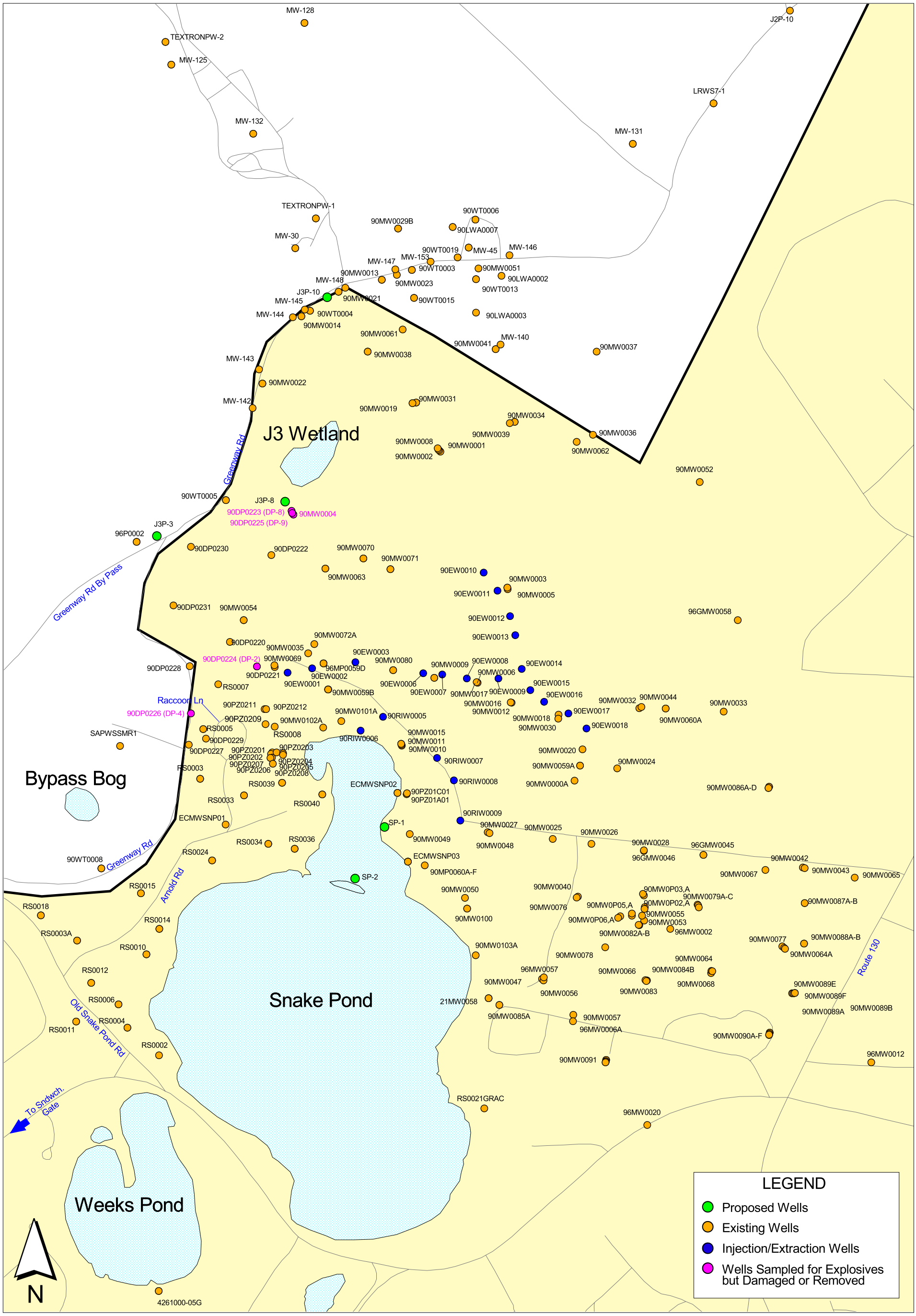
March 2, 2001 PRC

N



0 600 1200 Feet

Inset A

J:\GIS\March2001\all_mmr_wells_inset_a.pdf
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March 2, 2001 PRC