WEEKLY PROGRESS UPDATE
FOR MARCH 5 – MARCH 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 March 5 to March 9, 2001.

1. SUMMARY OF ACTIONS TAKEN

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

Table 1. Drilling progress as of March 9, 2001

Boring Number	Purpose of Boring/Well	Total Depth (ft bgs)	Saturated Depth (ft bwt)	Completed Well Screens (ft bgs)
MW-155	J Range Well (J3P-3)	249	220	45-55 124-135
MW-156	Phase IIb well (ASP-1)	110	30	77-87
MW-157	J Range well (J3P-8)	210	195	
MW-158	J Range well (J2P-10)	90		

bgs = below ground surface
bwt = below water table

Completed well installation of MW-155 (J3P-3) and MW-156 (ASP-1). Continued drilling of MW-157 (J3P-8). Commenced drilling at MW-158 (J2P-10). 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 profile samples were collected for MW-157. Water samples were collected from the effluent of the granular activated carbon system and from the RRA containment pad. Soil samples were collected at K Range and from the gutters and beneath the drainage pipe of former ammunition igloos at the former Ammunition Supply Point. As part of the HUTA investigation, soil and wipe samples were collected from UXORM in Test Pit 6.

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

<u>CS-18 and CS-19 Updates</u>
Dave Del Marco (Jacobs) provided an update on CS-18 and CS-19. One page handout with attached map on CS-18 drilling locations was distributed.

- Preparation activities continue for implementing the CS-18 Supplemental SI field work on

March 12, 2001. Revised finalized map showed approved hand-auger soil boring and well locations. This map was revised from last week's map because the well locations had been placed incorrectly.

- Preparation activities continue for implementing the CS-19 Supplemental Rl field work on April 16, 2001. Recalibration of the groundwater model was ongoing. Mr. Del Marco provided a list of the seven Guard wells for which top of casing elevation data is needed. John Rice (AMEC) to address request.

Water Supply Study Update

Hap Gonser (JPO) provided an update on the water supply study.

- Pipeline installation is proceeding down Greenway Rd. No impacts are anticipated to drilling progress. The FS-12 area at Station 116 (between L and J-1 Ranges) should be reached on approximately March 20th; work will be conducted in this area for approximately 3 days.
- Project is still on budget and on schedule.

Munitions Survey Update

Larry Hudgins (Tetra Tech) presented the update concerning the HUTA and J-Range geophysical investigations. Doug Lam (Tetra Tech) presented the update on the AIRMAG. A one-page handout was distributed.

- In the HUTA 1 Investigation, excavation of Lift 1B Test Pit #4 has been completed and the soils are being screened. Geophysics survey was completed on Lift 1C, Test Pit #4 and this area is ready for hand excavation of anomalies. The final EM61 survey of Lift 1A was completed for QC and mechanical excavation will commence 3/12.
- For the J-Ranges, the survey of the J-1 Range using the KIMS system is expected to be completed tomorrow. Survey of J-3 Range will probably commence 3/19.
- Doug Lam (Tetra Tech) presented a depiction of the AIRMAG data for Areas 2 (Gravity Range, Deep Bottom Pond areas) and 4 (Demo 1 Range and southern training ranges) using the overhead projector. Large anomalies were pointed out throughout the areas that corresponded to known cultural features. Large and small anomalies that were present north of the Demo 1 northern hillside were considered suspect and will be investigated further. Several small spot anomalies in Area 2 need to be investigated further to determine if they are real or geologic features. Other small anomalies throughout the training ranges, not attributable to known cultural features, will also be investigated.

Summary of HUTA Analytical Results/AEC Study

Joe Dauchy (Tetra Tech) presented an update on analytical results for the HUTA. Handouts were distributed on the AEC Corrosion Study and the HUTA study. This included an example data package for the HUTA.

- For the Corrosion Study, the sampling plan had stipulated that 25 items from each of 3 test plots would be sampled. However, 25 UXO items were not found and non-UXO (practice) items had to be substituted. This was considered to be a valid substitution since the corrosion properties of, for example, a 155HE round would be similar to a 155 practice round. In both rounds, the shell or hull of the round is identical.
- Interesting preliminary data from soil samples collected from 3 points around and 1 point underneath the items show that soil from 0-1 ft has a low conductivity (relatively low permeability) and 87-92% of items are discovered in the first 10 inches of soil.

- For the HUTA Study, 690 items have been evaluated from 6 test plots. Sampling included wipe testing, surface soil collection, and collection of soil beneath 50 UXO items and wipe testing and soil brushing samples from 50 UXORM and 50 debris items.
- Explosives were only detected in wipe and/or soil samples associated with 23 UXO items (18 fuzes, 75mm, 81mm, 155mm, flare, supplemental charge).
- Sample results showed a good correlation between the field lab and STL lab results.
- Preliminary conclusions suggest that since 18 of 23 items with explosive detections are fuzes, that the bulk of items do not represent an existing or potential source of contamination. The potential that these items were a historical source is not precluded.
- Only one item with explosive detection, a supplemental charge, had the potential to be a point source of explosives.
- Overall, the low soil permeability and the lack of significant explosive detections indicates that the HUTA-1 area is not currently releasing a significant amount of explosives to groundwater.
- Todd Borci (EPA) cautioned drawing preliminary conclusions from the data before a more thorough analysis could be conducted.

Rapid Response Action Update

Scott Veenstra (AMEC) presented an update of the RRA. A one page summary was provided.

- Management of water on the containment pad continues.
- Retained stockpiles will be moved to receiving portion of the containment pad as weather conditions allow.
- Three outstanding EPA comments on the FSP were addressed in the Tech meeting. EPA accepted the Guard's response to comments on two items. Through discussion of the third comment regarding using the XRF method to analyze metals in soil, it was agreed that this technique could be used to analyze post-excavation soil samples. Todd Borci (EPA) indicated that this issue would be revisted as the process continues.
- One outstanding DEP comment remained on the Work Plan. Mr. Veenstra indicated that this should be resolved within the next few days. Assuming resolution of this comment, the Final Work Plan/FSP should be issued next week.

Groundwater Study

John Rice (AMEC) presented an update of the groundwater study. A one page summary was distributed.

- Installation of monitor well MW-155 (J3P-3) and MW-156 (ASP-1) are completed. Drilling of MW-157 (J3P-8) continues. Commenced drilling of J2P-10 and GS-8.
- MW-157 is located 40 ft south of 90MW0004.
- Next week, wells will be installed at MW-157 (J3P-8) and GS-8.
- Drilling of Snake Pond monitoring wells, both to be completed with a geoprobe rig, will commence in early April.
- Groundwater sampling of the newly installed wells is ongoing.
- Commenced UXO clearance of pads for J1P-5, J1P-6, and J1P-7. This clearance will be continued next week along with clearance of the relocated BA-1 well.
- Soil sampling was conducted this week at the Former ASP (Area 131) and the stage 2 supplemental BIP grids. Old K Range grids will be sampled next week.

- Vegetation was removed for clearing of drill pad J2P-10 (10,000 sq ft). Next week vegetation removal for drill pads J1P-5, J1P-6, and J1P-7 with 1,080 ft of access road is planned; total vegetation removal of 46,200 square feet is projected.
- The following data tables were distributed: 1) New Detects - Unvalidated and 2) BIP data from supplemental Gravity Range grid - Unvalidated.
- Among the new detects were first round results for MW-147M1 and MW-147M2 that showed PDA confirmed detections of explosives similar to the profile results, except for the additional detection of HMX at MW-147M2. Second round results from MW-136S and MW-136M1 had confirmed explosive detections similar to the first round data except for the additional detection of HMX at MW-136M1. There were no confirmed detections of explosives in the supplemental BIP grid results.
- Two updated X-sections of wells along Greenway Road were distributed. MW-153 and MW-155 (J3P-3) were added to the cross-sections. Tech team requested that chemical data on the X-sections be presented differently so that profile data could be more readily distinguished from the well data.
- Todd Borci (EPA) indicated that field trip to Demo 2, GS-8 and Bunker 3 had been delayed until next week.

Document /Schedule Status Update

Marc Grant (AMEC) provided the update on document and schedule status, distributing a one page table and one page chart.

- Top priority for documents needing comments was the Central Impact Area Groundwater Report (TM 01-6).
- Len Pinaud (MADEP) indicated that DEP had sent out Demo 1 comments on 2/20; Mark Applebee (AMEC) confirmed that these comments had been received by AMEC. In addition, J-2 Additional Delineation Plan comments had been sent out Friday by DEP. Currently DEP is working on comments to Demo 1 GW Report.
- The following changes were made/projected in 3-month Lookahead Schedule:
  - J-2 Range Draft Report changed to 3/20 pending approval of extension request.
  - Gun/Mortar Draft Report will have extension request.
  - Schedule for Training Areas Investigation will be impacted unless sampling locations are selected next week.
  - Phase IIb Investigation schedule will likely change as a result of soil sampling delays caused by weather. 1 month extension will likely be requested.
  - HUTA FS Screening Report schedule will hopefully be resolved today.

Tritium Update

Jay Clausen (AMEC) led discussion on Tritium. Validation reports were distributed.

- Tritium results generally indicated that 1963 groundwater peaks occurred between 50-120 ft below ground surface. The deepest results were seen at wells along Greenway Road. In general, the data for MW-126 and MW-128 looked reliable. This data was analyzed by the University of Miami.
- Results for MW-120 looked as if the first samples collected in this well were at the tail end of the peak. There was no clear pattern for the MW-131 results. This data was analyzed by STL-Richland.

- Remaining water samples will be sent to University of Miami to analyze including MW-5, MW-18, MW-31, MW-28, and MW-141. USGS lab (which has a longer – 3 month – turnaround time) will be used depending on UofM capacity.
- Mr. Walter noted that it was unusual that the peak was very shallow at MW-128. Another sample here would help to confirm the result. Results at MW-13 which is within 1600 feet of MW-128 had a much deeper peak.
- Don Walter (USGS) stated that the Tritium data was useful to check the groundwater model and to calculate vertical flow gradients.
- Mr. Clausen will provide data presentation consisting of X/Y plots of Tritium concentration versus depth for each well. Mr. Walter will provide depth of 1963 groundwater predicted by the groundwater model to add to the plots for comparison. Not enough data is yet available to contour the elevation of the 1963 peak across the site.
- Jane Dolan (EPA) requested a list of all 5-foot well screens. Marc Grant (AMEC) to provide.
- Background groundwater discussion was still being setup. Mr. Walter had not had an opportunity to discuss schedule with Dennis LaBlanc (USGS). Mr. Walter to contact Heather Sullivan (ACE) early next week regarding when the USGS would be available for this discussion

Anti-Tank Gravity Range (Old A Range) Investigation Scope

Christine Johnson-Battista (ACE) led discussion regarding scope of A Range Investigation.

- Currently, the scope of the A Range investigation is comprised of shallow soil sampling to be completed by AMEC and a munitions survey to be completed by Tetra Tech. The geophysical survey is being completed so that deeper penetrating high caliber rounds (90mm, 3.5-inch rockets, and 37mm) can be detected in the adjacent hillside. Once the geophysical survey and surface soil sampling is completed, subsurface soil sampling can be proposed and completed. Currently the soil characterization portion of the investigation is independent of the geophysical survey.
- Todd Borci (EPA) indicated that the separation of the work should not be allowed to impact the schedule to characterize this area. Mr. Borci is primarily concerned that the two separate investigation tasks be completed within a reasonable time-frame so that the results from both tasks can be tied together in the report.
- Todd Borci (EPA) requested that EPA review the AIRMAG data with the ACE and Tetra Tech to scope out what needed to be done to investigate the area. In preparation, he recommended that ACE/Tetra Tech review the historical information so that all areas are covered.
- Doug Lam/Larry Hudgins (Tetra Tech) indicated that the AIRMAG map with the A Range area will be prepared for distribution next week. An electronic version could possibly be made available next Thursday/Friday. Allowing for a one week review, a site visit could be arranged in 2 weeks to discuss an investigation scope.

Miscellaneous

- Ben Gregson (IAGWSPO) distributed the proposed agenda for the March IART. Todd Borci (EPA) will review.

Archive Search Report Interview Summaries

An overview of the Archive Search Report was presented by Linda Daehn (Tetra Tech). In addition to Ms. Daehn, the following Tetra Tech personnel joined the conference call to support

the ASR discussion: Dan Eddinger, Carla Buriks, Tom Rust, and Chris Churney. A one page handout was distributed.

- Tetra Tech provided a revised, draft ASR Communications Plan to NGB on 28 February 2001 for internal review/comment.

ACE Rock Island District ASR Revisions

- USACE is reviewing ammunition records maintained at the Camp Edwards Ammunition Supply Point (ASP) and compiling the data.
- USACE is conducting records reviews, firing fan plotting, report reformatting, and data tabulation. Approximately 25% of the firing fan plots have been completed. Tetra Tech has completed plots of the firing fans. Jane Dolan (EPA) requested a copy of the firing fan plots from Tetra Tech.
- The draft report is on schedule for completion on 31 July 2001.

Interviews

- The private investigator has completed 24 interviews of retired and active military personnel, contractor employees, and private citizens. A table summarizing information collected during interviews of Witness #17 through Witness #24 and the follow-up site visit with Witness #17 has been completed.
- Jane Dolan (EPA) indicated that some interview information was missing from the summary table. Specifically, the 6th and 7th paragraphs from the Witness #20 report, and the 3rd paragraph from the Witness #22 report were missing. Tetra Tech to add this information to the table.
- A draft report of interview findings through 30 January 2001 has been prepared and will be presented at the March IART meeting. Joe Knott (NGB) requested that Tetra Tech present this information at the meeting. If Tetra Tech was not available, CPT Bill Myer (IAGWSPO) could give the presentation.

Military History Research

- A draft report outlining military research findings through January 2001. This report will be provided to the regulators by 30 March 2001.

Contracts Research

- Letter has been sent to Picatinny Arsenal requesting expediency in handling of NGB's request for contracts-related information pertaining to MMR; this letter was sent to Picatinny Arsenal contacts.
- A request to review files (preferably by end of March) regarding references cited in Textron's 104(e) responses as "too voluminous to copy;" was sent to Textron.
- Information was received from Picatinny Arsenal in response to a Picatinny-wide request for information related to MMR.
- DTRA has informed Tetra Tech that their acquisitions management personnel will complete their records search by March 23, 2001.
- AMCOM at Redstone Army Arsenal responded that no records had been identified.
- Tetra Tech is communicating with Eglin AFB regarding its information search.
- A draft report outlining contracts research findings is scheduled to be completed by May 2001.

Geographic Information Systems (GIS) Integration

- Research continues on how to best obtain aerial photographs.
- Preparation of GIS maps from ASR data and other sources continues.

- A prototype GIS database will be available for review and comment at the March IART meeting scheduled for the end of March. Tech team felt that this demonstration would best be conducted prior to the meeting, since the agenda was already full and the room was only available to 10pm.

J-2 Range Additional Delineation Work Plan Resolution Meeting

Following the Tech meeting, a resolution meeting was held to discuss the J-2 Additional Delineation Work Plan. The discussion was led by Jane Dolan (EPA) and Herb Colby (AMEC).

- Ms. Dolan proposed addressing several comments during a site visit to the J-2 Range (particularly those dealing with the proposed scope of work) so that the actual sample locations could be reviewed relative to the site feature/area of concern. Location of additional delineation soil grids could be selected at that time. Comments that will be resolved after the field visit included: General comments 2, 7, 8 Specific comments 6, 16, 17, 19, 20, 21.
- The draft J-2 Report will be submitted next week. Therefore, Ms. Dolan agreed to reserve judgement on the following comments until after reviewing the report: General comments 1, 6 Specific comments 14, 15.
- Ms. Dolan indicated that she needed to review additional information in order to evaluate the following comments. These could also be addressed after the field visit: Specific comments 7, 8, 9, 10, 11, 12, 13.
- Mr. Colby agreed to add a figure showing the BIPs for which supplemental sampling has been proposed or completed to the Work Plan in response to General Comment 5. Mr. Colby noted that the BIPs have their own sampling and reporting schedule independent of the J-2 Range Investigation.
- ACE and AMEC agreed to provide a comparative analysis of the munitions found in the areas of concern with regard to the analytical results from those areas to address General Comment 4. This would either be presented in the report or some other format. Ms. Dolan requested that this information be provided, at a minimum, for Disposal Areas 1 and 2.
- The following comments were accepted by EPA without further comment: General comments 3, 8, 9. Specific comment 1, 2, 3, 4, 5, 18, 22, 23.
- No specific date was set for a J-2 Range site visit, although it was generally agreed that the visit should be after the draft J-2 Range Report had been reviewed and when more favorable weather conditions prevailed but still keeping in mind the schedule for completing the J-2 Range investigation - likely late March to early April.
- Marc Grant (AMEC) proposed issuing two MORs, one confirming the resolutions to comments agreed to at the meeting and a second after resolving the remaining comments during the site visit.

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:

- The groundwater profile samples from MW-157 had detections of acetone (16 intervals), chloroform (12 intervals), chloroethane (1 interval), chloromethane (2 intervals), MEK (6 intervals), ethylbenzene (1 interval), toluene (19 intervals), xylene (6 intervals), trans-1,3-dichloropropene (1 interval), 2A-DNT (1 interval), nitroglycerin (2 intervals), picric acid (1 interval, HMX (3 intervals), and RDX (2 intervals). The HMX and RDX detections were verified by PDA spectra.

3. DELIVERABLES SUBMITTED

Final RRA Work Plan Addendum	3/09/01
Final RRA Mortar Target 9 and Former H Range FSP	3/09/01
Weekly Progress Update (February 26 - March 2)	3/09/01

4. SCHEDULED ACTIONS

Scheduled actions for the week of March 12 include complete well installation of J3P-8 (MW-157), complete drilling of J2P-10 (MW-158), commence drilling GS8P-1; continue groundwater sampling newly installed wells; continue development of newly installed wells; and continue sampling of Phase IIb soil 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
3/3/2001-3/9/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
CS131A1AAE	FIELDQC	03/06/2001	FIELDQC	0.00	0.00		
G157DKE	FIELDQC	03/07/2001	FIELDQC	0.00	0.00		
G157DKT	FIELDQC	03/07/2001	FIELDQC	0.00	0.00		
G157DME	FIELDQC	03/08/2001	FIELDQC	0.00	0.00		
G157DMT	FIELDQC	03/08/2001	FIELDQC	0.00	0.00		
G157DNE	FIELDQC	03/09/2001	FIELDQC	0.00	0.00		
G157DNT	FIELDQC	03/09/2001	FIELDQC	0.00	0.00		
HC130O1AAE	FIELDQC	03/08/2001	FIELDQC	0.00	0.00		
HD130A1AAE	FIELDQC	03/09/2001	FIELDQC	0.00	0.00		
6.C.1.00633.2.0	C.1.00633.O	03/09/2001	GAUZE WIPE	1.25	1.50		
6.C.1.00633.3.0	C.1.00633.O	03/09/2001	GAUZE WIPE	1.25	1.50		
W150SSA	MW-150	03/07/2001	GROUNDWATER	92.50	102.50	0.00	10.00
PWPPC05MR1A	RRA CONTAINMENT	03/07/2001	IDW				
PWPPC06MR1A	RRA CONTAINMENT	03/06/2001	IDW				
G157DKA	MW-157	03/07/2001	PROFILE	120.00	120.00	105.70	105.70
G157DLA	MW-157	03/07/2001	PROFILE	130.00	130.00	115.70	115.70
G157DMA	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70
G157DMD	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70
G157DNA	MW-157	03/09/2001	PROFILE	150.00	150.00	135.70	135.70
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70
G157DPA	MW-157	03/09/2001	PROFILE	170.00	170.00	155.70	155.70
G157DQA	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70
G157DQD	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70
G157DRA	MW-157	03/09/2001	PROFILE	190.00	190.00	175.70	175.70
G157DSA	MW-157	03/09/2001	PROFILE	200.00	200.00	185.70	185.70
G157DTA	MW-157	03/09/2001	PROFILE	210.00	210.00	195.70	195.70
6.C.1.00633.1.0	C.1.00633.O	03/09/2001	SOIL BRUSHING	1.25	1.50		
CS131A1AAA	131A	03/06/2001	SOIL GRAB				
CS131A2AAA	131A	03/06/2001	SOIL GRAB				
CS131B1AAA	131B	03/06/2001	SOIL GRAB				
CS131B2AAA	131B	03/06/2001	SOIL GRAB				
CS131C1AAA	131C	03/06/2001	SOIL GRAB				
CS131C2AAA	131C	03/06/2001	SOIL GRAB				
HD131A1AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131A2AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131A3AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131A4AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131A5AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131A6AAA	131A	03/06/2001	SOIL GRAB	0.00	0.50		
HD131B1AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		
HD131B2AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		
HD131B3AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		
HD131B4AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		

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
3/3/2001-3/9/2001

OGDEN_ID	LOCID OR WELL ID	DATE SAMPLED	SAMPLE TYPE	SBD	SED	BWTS	BWTE
HD131B5AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		
HD131B6AAA	131B	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C1AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C2AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C3AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C4AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C5AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HD131C6AAA	131C	03/06/2001	SOIL GRAB	0.00	0.50		
HC130A1AAA	130A	03/09/2001	SOIL GRID	0.00	0.25		
HC130A1BAA	130A	03/09/2001	SOIL GRID	0.25	0.50		
HC130A1CAA	130A	03/09/2001	SOIL GRID	0.50	1.00		
HC130O1AAA	130O	03/08/2001	SOIL GRID	0.00	0.25		
HC130O1BAA	130O	03/08/2001	SOIL GRID	0.25	0.50		
HC130O1CAA	130O	03/08/2001	SOIL GRID	0.50	1.00		
HC130P1AAA	130P	03/08/2001	SOIL GRID	0.00	0.25		
HC130P1BAA	130P	03/08/2001	SOIL GRID	0.25	0.50		
HC130P1CAA	130P	03/08/2001	SOIL GRID	0.50	1.00		
HD130A1AAA	130A	03/09/2001	SOIL GRID	0.00	0.25		
HD130A1BAA	130A	03/09/2001	SOIL GRID	0.25	0.50		
HD130A1CAA	130A	03/09/2001	SOIL GRID	0.50	1.00		
HD130O1AAA	130O	03/08/2001	SOIL GRID	0.00	0.25		
HD130O1BAA	130O	03/08/2001	SOIL GRID	0.25	0.50		
HD130O1CAA	130O	03/08/2001	SOIL GRID	0.50	1.00		
HD130P1AAA	130P	03/08/2001	SOIL GRID	0.00	0.25		
HD130P1BAA	130P	03/08/2001	SOIL GRID	0.25	0.50		
HD130P1BAD	130P	03/08/2001	SOIL GRID	0.25	0.50		
HD130P1CAA	130P	03/08/2001	SOIL GRID	0.50	1.00		

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

TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 2/17/01-3/9/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	8330N	2,4-DIAMINO-6-NITROTOLUENE	NO
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	8330N	NITROGLYCERIN	NO
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	8330N	PICRIC ACID	NO
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	ACETONE	
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	CHLOROETHANE	
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	ETHYLBENZENE	
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	TOLUENE	
G157DAA	MW-157	03/01/2001	PROFILE	20.00	20.00	6.70	6.70	OC21V	XYLENES, TOTAL	
G157DBA	MW-157	03/01/2001	PROFILE	30.00	30.00	16.70	16.70	OC21V	ACETONE	
G157DBA	MW-157	03/01/2001	PROFILE	30.00	30.00	16.70	16.70	OC21V	CHLOROFORM	
G157DBA	MW-157	03/01/2001	PROFILE	30.00	30.00	16.70	16.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DBA	MW-157	03/01/2001	PROFILE	30.00	30.00	16.70	16.70	OC21V	TOLUENE	
G157DBA	MW-157	03/01/2001	PROFILE	30.00	30.00	16.70	16.70	OC21V	XYLENES, TOTAL	
G157DCA	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	ACETONE	
G157DCA	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	CHLOROFORM	
G157DCA	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	TOLUENE	
G157DCA	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	XYLENES, TOTAL	
G157DCD	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	ACETONE	
G157DCD	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	CHLOROFORM	
G157DCD	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	TOLUENE	
G157DCD	MW-157	03/01/2001	PROFILE	40.00	40.00	26.70	26.70	OC21V	XYLENES, TOTAL	
G157DDA	MW-157	03/01/2001	PROFILE	50.00	50.00	36.70	36.70	OC21V	CHLOROFORM	
G157DDA	MW-157	03/01/2001	PROFILE	50.00	50.00	36.70	36.70	OC21V	TOLUENE	
G157DEA	MW-157	03/01/2001	PROFILE	60.00	60.00	46.70	46.70	OC21V	ACETONE	
G157DEA	MW-157	03/01/2001	PROFILE	60.00	60.00	46.70	46.70	OC21V	CHLOROFORM	
G157DEA	MW-157	03/01/2001	PROFILE	60.00	60.00	46.70	46.70	OC21V	TOLUENE	
G157DFA	MW-157	03/01/2001	PROFILE	70.00	70.00	56.70	56.70	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
G157DFA	MW-157	03/01/2001	PROFILE	70.00	70.00	56.70	56.70	OC21V	CHLOROFORM	
G157DFA	MW-157	03/01/2001	PROFILE	70.00	70.00	56.70	56.70	OC21V	TRANS-1,3-DICHLOROPROPENE	
G157DGA	MW-157	03/02/2001	PROFILE	80.00	80.00	66.70	66.70	8330N	OCTAHYDRO-1,3,5,7-TETRANITI	YES
G157DGA	MW-157	03/02/2001	PROFILE	80.00	80.00	66.70	66.70	OC21V	ACETONE	
G157DGA	MW-157	03/02/2001	PROFILE	80.00	80.00	66.70	66.70	OC21V	CHLOROFORM	

DATA REPORTED REFLECT CURRENT DATABASE FOR SAMPLES COLLECTED IN SPECIFIED TIMEFRAME. NOT ALL RESULTS ARE COMPLETE.
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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 2/17/01-3/9/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G157DGA	MW-157	03/02/2001	PROFILE	80.00	80.00	66.70	66.70	OC21V	TOLUENE	
G157DHA	MW-157	03/02/2001	PROFILE	90.00	90.00	76.70	76.70	8330N	OCTAHYDRO-1,3,5,7-TETRANIT	YES
G157DHA	MW-157	03/02/2001	PROFILE	90.00	90.00	76.70	76.70	OC21V	ACETONE	
G157DHA	MW-157	03/02/2001	PROFILE	90.00	90.00	76.70	76.70	OC21V	TOLUENE	
G157DIA	MW-157	03/02/2001	PROFILE	100.00	100.00	86.70	86.70	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
G157DIA	MW-157	03/02/2001	PROFILE	100.00	100.00	86.70	86.70	OC21V	TOLUENE	
G157DIA	MW-157	03/02/2001	PROFILE	100.00	100.00	86.70	86.70	OC21V	XYLENES, TOTAL	
G157DJA	MW-157	03/02/2001	PROFILE	110.00	110.00	96.70	96.70	8330N	HEXAHYDRO-1,3,5-TRINITRO-1,	YES
G157DJA	MW-157	03/02/2001	PROFILE	110.00	110.00	96.70	96.70	8330N	NITROGLYCERIN	NO
G157DJA	MW-157	03/02/2001	PROFILE	110.00	110.00	96.70	96.70	OC21V	ACETONE	
G157DJA	MW-157	03/02/2001	PROFILE	110.00	110.00	96.70	96.70	OC21V	TOLUENE	
G157DKA	MW-157	03/07/2001	PROFILE	120.00	120.00	105.70	105.70	OC21V	ACETONE	
G157DKA	MW-157	03/07/2001	PROFILE	120.00	120.00	105.70	105.70	OC21V	CHLOROFORM	
G157DKA	MW-157	03/07/2001	PROFILE	120.00	120.00	105.70	105.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DKA	MW-157	03/07/2001	PROFILE	120.00	120.00	105.70	105.70	OC21V	TOLUENE	
G157DLA	MW-157	03/07/2001	PROFILE	130.00	130.00	115.70	115.70	OC21V	ACETONE	
G157DLA	MW-157	03/07/2001	PROFILE	130.00	130.00	115.70	115.70	OC21V	CHLOROFORM	
G157DLA	MW-157	03/07/2001	PROFILE	130.00	130.00	115.70	115.70	OC21V	TOLUENE	
G157DMA	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70	OC21V	CHLOROFORM	
G157DMA	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70	OC21V	TOLUENE	
G157DMD	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70	OC21V	CHLOROFORM	
G157DMD	MW-157	03/07/2001	PROFILE	140.00	140.00	125.70	125.70	OC21V	TOLUENE	
G157DNA	MW-157	03/09/2001	PROFILE	150.00	150.00	135.70	135.70	OC21V	ACETONE	
G157DNA	MW-157	03/09/2001	PROFILE	150.00	150.00	135.70	135.70	OC21V	CHLOROFORM	
G157DNA	MW-157	03/09/2001	PROFILE	150.00	150.00	135.70	135.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DNA	MW-157	03/09/2001	PROFILE	150.00	150.00	135.70	135.70	OC21V	TOLUENE	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	ACETONE	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	CHLOROFORM	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	CHLOROMETHANE	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	TOLUENE	
G157DOA	MW-157	03/09/2001	PROFILE	160.00	160.00	145.70	145.70	OC21V	XYLENES, TOTAL	
G157DPA	MW-157	03/09/2001	PROFILE	170.00	170.00	155.70	155.70	OC21V	ACETONE	

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TABLE 3
DETECTED COMPOUNDS-UNVALIDATED
SAMPLES COLLECTED 2/17/01-3/9/01

OGDEN_ID	LOCID OR WELL ID	SAMPLED	SAMP_TYPE	SBD	SED	BWTS	BWTE	METHOD	OGDEN_ANALYTE	PDA
G157DPA	MW-157	03/09/2001	PROFILE	170.00	170.00	155.70	155.70	OC21V	CHLOROFORM	
G157DPA	MW-157	03/09/2001	PROFILE	170.00	170.00	155.70	155.70	OC21V	TOLUENE	
G157DQA	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70	OC21V	ACETONE	
G157DQA	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70	OC21V	TOLUENE	
G157DQD	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70	OC21V	ACETONE	
G157DQD	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70	OC21V	CHLOROMETHANE	
G157DQD	MW-157	03/09/2001	PROFILE	180.00	180.00	165.70	165.70	OC21V	TOLUENE	
G157DRA	MW-157	03/09/2001	PROFILE	190.00	190.00	175.70	175.70	OC21V	ACETONE	
G157DRA	MW-157	03/09/2001	PROFILE	190.00	190.00	175.70	175.70	OC21V	TOLUENE	
G157DSA	MW-157	03/09/2001	PROFILE	200.00	200.00	185.70	185.70	OC21V	ACETONE	
G157DSA	MW-157	03/09/2001	PROFILE	200.00	200.00	185.70	185.70	OC21V	TOLUENE	
G157DTA	MW-157	03/09/2001	PROFILE	210.00	210.00	195.70	195.70	OC21V	ACETONE	
G157DTA	MW-157	03/09/2001	PROFILE	210.00	210.00	195.70	195.70	OC21V	METHYL ETHYL KETONE (2-BUT	
G157DTA	MW-157	03/09/2001	PROFILE	210.00	210.00	195.70	195.70	OC21V	TOLUENE	
G157DTA	MW-157	03/09/2001	PROFILE	210.00	210.00	195.70	195.70	OC21V	XYLENES, TOTAL	

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Groundwater Wells at MMR

LEGEND

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

0 0.5 1 Miles

IAGWSP

See Inset A

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March 26, 2001 PRC

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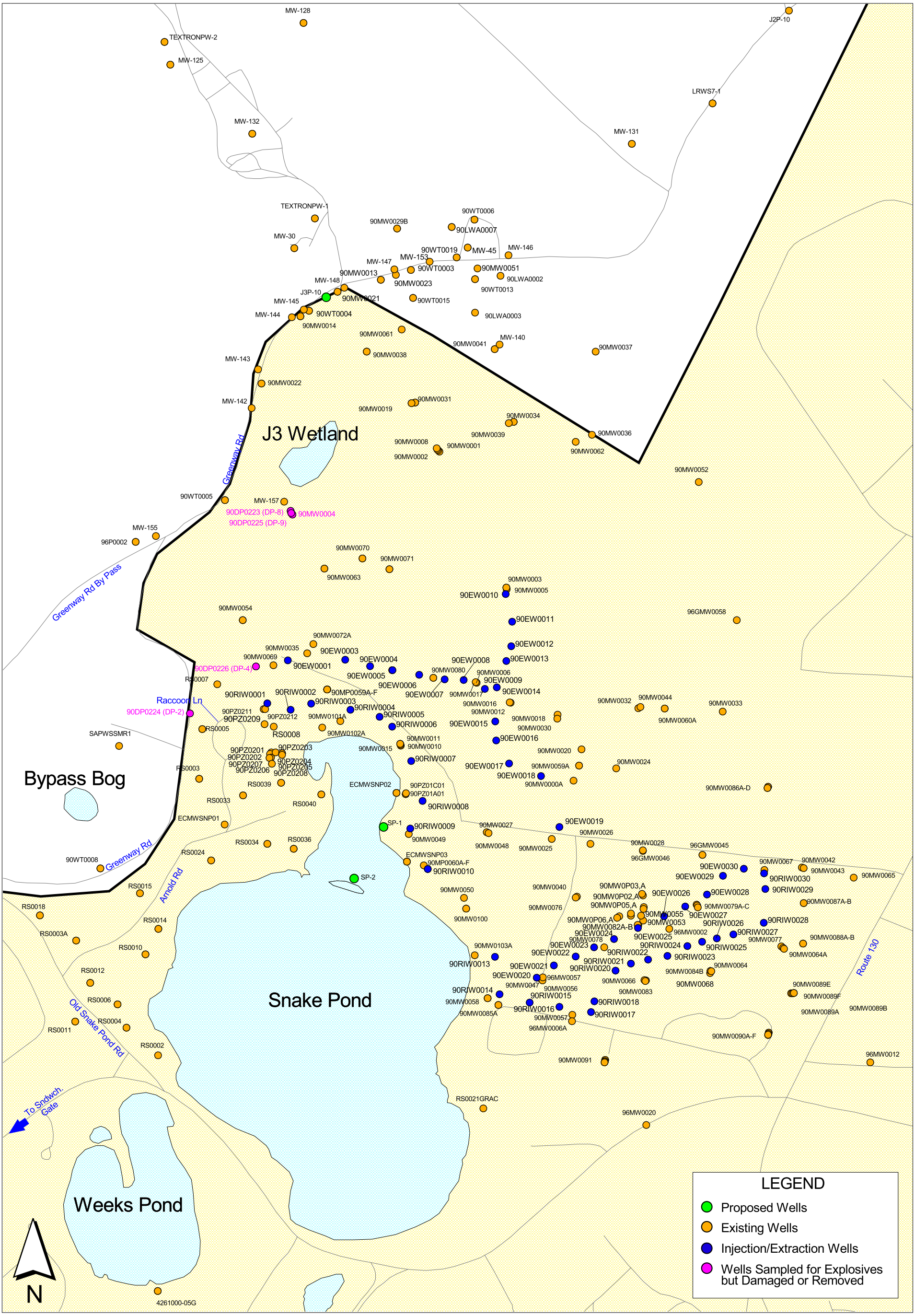

Inset A

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March 26, 2001 PRC