

**MONTHLY PROGRESS REPORT #204
FOR MARCH 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 March to 31 March 2014.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of March 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 2.038 billion gallons of water treated and re-injected as of 28 March 2014. No Frank Perkins Road facility shut downs occurred in March.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 355 million gallons of water treated and re-injected as of 28 March 2014. The following Pew Road MTU shut down and system re-starts occurred in March:

- Shut down on 15 March 2014 at 2316 due to a system alarm and restarted on 17 March 2014 at 1000.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 72.1 million gallons of water treated and re-injected as of 28 March 2014. No Base Boundary MTU shut down and system re-starts occurred in March.

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 28 March 2014, over 204 million gallons of water have been treated and re-injected. No Southern MTU shut downs occurred in March.

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 28 March 2014, over 47 million gallons of water have been treated and re-injected. No Northern MTU shut downs occurred in March. Field testing of a new infiltration gallery occurred on 25 March 2014.

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 28 March 2014, over 705 million gallons of water have been treated and re-injected. The following J-3 system shut downs and re-starts occurred in March:

- EW-0032 shut down on 1 March 2014 at 0320 due to a system alarm and restarted on 3 March 2014 at 1004.
- EW-0001 and EW-0032 shut down on 28 March 2014 at 1213 due to a system alarm and restarted on 28 March 2014 at 1307.
- EW-0032 shut down on 28 March 2014 at 1905 due to a system alarm. EW-0032 was restarted on 31 March 2104 at 0903.

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 28 March 2014, over 484 million gallons of water have been treated and re-injected. No Northern Treatment Building shut downs occurred in March.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 28 March 2014, over 881 million gallons of water have been treated and re-injected. The following Northern MTU shut downs and system re-starts occurred in March:

- MTU E shut down on 2 March 2014 at 1711 due to a system alarm and restarted on 3 March 2014 at 1044.
- MTU F shut down on 2 March 2014 at 1700 due to a system alarm and restarted on 3 March 2014 at 1040.
- MTU E shut down on 30 March 2014 at 0834 due to a system alarm. MTU E was restarted on 31 March 2014 at 1014.
- MTU E shut down on 31 March 2014 at 1030 due to a system alarm. MTU E was restarted on 1 April 2014 at 0947.

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 (EW-0005 flow was increased from 210 gpm to 250 gpm). As of 28 March 2014, over 566 million gallons of water have been treated and re-injected. No shut downs of MTUs H and I occurred in March.

MTU J continues to operate at a flow rate of 120 gpm (EW-0004 flow was increased from 90 gpm to 120 gpm). As of 28 March 2014, over 264 million gallons of water have been treated and re-injected. No shut downs of MTU J occurred in March.

MTU K continues to operate at a flow rate of 125 gpm. As of 28 March 2014, over 327 million gallons of water have been treated and re-injected. No shut downs of MTU K occurred in March.

Central Impact Area RA

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 28 March 2014, over 47.1 million gallons of water have been treated and re-injected. No CIA treatment facility shutdowns occurred in March.

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 CIA, J-1 Range Northern, J-2 Range Eastern, J-2 Range Northern, Small Arms Ranges, and Western Boundary.

Continued drilling and well development and collected profile samples at J-2 Range Northern (BH-630, BH-632), J-2 Range Eastern (BH-627), and Central Impact Area (BH-638).

Soil samples were collected at the CIA.

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

Surveying was performed at J-1 Range Southern, J-1 Range Northern infiltration gallery, J-2 Range Eastern, J-2 Range Northern, J-3 Range, and the CIA.

Completed vegetation and surface clearance at the J-1 Range Northern reinjection trench.

JBCC IAGWSP Tech Update Meeting Minutes 27 March 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 and has been turned over to Watermark for operation and maintenance. An update was provided on the J-1 Range construction project. USACE explained that percolation and deep-hole testing was conducted to evaluate soil conditions in locations proposed for installation of the new reinjection trench. It was noted that soil conditions vary significantly and the new trench would be biased to the west of where was initially cleared. The trench design should be available in the next couple of weeks. 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 area and a map was being generated that will provide details of the activities that are ongoing throughout the CIA. UXO clearance activities are underway in the polygon area, and a Metal Mapper team is working in the southern 8-acre area. It was explained that the J-2 Range post-Decision Document soil sampling and geophysical work is scheduled to begin this summer, however some fieldwork could begin earlier. Sampling crews are scheduled to begin a large long-term monitoring sampling round in the CIA and then move to Demo 1. The erosion prevention project as part of restoration activities for the Former A Range are scheduled to begin April 14.

Drilling Update

IAGWSP reviewed drilling progress. Drilling has been completed at all wells with the exception of CIA-14. CIA-14 required coordination with the State Historic Preservation Office and the Wampanoag Tribe. A Record of Action has also been submitted to the Natural Heritage and Endangered Species Program. 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 will remobilize Monday, March 31st to install well screens and perform the first round of sampling at newly installed monitoring wells.

Recently obtained monitoring well results from CIA-11 and CIA-12 were discussed. IAGWSP explained that the current plan was to drill CIA-14 and then review all the data to determine if the extraction well as currently proposed is in a good location or if the draft design project note needs to be updated. IAGWSP noted that they felt that results from CIA-14 coupled with well results from CIA-5 will help to determine if the proposed extraction well location would adequately capture the plume.

J-2 Range

Discussion was held on the J-2 Range. It was noted that 7.9 ppb was seen in a profile sample at the recently installed boring J2-9. It was explained that a year ago, pumping rates at the three extraction wells was adjusted. As a result, this new detection would be just outside the capture zone for EW2 at its current pumping rate. A figure depicting the capture zones was reviewed. IAGWSP will provide a tech memo in mid-April with recommendations for an additional well and optimization of extraction well pumping to address the information received from the detection at J2-9.

Demo 1

An update was provided on steps taken to access property in Pocasset. IAGWSP had a meeting with the property owner last week where he signed a right-of-entry allowing access to the property. A site walk is scheduled for Friday. The next step is to gather the information required to locate the extraction well and treatment system components. After it is determined how much land is needed, a survey would need to be performed so that an appraisal of the value of the property rights to be taken under an easement could be drafted. IAGWSP will provide an update of progress at the next tech meeting.

Action Items

The action items were discussed and updated.

J-3 Plume Modeling

Discussion was held on the development of the J-3 plume shell and modeling efforts in support of the J-3 RI/FS report. IAGWSP will post the animations and the alternatives performance spreadsheet to EDMS for the agencies to view. Due to some of the modeling work, the RI/FS submittal will be delayed by a few weeks to April 25.

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 March through 31 March 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. 203 for February 2014 | 3/10/2014 |
| • Final Small Arms Ranges 2013 Annual Interim Environmental Monitoring Report | 3/12/2014 |
| • Changes to J-1 Range Northern & Southern Chemical and Hydraulic Monitoring Well Networks – Project Note | 3/27/2014 |
| • Changes to Western Boundary Chemical Monitoring Well Network – Project Note | 3/27/2014 |

3. SCHEDULED ACTIONS

The following documents are being prepared or revised during April 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 2013 Annual Environmental Monitoring Report
- J-1 Southern 6-month System Start-up Report;
- J-2 Range 2013 Annual Environmental Monitoring Report;
- Western Boundary 2013 Annual Environmental Monitoring Report;
- L Range 2014 Environmental Monitoring Report; and
- Demolition Area 1 2014 Environmental and System Performance Monitoring Report Response Action Groundwater Treatment Systems

TABLE 1
Sampling Progress: 1 March - 31 March 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Central Impact Area	MW-39M1	MW-39M1_S14	N	03/28/2014	Ground Water	220	230
Central Impact Area	MW-88M2	MW-88M2_S14	N	03/28/2014	Ground Water	213	223
Central Impact Area	MW-88M1	MW-88M1_S14	N	03/28/2014	Ground Water	233	243
J2 Range Northern	MW-620M1	MW-620M1_R1	N	03/28/2014	Ground Water	269.3	279.3
Western Boundary	4036000-04G	4036000-04G_14Q1	N	03/28/2014	Ground Water	55	65
Western Boundary	4036000-03G	4036000-03G_14Q1	N	03/28/2014	Ground Water	50	60
Western Boundary	4036000-06G	4036000-06G_14Q1	N	03/28/2014	Ground Water	108	128
Western Boundary	4036000-01G	4036000-01G_14Q1	N	03/28/2014	Ground Water	38	70
Central Impact Area	MW-51M2	MW-51M2_S14	N	03/27/2014	Ground Water	203	213
Central Impact Area	MW-618M2	MW-618M2_R1	N	03/27/2014	Ground Water	189.5	199.5
Central Impact Area	MW-618M1	MW-618M1_R1	N	03/27/2014	Ground Water	237.5	247.5
Central Impact Area	MW-616M2	MW-616M2_R1	N	03/27/2014	Ground Water	106.2	116.2
Central Impact Area	MW-616M1	MW-616M1_R1	N	03/27/2014	Ground Water	216.2	226.2
Central Impact Area	MW-203M2	MW-203M2_S14	N	03/25/2014	Ground Water	176	186
Central Impact Area	MW-96M2	MW-96M2_S14	N	03/25/2014	Ground Water	134	144
Central Impact Area	MW-38M4	MW-38M4_S14	N	03/25/2014	Ground Water	132	142
Central Impact Area	MW-38M3	MW-38M3_S14	N	03/25/2014	Ground Water	170	180
Central Impact Area	CIA2-EFF	CIA2-EFF-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	MW-184M1	MW-184M1_S14	N	03/25/2014	Ground Water	186	196
Central Impact Area	CIA1-EFF	CIA1-EFF-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	MW-03M2	MW-03M2_S14	N	03/25/2014	Ground Water	180	185
Central Impact Area	CIA1-MID1	CIA1-MID1-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-02A	N	03/25/2014	Process Water	0	0
Central Impact Area	MW-204M2	MW-204M2_S14	N	03/25/2014	Ground Water	76	86
Central Impact Area	MW-204M1	MW-204M1_S14	N	03/25/2014	Ground Water	141	151
Central Impact Area	MW-87M1	MW-87M1_S14	N	03/24/2014	Ground Water	194	204
Central Impact Area	MW-25	MW-25_S14	N	03/24/2014	Ground Water	108	118
Central Impact Area	MW-179M1	MW-179M1_S14	N	03/24/2014	Ground Water	187	197
Central Impact Area	MW-112M2	MW-112M2_S14	N	03/24/2014	Ground Water	165	175
Central Impact Area	MW-02M2	MW-02M2_S14	N	03/24/2014	Ground Water	170	175
J1 Range Northern	MW-106M1	MW-106M1_S14	N	03/24/2014	Ground Water	170.5	180.5
Central Impact Area	MW-486M1	MW-486M1_S14	N	03/20/2014	Ground Water	185.7	195.7
Central Impact Area	SSCIACSL02	CIACSL02_090PENC	FR	03/20/2014	Soil	0	0.25
Central Impact Area	MW-485M1	MW-485M1_S14	N	03/20/2014	Ground Water	125.3	135.3
Central Impact Area	MW-485M1	MW-485M1_S14D	FD	03/20/2014	Ground Water	125.3	135.3
Central Impact Area	SSCIACSL02	CIACSL02_090PENB	FR	03/20/2014	Soil	0	0.25
Central Impact Area	SSCIACSL02	CIACSL02_090PENA	N	03/20/2014	Soil	0	0.25
Central Impact Area	MW-27	MW-27_S14	N	03/20/2014	Ground Water	117	127
Central Impact Area	MW-477M2	MW-477M2_S14	N	03/20/2014	Ground Water	146	156
Central Impact Area	MW-477M1	MW-477M1_S14	N	03/20/2014	Ground Water	188	198
Central Impact Area	SSCIACSL02	CIACSL02_090PESC	FR	03/20/2014	Soil	0	0.25
Central Impact Area	SSCIACSL02	CIACSL02_090PESB	FR	03/20/2014	Soil	0	0.25
Central Impact Area	SSCIACSL02	CIACSL02_090PESA	N	03/20/2014	Soil	0	0.25
Central Impact Area	OW-2	OW-2_S14	N	03/20/2014	Ground Water	175	185
Central Impact Area	MW-113M2	MW-113M2_S14	N	03/19/2014	Ground Water	190	200
Central Impact Area	MW-487M2	MW-487M2_S14	N	03/19/2014	Ground Water	195	205
Central Impact Area	MW-107M2	MW-107M2_S14	N	03/19/2014	Ground Water	125	135
Central Impact Area	MW-40S	MW-40S_S14	N	03/19/2014	Ground Water	116	126
Central Impact Area	MW-98M1	MW-98M1_S14	N	03/18/2014	Ground Water	164	174
Central Impact Area	MW-44M1	MW-44M1_S14	N	03/18/2014	Ground Water	182	192
Central Impact Area	MW-99S	MW-99S_S14	N	03/18/2014	Ground Water	133	143
Central Impact Area	MW-105M1	MW-105M1_S14	N	03/18/2014	Ground Water	205	215
Central Impact Area	MW-93M1	MW-93M1_S14	N	03/18/2014	Ground Water	185	195
Central Impact Area	MW-101M1	MW-101M1_S14	N	03/18/2014	Ground Water	153	158
Central Impact Area	MW-100M1	MW-100M1_S14	N	03/18/2014	Ground Water	179	189
Central Impact Area	MW-91S	MW-91S_S14	N	03/17/2014	Ground Water	124	134
Central Impact Area	MW-91S	MW-91S_S14D	FD	03/17/2014	Ground Water	124	134
Central Impact Area	MW-91M1	MW-91M1_S14	N	03/17/2014	Ground Water	170	180
Central Impact Area	MW-235M1	MW-235M1_S14	N	03/17/2014	Ground Water	154	164
Central Impact Area	MW-90S	MW-90S_S14	N	03/17/2014	Ground Water	118	128
Central Impact Area	MW-01S	MW-01S_S14	N	03/17/2014	Ground Water	114	124
Central Impact Area	MW-01S	MW-01S_S14D	FD	03/17/2014	Ground Water	114	124
Central Impact Area	MW-01M2	MW-01M2_S14	N	03/17/2014	Ground Water	160	165
Central Impact Area	MW-37M2	MW-37M2_S14	N	03/17/2014	Ground Water	145	155

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 March - 31 March 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Central Impact Area	MW-102M2	MW-102M2_S14	N	03/14/2014	Ground Water	237	247
Central Impact Area	MW-108M4	MW-108M4_S14	N	03/14/2014	Ground Water	240	250
Central Impact Area	MW-108M1	MW-108M1_S14	N	03/14/2014	Ground Water	297	307
Central Impact Area	MW-178M1	MW-178M1_S14	N	03/14/2014	Ground Water	257	267
Central Impact Area	MW-202M1	MW-202M1_S14	N	03/14/2014	Ground Water	264	274
Central Impact Area	MW-123M2	MW-123M2_S14	N	03/13/2014	Ground Water	236	246
Central Impact Area	MW-123M1	MW-123M1_S14	N	03/13/2014	Ground Water	291	301
Central Impact Area	MW-123M1	MW-123M1_S14D	FD	03/13/2014	Ground Water	291	301
Central Impact Area	MW-209M2	MW-209M2_S14	N	03/13/2014	Ground Water	220	230
Central Impact Area	MW-209M1	MW-209M1_S14	N	03/13/2014	Ground Water	240	250
Central Impact Area	MW-209M1	MW-209M1_S14D	FD	03/13/2014	Ground Water	240	250
Central Impact Area	MW-249M2	MW-249M2_S14	N	03/13/2014	Ground Water	174	184
Central Impact Area	MW-23M1	MW-23M1_S14	N	03/12/2014	Ground Water	225	235
Central Impact Area	MW-176M1	MW-176M1_S14	N	03/12/2014	Ground Water	270	280
Central Impact Area	MW-207M1	MW-207M1_S14	N	03/12/2014	Ground Water	254	264
Central Impact Area	BH-638	CIA12_296-301	N	03/12/2014	GW Profile	296	301
Central Impact Area	MW-149M1	MW-149M1_S14	N	03/12/2014	Ground Water	238	248
Central Impact Area	BH-638	CIA12_286-291	N	03/12/2014	GW Profile	286	291
J2 Range Northern	BH-632	J2N-9_326-331	N	03/12/2014	GW Profile	326	331
Central Impact Area	BH-638	CIA12_276-281	N	03/12/2014	GW Profile	276	281
Central Impact Area	MW-42M3	MW-42M3_S14	N	03/12/2014	Ground Water	166	176
Central Impact Area	BH-638	CIA12_266-271	N	03/11/2014	GW Profile	266	271
Central Impact Area	BH-638	CIA12_266-271D	FD	03/11/2014	GW Profile	266	271
J2 Range Northern	BH-632	J2N-9_316-321	N	03/11/2014	GW Profile	316	321
Central Impact Area	BH-638	CIA12_256-261	N	03/11/2014	GW Profile	256	261
Central Impact Area	MW-42M2	MW-42M2_S14	N	03/11/2014	Ground Water	186	196
Central Impact Area	MW-223M2	MW-223M2_S14	N	03/11/2014	Ground Water	185	195
J2 Range Northern	BH-632	J2N-9_306-311	N	03/11/2014	GW Profile	306	311
Central Impact Area	BH-638	CIA12_246-251	N	03/11/2014	GW Profile	246	251
Central Impact Area	MW-223M1	MW-223M1_S14	N	03/11/2014	Ground Water	211	221
Central Impact Area	BH-638	CIA12_236-241	N	03/11/2014	GW Profile	236	241
J2 Range Northern	BH-632	J2N-9_296-301	N	03/11/2014	GW Profile	296	301
Central Impact Area	BH-638	CIA12_226-231	N	03/11/2014	GW Profile	226	231
Central Impact Area	BH-638	CIA12_226-231D	FD	03/11/2014	GW Profile	226	231
J2 Range Eastern	MW-436M2	MW-436M2_S14	N	03/11/2014	Ground Water	235.5	245.5
Central Impact Area	BH-638	CIA12_216-221	N	03/11/2014	GW Profile	216	221
J2 Range Eastern	MW-436M1	MW-436M1_S14	N	03/11/2014	Ground Water	295.5	305.5
SW Range	MW-466S	MW-466S_S14	N	03/10/2014	Ground Water	133	143
SW Range	MW-466S	MW-466S_S14D	FD	03/10/2014	Ground Water	133	143
J2 Range Northern	BH-632	J2N-9_286-291	N	03/10/2014	GW Profile	286	291
Central Impact Area	BH-638	CIA12_206-211	N	03/10/2014	GW Profile	206	211
Central Impact Area	BH-638	CIA12_196-201	N	03/10/2014	GW Profile	196	201
J2 Range Eastern	MW-307M3	MW-307M3_S14	N	03/10/2014	Ground Water	125.8	135.8
J2 Range Northern	BH-632	J2N-9_276-281	N	03/10/2014	GW Profile	276	281
Central Impact Area	BH-638	CIA12_186-191	N	03/10/2014	GW Profile	186	191
J2 Range Eastern	MW-228S	MW-228S_S14	N	03/10/2014	Ground Water	104	114
J2 Range Northern	BH-632	J2N-9_266-271	N	03/10/2014	GW Profile	266	271
J2 Range Eastern	MW-319M1	MW-319M1_S14	N	03/10/2014	Ground Water	200.3	210.3
Central Impact Area	BH-638	CIA12_176-181	N	03/10/2014	GW Profile	176	181
J2 Range Northern	BH-632	J2N-9_256-261	N	03/10/2014	GW Profile	256	261
J2 Range Eastern	MW-310M1	MW-310M1_S14	N	03/10/2014	Ground Water	171.4	181.4
J2 Range Eastern	MW-339M1	MW-339M1_S14	N	03/10/2014	Ground Water	233	243
J2 Range Northern	BH-632	J2N-9_246-251	N	03/07/2014	GW Profile	246	251
J2 Range Eastern	MW-368M2	MW-368M2_S14	N	03/07/2014	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M2	MW-368M2_S14D	FD	03/07/2014	Ground Water	202.7	212.7
J2 Range Northern	BH-632	J2N-9_236-241	N	03/07/2014	GW Profile	236	241
J2 Range Eastern	MW-324M2	MW-324M2_S14	N	03/07/2014	Ground Water	203.7	214.7
J2 Range Northern	BH-632	J2N-9_226-231	N	03/07/2014	GW Profile	226	231
J2 Range Northern	BH-632	J2N-9_226-231D	FD	03/07/2014	GW Profile	226	231
J2 Range Eastern	MW-324M1	MW-324M1_S14	N	03/07/2014	Ground Water	234.9	244.9
J2 Range Northern	BH-632	J2N-9_216-221	N	03/07/2014	GW Profile	216	221
J2 Range Eastern	MW-335M2	MW-335M2_S14	N	03/07/2014	Ground Water	215.3	225.3
J2 Range Northern	BH-632	J2N-9_206-211	N	03/07/2014	GW Profile	206	211
J2 Range Eastern	MW-335M1	MW-335M1_S14	N	03/07/2014	Ground Water	255.2	265.2
J2 Range Northern	BH-632	J2N-9_196-201	N	03/07/2014	GW Profile	196	201
J2 Range Northern	BH-632	J2N-9_186-191	N	03/06/2014	GW Profile	186	191
Central Impact Area	BH-638	CIA12_166-171	N	03/06/2014	GW Profile	166	171

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 March - 31 March 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	J2MW-04M2	J2MW-04M2_S14	N	03/06/2014	Ground Water	210	220
Central Impact Area	BH-638	CIA12_156-161	N	03/06/2014	GW Profile	156	161
J2 Range Eastern	J2MW-04M1	J2MW-04M1_S14	N	03/06/2014	Ground Water	257	267
Central Impact Area	BH-638	CIA12_146-151	N	03/06/2014	GW Profile	146	151
J2 Range Eastern	MW-354M1	MW-354M1_S14	N	03/06/2014	Ground Water	274.5	284.5
Central Impact Area	BH-638	CIA12_136-141	N	03/06/2014	GW Profile	136	141
Demolition Area 1	D1-EFF	D1-EFF-44A	N	03/06/2014	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-44A	N	03/06/2014	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-44A	N	03/06/2014	Process Water	0	0
J2 Range Eastern	MW-351M2	MW-351M2_S14	N	03/06/2014	Ground Water	233.7	243.7
Demolition Area 1	D1-INF	D1-INF-44A	N	03/06/2014	Process Water	0	0
Central Impact Area	BH-638	CIA12_126-131	N	03/06/2014	GW Profile	126	131
Demolition Area 1	PR-EFF	PR-EFF-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-96A	N	03/06/2014	Process Water	0	0
J2 Range Eastern	MW-351M1	MW-351M1_S14	N	03/06/2014	Ground Water	278.6	288.6
Demolition Area 1	FPR-2-EFF	FPR-2-EFF-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3B	FPR-2-GAC-MID3B-96A	N	03/06/2014	Process Water	0	0
Central Impact Area	BH-638	CIA12_116-121	N	03/06/2014	GW Profile	116	121
Demolition Area 1	FPR-2-GAC-MID2A	FPR-2-GAC-MID2A-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-B	FPR2-POST-IX-B-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-96A	N	03/06/2014	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-96A	N	03/06/2014	Process Water	0	0
Former B Range	MW-476S	MW-476S_S14	N	03/05/2014	Ground Water	59.9	69.8
SW Range	MW-465S	MW-465S_S14	N	03/05/2014	Ground Water	136.3	146.3
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-66A	N	03/05/2014	Process Water	0	0
MP-1	MW-68S	MW-68S_S14	N	03/05/2014	Ground Water	84	94
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-66A	N	03/05/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-66A	N	03/05/2014	Process Water	0	0
J2 Range Northern	BH-630	J2N-3_336-341	N	03/04/2014	GW Profile	336	341
J3 Range	J3-EFF	J3-EFF-90A	N	03/04/2014	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-90A	N	03/04/2014	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-90A	N	03/04/2014	Process Water	0	0
J3 Range	J3-INF	J3-INF-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	BH-630	J2N-3_326-331	N	03/04/2014	GW Profile	326	331
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	BH-630	J2N-3_316-321	N	03/04/2014	GW Profile	316	321
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-90A	N	03/04/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-90A	N	03/04/2014	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-05A	N	03/04/2014	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-05A	N	03/04/2014	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-05A	N	03/04/2014	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-05A	N	03/04/2014	Process Water	0	0
J2 Range Northern	BH-630	J2N-3_306-311	N	03/04/2014	GW Profile	306	311
J2 Range Northern	BH-630	J2N-3_296-301	N	03/03/2014	GW Profile	296	301
J2 Range Northern	BH-630	J2N-3_286-291	N	03/03/2014	GW Profile	286	291
J1 Range Southern	J1S-EFF	J1S-EFF-76A	N	03/03/2014	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-76A	N	03/03/2014	Process Water	0	0

TABLE 1
Sampling Progress: 1 March - 31 March 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Southern	J1S-INF-2	J1S-INF-2-76A	N	03/03/2014	Process Water	0	0
J2 Range Northern	BH-630	J2N-3_276-281	N	03/03/2014	GW Profile	276	281

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
 Data Received March 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-623M3	MW-623M3_FEB14	275	285	02/25/2014	SW6850	Perchlorate	0.067	J	UG/L	2.0		0.019	0.20
Central Impact Area	MW-623M3	MW-623M3_FEB14	275	285	02/25/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.16	J	UG/L	400		0.011	0.20
Central Impact Area	MW-623M3	MW-623M3_FEB14	275	285	02/25/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.5		UG/L	0.60	X	0.044	0.20
Central Impact Area	MW-623M3	MW-623M3_FEB14D	275	285	02/25/2014	SW6850	Perchlorate	0.070	J	UG/L	2.0		0.019	0.20
Central Impact Area	MW-623M3	MW-623M3_FEB14D	275	285	02/25/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.16	J	UG/L	400		0.011	0.20
Central Impact Area	MW-623M3	MW-623M3_FEB14D	275	285	02/25/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.6		UG/L	0.60	X	0.044	0.20
Central Impact Area	MW-623M1	MW-623M1_FEB14	340	350	02/25/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.057	J	UG/L	0.60		0.044	0.20
Central Impact Area	MW-624M2	MW-624M2_FEB14	254	264	02/25/2014	SW6850	Perchlorate	0.022	J	UG/L	2.0		0.019	0.20
Central Impact Area	MW-614M2	MW-614M2_FEB14	215	225	02/24/2014	SW6850	Perchlorate	0.045	J	UG/L	2.0		0.019	0.20
Central Impact Area	MW-614M1	MW-614M1_FEB14	275	285	02/24/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.032	J	UG/L	400		0.011	0.20
Central Impact Area	MW-614M1	MW-614M1_FEB14	275	285	02/24/2014	SW6850	Perchlorate	0.058	J	UG/L	2.0		0.019	0.20
Central Impact Area	MW-614M1	MW-614M1_FEB14	275	285	02/24/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.1		UG/L	0.60	X	0.044	0.20
Central Impact Area	MW-615M1	MW-615M1_FEB14	260	270	02/24/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.13	J	UG/L	400		0.011	0.20
Central Impact Area	MW-615M1	MW-615M1_FEB14	260	270	02/24/2014	SW6850	Perchlorate	1.5		UG/L	2.0		0.019	0.20
Central Impact Area	MW-615M1	MW-615M1_FEB14	260	270	02/24/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.1		UG/L	0.60	X	0.044	0.20
J3 Range	J3EWIP1	J3EWIP1_S14	153	193	01/29/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.35		UG/L	400		0.060	0.21
J3 Range	J3EWIP1	J3EWIP1_S14	153	193	01/29/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.51		UG/L	0.60		0.053	0.21
J3 Range	J3EWIP1	J3EWIP1_S14	153	193	01/29/2014	SW6860	Perchlorate	12.8		UG/L	2.0	X	0.11	0.50
J3 Range	90EW0001	90EW0001_S14	83.1	143.8	01/29/2014	SW6860	Perchlorate	0.44		UG/L	2.0		0.011	0.050
J3 Range	90EW0001	90EW0001_S14	83.1	143.8	01/29/2014	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.99		UG/L	400		0.058	0.20
J3 Range	J3EW0032	J3EW0032_S14	102	152	01/29/2014	SW6860	Perchlorate	0.68		UG/L	2.0		0.011	0.050
J3 Range	J3EW0032	J3EW0032_S14	102	152	01/29/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.5		UG/L	0.60	X	0.053	0.21
J1 Range Northern	MW-606M2	MW-606M2_R2	192	202	01/21/2014	SW6860	Perchlorate	0.023	J	UG/L	2.0		0.011	0.050
J1 Range Northern	MW-606M1	MW-606M1_R2	232	242	01/21/2014	SW6860	Perchlorate	0.017	J	UG/L	2.0		0.011	0.050
J1 Range Northern	MW-605M2	MW-605M2_R2	181.1	191.1	01/21/2014	SW6860	Perchlorate	0.039	J	UG/L	2.0		0.011	0.050
J1 Range Northern	MW-605M1	MW-605M1_R2	219.1	229.1	01/21/2014	SW6860	Perchlorate	0.027	J	UG/L	2.0		0.011	0.050

J = Estimated Result

MDL = Method Detection Limit

RL = Reporting Limit