MONTHLY PROGRESS REPORT #205
FOR APRIL 2014

EPA REGION I ADMINISTRATIVE ORDERS SDWA 1-97-1019 and 1-2000-0014

JOINT BASE CAPE COD (JBCC)
(FORMERLY THE MASSACHUSETTS MILITARY RESERVATION (MMR))
TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period from 1 April to 30 April 2014.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of April 2014. Remediation Actions may include Rapid Response Actions (RRA). An RRA is an interim action that may be conducted prior to risk assessments or remedial investigations to address a known, ongoing threat of contamination to groundwater and/or soil.

Demolition Area 1 Comprehensive Groundwater RA

The Demolition Area 1 Comprehensive Groundwater RA consists of the removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. Extraction, treatment, and recharge (ETR) systems at Frank Perkins Road, Pew Road, and the Base Boundary include extraction wells, ex-situ treatment processes to remove explosives compounds and perchlorate from the groundwater, and injection wells to return treated water to the aquifer.

The Frank Perkins Road Treatment Facility has been optimized as part of the Environmental and System Performance Monitoring (ESPM) program at Demolition Area 1. The treatment facility operates at a flow rate of 400 gpm with over 2.054 billion gallons of water treated and re-injected as of 25 April 2014. No Frank Perkins Road facility shut downs occurred in April.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 359 million gallons of water treated and re-injected as of 25 April 2014. No Pew Road MTU shut downs occurred in April.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 74.9 million gallons of water treated and re-injected as of 25 April 2014. No Base Boundary MTU shut down and system re-starts occurred in April.

J-1 Range Groundwater RA

Southern Plant

The J-1 Range Southern Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds. The ETR system includes two extraction wells, ex-situ treatment process to remove explosives compounds from the groundwater, and an infiltration trench to return treated water to the aquifer.

The Southern MTU continues to operate at a flow rate of 125 gpm. As of 25 April 2014, over 208 million gallons of water have been treated and re-injected. No Southern MTU shut downs occurred in April.

Northern Plant

The J-1 Range Northern Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The ETR system includes two extraction wells, ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater, and an infiltration trench to return treated water to the aquifer.

The Northern MTU continues to operate at a total system flow rate of 250 gpm. As of 25 April 2014, over 54 million gallons of water have been treated and re-injected. No Northern MTU shut downs occurred in April.

J-3 Range Groundwater RRA

The J-3 Range Groundwater RRA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The ETR system includes three extraction wells, ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater and use of the existing Fuel Spill-12 (FS-12) infiltration gallery to return treated water to the aquifer.

The J-3 system continues to operate at a flow rate of 195 gpm. As of 25 April 2014, over 711 million gallons of water have been treated and re-injected. The following J-3 system shut downs and re-starts occurred in April:

- Shut down on 22 April 2014 at 1300 for granular activated carbon (GAC) media change-out and restarted on 24 April 2014 at 0905; and
- Shut down on 30 April 2014 at 1223 due to a system alarm and was restarted on 30 April 2014 at 1235.

J-2 Range Groundwater RA

Northern Plant

The J-2 Range Northern Treatment facility consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The Extraction, Treatment, and Infiltration (ETI) system includes three extraction wells, ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater, and an infiltration basin to return treated water to the aquifer.

The Northern Treatment Building continues to operate at a flow rate of 225 gpm. As of 25 April 2014, over 492 million gallons of water have been treated and re-injected. No Northern Treatment Building shut downs occurred in April.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 25 April 2014, over 889 million gallons of water have been treated and re-injected. The following Northern MTU shut downs and system re-starts occurred in April:

- MTU E shut down on 3 April 2014 at 2216 due to a system alarm and was restarted on 4 April 2014 at 1016;

- MTU E shut down on 7 April 2014 at 0427 due to a system alarm and was restarted on 7 April 2014 at 0857; and
- MTU E shut down on 7 April 2014 at 1004 due to a system alarm and was restarted on 7 April 2014 at 1222.

Eastern Plant

The J-2 Range Eastern Treatment facility consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The ETI system includes the following components: three extraction wells in an axial array, an ex-situ treatment process consisting of an ion exchange (IX) resin and granular activated carbon (GAC) media to treat perchlorate and explosives compounds and three infiltration trenches located along the lateral boundaries of the plume where treated water will enter the vadose zone and infiltrate into the aquifer. The J-2 Range Eastern system is running at a combined total flow rate of 495 gpm.

The MTUs H and I continue to operate at a flow rate of 250 gpm. As of 25 April 2014, over 574 million gallons of water have been treated and re-injected. The following shut downs and system re-starts of MTUs H and I occurred in April:

- MTUs H and I were shut down on 22 April 2014 at 1355 for IX media change-out and were restarted on 24 April 2014 at 0930.

MTU J continues to operate at a flow rate of 120 gpm. As of 25 April 2014, over 268 million gallons of water have been treated and re-injected. The following shut downs and system re-starts of MTU J occurred in April:

- MTU J was shut down on 19 April 2014 at 0631 due to a system alarm and was restarted on 21 April 2014 at 1107.

MTU K continues to operate at a flow rate of 125 gpm. As of 25 April 2014, over 331 million gallons of water have been treated and re-injected. No shut downs of MTU K occurred in April.

- MTU J was shut down on 19 April 2014 at 0631 due to a system alarm and was restarted on 21 April 2014 at 1107.

<u>Central Impact Area RA</u>

The Central Impact Area (CIA) Groundwater treatment facility consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The ETR system includes the following components: two extraction wells, an ex-situ treatment process consisting of an ion exchange (IX) resin and granular activated carbon (GAC) media to treat explosives compounds and two infiltration galleries to return treated water to the aquifer. The CIA systems 1 and 2 are running at a combined total flow rate of 500 gpm. As of 25 April 2014, over 67 million gallons of water have been treated and re-injected. No CIA treatment facility shutdowns occurred in April.

SUMMARY OF ACTIONS TAKEN

Samples collected during the reporting period are summarized in Table 1.

Process water samples were collected at Frank Perkins Road, Pew Road, Base Boundary, J-1 Range Southern, J-1 Range Northern, J-2 Range Northern, J-2 Range Eastern, J-3 Range, and Central Impact Area (CIA).

Environmental and system performance monitoring groundwater samples were collected from Demolition Area 1, CIA, and L Range.

Continued well development at J-2 Range Northern (MW-622, MW-632, MW-634, MW-635), J-3 Range (MW-576), and Central Impact Area (MW-625, MW-623, MW-629, MW-630, MW-633, MW-638).

Annual hydraulic event was conducted at Demolition Area 1.

Ninety-Day Post-startup hydraulic event was completed at the CIA groundwater treatment facility.

Continued collecting Metal Mapper data and intrusive investigation of polygons in the 8-Acre Area at the CIA.

Surveying was performed for new wells at the CIA.

Continued site restoration at Former A Range.

JBCC IAGWSP Tech Update Meeting Minutes 10 April 2014

Construction Update

An update was provided on CIA treatment system. The system has been operating as designed since start-up with no down time. There is an erosion issue from the northern infiltration gallery that the contractor will be repairing. An update was provided on the J-1 Range construction project. USACE explained that they expect a proposed trench design for the new reinjection gallery later today. The construction will start as soon as possible however it was noted that a contract action, which would take anywhere from 6 to 8 weeks to execute, would be required. The treatment system is operating as designed.

Project and Fieldwork Update

An update was provided on Central Impact Area fieldwork. There are three UXO teams working in the CIA they are requiring Metal Mapper targets, performing clearance activities in the polygon area, and a Metal Mapper team is working in the southern 8-acre area. A second Metal Mapper team will be on-site next week. USACE explained that they would like to perform a BEM Wednesday April 16 through Friday April 18 and that they will be preparing the paperwork later today. IAGWSP, USACE and Tetra Tech are working on a map that will illustrate where the next twenty-eight acres of fieldwork will be. The areas chosen in the Decision Document are being reviewed and once the areas are identified, IAGWSP will make a presentation and provide the rationale for selection. Materials are arriving this week for the erosion prevention project for the Former A Range and fieldwork is scheduled to begin April 14.

Drilling Update
IAGWSP reviewed drilling progress and explained that they are still waiting for the approvals from the State Historic Preservation Office and the Wampanoag Tribe for location CIA-14. As soon as approval to proceed is received, a drill rig will be remobilized and a schedule for the completion of the well will be provided. The well development rig is on-site installing well screens and performing the first round of sampling at newly installed monitoring wells. Sampling crews are conducting long-term monitoring sampling for Demolition Area 1.

Recently obtained monitoring well results from CIA-5 were discussed. It was noted that .49 ppb was seen in the M1 well screen; the profile sample from this location was 1.5 ppb.

Demo 1
An update was provided on steps taken to access property in Pocasset. The site was surveyed and a second site visit was scheduled for Monday, April 14th to look at the 100' corridor along the northern property line to determine if it will provide adequate space for the required treatment system infrastructure. USACE Real Estate is working on easement language. IAGWSP will provide an update of progress at the next tech meeting.

Action Items
The action items were discussed and updated.

A site visit to the "Valley of Death", IBC and U Ranges was held after the meeting.

JBCC Cleanup Team Meeting

The JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT) is scheduled to meet on May 14, 2014. The Cleanup Team meeting discusses late breaking news and responses to action items, as well as updates from the IAGWSP and IRP. The JBCCCT meetings provide a forum for community input regarding issues related to both the IRP and the IAGWSP.

SUMMARY OF DATA RECEIVED

Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 1 April through 30 April 2014. These results are compared to the Maximum Contaminant Levels/Health Advisory (MCL/HA) values for respective analytes. Explosives and perchlorate are the primary contaminants of concern (COC) at Camp Edwards.

There are currently twelve operable units (OU) under investigation and cleanup at Camp Edwards. The OUs include: Central Impact Area, Demolition Area 1, Demolition Area 2, Former A Range, J-1 Range, J-2 Range, J-3 Range, L Range, Northwest Corner, Small Arms Ranges, Training Areas and Western Boundary. Environmental monitoring reports for each OU are generated each year to evaluate the current year groundwater results. These reports are available on the site Environmental Data Management System (EDMS) and at the project document repositories (IAGWSP office, Jonathan Bourne Library, Falmouth Public Library, and Sandwich Public Library).

2. DELIVERABLES SUBMITTED

Deliverables submitted during the reporting period include the following:

- Monthly Progress Report No. 204 for March 2014 4/10/2014
- Draft L Range 2014 Annual Environmental Monitoring Report 4/07/2014
- Final J-1 Range Northern 2013 Interim Environmental Monitoring Report and J-1 Range Southern 2013 Annual Environmental Monitoring Report 4/09/2014
- Final J-2 Range Eastern 2013 Interim Environmental Monitoring Report and J-2 Range Northern 2013 Interim Environmental Monitoring Report 4/23/2014
- Final Western Boundary 2013 Annual Environmental Monitoring Report 4/29/2014

3. SCHEDULED ACTIONS

The following documents are being prepared or revised during May 2014:

- CIA Project Note for ESTCP Metal Mapper Results;
- CIA AFRL Completion of Work Report;
- CIA 2013 Source Report;
- J-2 Range Project Note for Additional Wells to evaluate source response;
- J-3 Range Draft RI/FS;
- Small Arms Ranges Draft Decision Document;
- Small Arms Ranges Post-Decision Document Field Work Project Note;
- Training Areas U, KD and IBC Ranges Field Work Project Note;
- BIPs Report/Consolidated Shot Area Results;
- J-1 Range 2014 Annual Environmental Monitoring Report
- J-1 Southern 6-month System Start-up Report
- L Range 2014 Environmental Monitoring Report;
- Demolition Area 1 2014 Environmental and System Performance Monitoring Report Response Action Groundwater Treatment Systems; and
- Small Arms Range 2014 Annual Interim Environmental Monitoring Report.

TABLE 1
Sampling Progress: 1 April - 30 April 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Demolition Area 1	MW-78M2	MW-78M2_S14	N	04/29/2014	Ground Water	115	125
Demolition Area 1	MW-78M1	MW-78M1_S14	N	04/29/2014	Ground Water	135	145
Demolition Area 1	MW-75M2	MW-75M2_S14	N	04/29/2014	Ground Water	115	125
Demolition Area 1	MW-75M1	MW-75M1_S14	N	04/29/2014	Ground Water	140	150
Demolition Area 1	MW-31S	MW-31S_S14	N	04/29/2014	Ground Water	98	103
Demolition Area 1	MW-31S	MW-31S_S14D	FD	04/29/2014	Ground Water	98	103
Demolition Area 1	MW-31M	MW-31M_S14	N	04/29/2014	Ground Water	113	123
Demolition Area 1	MW-73S	MW-73S_S14	N	04/29/2014	Ground Water	52.2	61.7
Demolition Area 1	MW-19S	MW-19S_S14	N	04/28/2014	Ground Water	52.7	62.7
Demolition Area 1	MW-19S	MW-19S_S14D	FD	04/28/2014	Ground Water	52.7	62.7
Demolition Area 1	MW-172M2	MW-172M2_S14	N	04/28/2014	Ground Water	169	179
Demolition Area 1	MW-165M2	MW-165M2_S14	N	04/28/2014	Ground Water	124.5	134.5
Demolition Area 1	MW-165M1	MW-165M1_S14	N	04/28/2014	Ground Water	184.5	194.5
Demolition Area 1	MW-139M2	MW-139M2_S14	N	04/28/2014	Ground Water	154	164
Demolition Area 1	MW-139M1	MW-139M1_S14	N	04/28/2014	Ground Water	194	204
Demolition Area 1	MW-255M2	MW-255M2_S14	N	04/28/2014	Ground Water	170	180
Demolition Area 1	MW-162M2	MW-162M2_S14	N	04/22/2014	Ground Water	125.5	135.5
Demolition Area 1	MW-129M3	MW-129M3_S14	N	04/22/2014	Ground Water	96	106
Demolition Area 1	MW-129M2	MW-129M2_S14	N	04/22/2014	Ground Water	116	126
Demolition Area 1	MW-129M1	MW-129M1_S14	N	04/22/2014	Ground Water	136	146
Demolition Area 1	MW-36M2	MW-36M2_S14	N	04/22/2014	Ground Water	131	141
Demolition Area 1	MW-36M1	MW-36M1_S14	N	04/22/2014	Ground Water	152	162
Demolition Area 1	MW-114M2	MW-114M2_S14	N	04/21/2014	Ground Water	120	130
Demolition Area 1	MW-114M1	MW-114M1_S14	N	04/21/2014	Ground Water	177	187
Demolition Area 1	MW-34M2	MW-34M2_S14	N	04/21/2014	Ground Water	131	141
Demolition Area 1	MW-34M1	MW-34M1_S14	N	04/21/2014	Ground Water	151	161
Demolition Area 1	MW-211M1	MW-211M1_S14	N	04/17/2014	Ground Water	200	210
Demolition Area 1	MW-211M1	MW-211M1_S14D	FD	04/17/2014	Ground Water	200	210
Demolition Area 1	MW-211M2	MW-211M2_S14	N	04/17/2014	Ground Water	175	185
Demolition Area 1	MW-225M3	MW-225M3_S14	N	04/17/2014	Ground Water	125	135
Demolition Area 1	MW-225M2	MW-225M2_S14	N	04/17/2014	Ground Water	145	155
Demolition Area 1	MW-240M3	MW-240M3_S14	N	04/17/2014	Ground Water	105	115
Demolition Area 1	MW-240M1	MW-240M1_S14	N	04/17/2014	Ground Water	198	208
Demolition Area 1	MW-240M2	MW-240M2_S14	N	04/17/2014	Ground Water	125	135
Central Impact Area	CIA2-EFF	CIA2-EFF-03A	N	04/16/2014	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-03A	N	04/16/2014	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-03A	N	04/16/2014	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-03A	N	04/16/2014	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-06A	N	04/16/2014	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-06A	N	04/16/2014	Process Water	0	0
Demolition Area 1	MW-611M2	MW-611M2_APR14A	N	04/15/2014	Ground Water	91	101
Demolition Area 1	MW-611M1	MW-611M1_APR14A	N	04/15/2014	Ground Water	141	151
Demolition Area 1	MW-559M2	MW-559M2_S14	N	04/14/2014	Ground Water	87	97
Demolition Area 1	MW-559M1	MW-559M1_S14	N	04/14/2014	Ground Water	135.6	145.6
Demolition Area 1	MW-571M2	MW-571M2_APR14A	N	04/14/2014	Ground Water	74	84
Demolition Area 1	MW-558M2	MW-558M2_S14	N	04/14/2014	Ground Water	98	108
Demolition Area 1	MW-558M1	MW-558M1_S14	N	04/14/2014	Ground Water	134	144
Demolition Area 1	MW-558M1	MW-558M1_S14D	FD	04/14/2014	Ground Water	134	144
Demolition Area 1	MW-610M2	MW-610M2_APR14A	N	04/14/2014	Ground Water	85	95
Demolition Area 1	MW-248M3	MW-248M3_S14	N	04/14/2014	Ground Water	143	153
Demolition Area 1	MW-610M1	MW-610M1_APR14A	N	04/14/2014	Ground Water	110	120
Demolition Area 1	MW-248M2	MW-248M2_S14	N	04/14/2014	Ground Water	178	188
Demolition Area 1	MW-597M2	MW-597M2_APR14A	N	04/11/2014	Ground Water	118	128
Demolition Area 1	MW-597M1	MW-597M1_APR14A	N	04/11/2014	Ground Water	148	158
Demolition Area 1	MW-258M3	MW-258M3_S14	N	04/10/2014	Ground Water	77	82
Demolition Area 1	MW-258M2	MW-258M2_S14	N	04/10/2014	Ground Water	87	92
Demolition Area 1	FPR-2-EFF	FPR-2-EFF-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3B	FPR-2-GAC-MID3B-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID2A	FPR-2-GAC-MID2A-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-B	FPR2-POST-IX-B-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	MW-598M2	MW-598M2_APR14A	N	04/10/2014	Ground Water	88	98
Demolition Area 1	MW-258M1	MW-258M1_S14	N	04/10/2014	Ground Water	109	119
Demolition Area 1	MW-258M1	MW-258M1_S14D	FD	04/10/2014	Ground Water	109	119

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 April - 30 April 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Demolition Area 1	MW-252M3	MW-252M3_S14	N	04/10/2014	Ground Water	115	125
Demolition Area 1	PR-EFF	PR-EFF-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-97A	N	04/10/2014	Process Water	0	0
Demolition Area 1	MW-598M1	MW-598M1_APR14A	N	04/10/2014	Ground Water	122	132
Demolition Area 1	D1-EFF	D1-EFF-45A	N	04/10/2014	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-45A	N	04/10/2014	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-45A	N	04/10/2014	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-45A	N	04/10/2014	Process Water	0	0
Demolition Area 1	MW-252M2	MW-252M2_S14	N	04/10/2014	Ground Water	145	155
J3 Range	J3-EFF	J3-EFF-91A	N	04/10/2014	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-91A	N	04/10/2014	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-91A	N	04/10/2014	Process Water	0	0
J3 Range	J3-INF	J3-INF-91A	N	04/10/2014	Process Water	0	0
Demolition Area 1	MW-252M1	MW-252M1_S14	N	04/10/2014	Ground Water	174	184
Demolition Area 1	MW-531M1	MW-531M1_S14	N	04/09/2014	Ground Water	138	148
Central Impact Area	CIA2-EFF	CIA2-EFF-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-03A	N	04/09/2014	Process Water	0	0
Demolition Area 1	MW-542M1	MW-542M1_S14	N	04/09/2014	Ground Water	144	154
Central Impact Area	CIA2-INF	CIA2-INF-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-03A	N	04/09/2014	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-03A	N	04/09/2014	Process Water	0	0
Demolition Area 1	MW-532M2	MW-532M2_S14	N	04/09/2014	Ground Water	138	148
Demolition Area 1	MW-532M2	MW-532M2_S14D	FD	04/09/2014	Ground Water	138	148
Demolition Area 1	MW-532M1	MW-532M1_S14	N	04/09/2014	Ground Water	168	178
Demolition Area 1	MW-532M1	MW-532M1_S14D	FD	04/09/2014	Ground Water	168	178
Demolition Area 1	MW-571M1	MW-571M1_APR14A	N	04/09/2014	Ground Water	114	124
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-91A	N	04/09/2014	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-91A	N	04/09/2014	Process Water	0	0
Demolition Area 1	MW-569M2	MW-569M2_APR14A	N	04/09/2014	Ground Water	84	94
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-91A	N	04/09/2014	Process Water	0	0
L Range	MW-595M2	MW-595M2_R3	N	04/09/2014	Ground Water	205.3	215.3
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-91A	N	04/09/2014	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-06A	N	04/09/2014	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-06A	N	04/09/2014	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-06A	N	04/09/2014	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-06A	N	04/09/2014	Process Water	0	0
L Range	MW-595M1	MW-595M1_R3	N	04/09/2014	Ground Water	255.3	265.3
Demolition Area 1	MW-569M1	MW-569M1_APR14A	N	04/09/2014	Ground Water	114	124
L Range	MW-596M1	MW-596M1_R3	N	04/09/2014	Ground Water	231.1	241.1
Demolition Area 1	MW-554M2	MW-554M2_S14	N	04/08/2014	Ground Water	89.1	99.1
Demolition Area 1	MW-554M1	MW-554M1_S14	N	04/08/2014	Ground Water	120	130
Demolition Area 1	MW-556M2	MW-556M2_S14	N	04/08/2014	Ground Water	111	121
Demolition Area 1	MW-556M1	MW-556M1_S14	N	04/08/2014	Ground Water	153	163
Demolition Area 1	MW-556M1	MW-556M1_S14D	FD	04/08/2014	Ground Water	153	163
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-67A	N	04/08/2014	Process Water	0	0
Demolition Area 1	MW-545M4	MW-545M4_S14	N	04/08/2014	Ground Water	72	82
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-67A	N	04/08/2014	Process Water	0	0
Demolition Area 1	MW-545M3	MW-545M3_S14	N	04/08/2014	Ground Water	101.5	111.5

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 April - 30 April 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-67A	N	04/08/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-67A	N	04/08/2014	Process Water	0	0
Demolition Area 1	MW-545M2	MW-545M2_S14	N	04/08/2014	Ground Water	142	152
Demolition Area 1	MW-545M1	MW-545M1_S14	N	04/08/2014	Ground Water	162	172
Demolition Area 1	MW-545M1	MW-545M1_S14D	FD	04/08/2014	Ground Water	162	172
Demolition Area 1	MW-546M2	MW-546M2_S14	N	04/07/2014	Ground Water	100	110
Demolition Area 1	MW-546M1	MW-546M1_S14	N	04/07/2014	Ground Water	140	150
Demolition Area 1	MW-544M2	MW-544M2_S14	N	04/07/2014	Ground Water	112	122
Demolition Area 1	MW-544M3	MW-544M3_S14	N	04/07/2014	Ground Water	77.5	87.5
Demolition Area 1	MW-544M1	MW-544M1_S14	N	04/07/2014	Ground Water	162	172
J1 Range Southern	J1S-EFF	J1S-EFF-77A	N	04/07/2014	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-77A	N	04/07/2014	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-77A	N	04/07/2014	Process Water	0	0
Demolition Area 1	MW-582M2	MW-582M2_APR14A	N	04/07/2014	Ground Water	84	94
Demolition Area 1	MW-543M2	MW-543M2_S14	N	04/07/2014	Ground Water	91.8	101.8
Demolition Area 1	MW-582M1	MW-582M1_APR14A	N	04/07/2014	Ground Water	134	144
Demolition Area 1	MW-543M1	MW-543M1_S14	N	04/07/2014	Ground Water	127	137
Central Impact Area	MW-617M2	MW-617M2_R1	N	04/07/2014	Ground Water	117.5	127.5
Central Impact Area	MW-617M1	MW-617M1_R1	N	04/01/2014	Ground Water	175	185
Central Impact Area	MW-208M1	MW-208M1_S14	N	04/01/2014	Ground Water	195	205
Central Impact Area	MW-180M3	MW-180M3_S14	N	04/01/2014	Ground Water	171	181
Central Impact Area	MW-43M2	MW-43M2_S14	N	04/01/2014	Ground Water	200	210
Central Impact Area	MW-212M1	MW-212M1_S14	N	04/01/2014	Ground Water	333	343
Central Impact Area	MW-86S	MW-86S_S14	N	03/31/2014	Ground Water	143	153
Central Impact Area	MW-86M2	MW-86M2_S14	N	03/31/2014	Ground Water	158	168
Central Impact Area	MW-89M3	MW-89M3_S14	N	03/31/2014	Ground Water	174	184
Central Impact Area	MW-89M2	MW-89M2_S14	N	03/31/2014	Ground Water	214	224
Central Impact Area	MW-89M2	MW-89M2_S14D	FD	03/31/2014	Ground Water	214	224
Central Impact Area	MW-89M1	MW-89M1_S14	N	03/31/2014	Ground Water	234	244
Central Impact Area	MW-95M2	MW-95M2_S14	N	03/31/2014	Ground Water	167	177
Central Impact Area	MW-95M1	MW-95M1_S14	N	03/31/2014	Ground Water	202	212

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received April 2014

Area of Concern	Location ID	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Sampled	Test Method	Analyte	Result Value	Qualifier	Units	MCL/HA	> MCL/HA	MDL	RL
Central Impact Area	MW-208M1	MW-208M1_S14	195	205	04/01/2014	SW6860	Perchlorate	0.022	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-43M2	MW-43M2_S14	200	210	04/01/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.27		UG/L	0.60		0.026	0.20
Central Impact Area	MW-86S	MW-86S_S14	143	153	03/31/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.48		UG/L	0.60		0.026	0.20
Central Impact Area	MW-86M2	MW-86M2_S14	158	168	03/31/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.55		UG/L	0.60		0.026	0.20
Central Impact Area	MW-89M2	MW-89M2_S14	214	224	03/31/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.96		UG/L	400		0.023	0.20
Central Impact Area	MW-89M2	MW-89M2_S14	214	224	03/31/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	14.3		UG/L	0.60	X	0.026	0.20
Central Impact Area	MW-89M2	MW-89M2_S14	214	224	03/31/2014	SW6860	Perchlorate	8.0		UG/L	2.0	X	0.11	0.50
Central Impact Area	MW-89M2	MW-89M2_S14D	214	224	03/31/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.98		UG/L	400		0.023	0.20
Central Impact Area	MW-89M2	MW-89M2_S14D	214	224	03/31/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	14.8		UG/L	0.60	X	0.026	0.20
Central Impact Area	MW-89M2	MW-89M2_S14D	214	224	03/31/2014	SW6860	Perchlorate	7.9		UG/L	2.0	X	0.11	0.50
Central Impact Area	MW-89M1	MW-89M1_S14	234	244	03/31/2014	SW6860	Perchlorate	0.16		UG/L	2.0		0.011	0.050
Central Impact Area	MW-95M2	MW-95M2_S14	167	177	03/31/2014	SW6860	Perchlorate	0.088		UG/L	2.0		0.011	0.050
Central Impact Area	MW-95M1	MW-95M1_S14	202	212	03/31/2014	SW6860	Perchlorate	0.70		UG/L	2.0		0.011	0.050
Central Impact Area	MW-95M1	MW-95M1_S14	202	212	03/31/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.1		UG/L	0.60	X	0.026	0.20
Central Impact Area	MW-616M2	MW-616M2_R1	106.2	116.2	03/27/2014	SW6860	Perchlorate	0.034	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-616M1	MW-616M1_R1	216.2	226.2	03/27/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.45		UG/L	0.60		0.058	0.44
MP-1	MW-68S	MW-68S_S14	84	94	03/05/2014	SW6860	Perchlorate	0.42		UG/L	2.0		0.011	0.050
J2 Range Northern	MW-619M2	MW-619M2_R1	232	242	02/12/2014	SW6860	Perchlorate	0.076		UG/L	2.0		0.011	0.050
J2 Range Northern	MW-619M1	MW-619M1_R1	253	263	02/12/2014	SW6860	Perchlorate	0.57		UG/L	2.0		0.011	0.050
J2 Range Northern	MW-613M2	MW-613M2_R1	246.7	256.7	02/12/2014	SW6860	Perchlorate	0.030	J	UG/L	2.0		0.011	0.050
J2 Range Northern	MW-613M1	MW-613M1_R1	267.7	277.7	02/12/2014	SW6860	Perchlorate	0.033	J	UG/L	2.0		0.011	0.050
J2 Range Northern	MW-612M2	MW-612M2_R1	266	276	02/10/2014	SW6860	Perchlorate	0.020	J	UG/L	2.0		0.011	0.050
J2 Range Northern	MW-612M1	MW-612M1_R1	296	306	02/10/2014	SW6860	Perchlorate	0.047	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-607M3	MW-607M3_R2	156.2	166.2	02/10/2014	SW6860	Perchlorate	0.11		UG/L	2.0		0.011	0.050
Central Impact Area	MW-607M3	MW-607M3_R2	156.2	166.2	02/10/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.1	J	UG/L	0.60	X	0.092	0.42
Central Impact Area	MW-607M2	MW-607M2_R2	176.2	186.2	02/10/2014	SW6860	Perchlorate	0.019	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-607M2	MW-607M2_R2	176.2	186.2	02/10/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.2	J	UG/L	0.60	X	0.090	0.41
Central Impact Area	MW-607M1	MW-607M1_R2	206.2	216.2	02/10/2014	SW6860	Perchlorate	0.014	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-607M1	MW-607M1_R2	206.2	216.2	02/10/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.98	J	UG/L	0.60	X	0.091	0.41
Central Impact Area	MW-609M2	MW-609M2_R2	181.3	191.3	02/04/2014	SW6860	Perchlorate	0.22		UG/L	2.0		0.011	0.050
Central Impact Area	MW-609M1	MW-609M1_R2	209.3	219.3	02/04/2014	SW6860	Perchlorate	0.16		UG/L	2.0		0.011	0.050
Central Impact Area	MW-609M1	MW-609M1_R2	209.3	219.3	02/04/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.2		UG/L	0.60	X	0.094	0.43
Central Impact Area	MW-608M4	MW-608M4_R2	184.6	194.6	02/04/2014	SW6860	Perchlorate	0.028	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-608M3	MW-608M3_R2	219.6	229.6	02/04/2014	SW6860	Perchlorate	0.026	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-608M2	MW-608M2_R2	252.6	262.6	02/04/2014	SW6860	Perchlorate	0.033	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-608M2	MW-608M2_R2	252.6	262.6	02/04/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	5.6		UG/L	0.60	X	0.090	0.41
Central Impact Area	MW-608M1	MW-608M1_R2	266.6	276.6	02/04/2014	SW6860	Perchlorate	0.015	J	UG/L	2.0		0.011	0.050
Central Impact Area	MW-608M1	MW-608M1_R2	266.6	276.6	02/04/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	3.0		UG/L	0.60	X	0.090	0.41

J = Estimated Result
MDL = Method Detection Limit
RL = Reporting LImit

MCL/HA= Either the MCL or Lowest Health Advisory Limit