

**MONTHLY PROGRESS REPORT #203
FOR FEBRUARY 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 February to 28 February 2014.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of February 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 2.6 billion gallons of water treated and re-injected as of 28 February 2014. No Frank Perkins Road facility shut downs occurred in February.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 351 million gallons of water treated and re-injected as of 28 February 2014. The following Pew Road MTU shut down and system re-starts occurred in February:

- Shut down on 14 February 2014 at 0747 for media change-out and restarted on 14 February 2014 at 1517.
- Shut down on 15 February 2013 at 2139 due to a power interruption and restarted on 18 February 2013 at 1115.
- Shut down on 18 February 2013 at 1141 due to a system alarm and restarted on 19 February 2013 at 1348.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 69.3 million gallons of water treated and re-injected as of 28 February 2014. No Base Boundary MTU shut down and system re-starts occurred in February.

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 February 2014, over 200 million gallons of water have been treated and re-injected. No Southern MTU shut downs occurred in February.

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 February 2014, over 39 million gallons of water have been treated and re-injected. No Northern MTU shut downs occurred in February.

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 February 2014, over 697 million gallons of water have been treated and re-injected. The following J-3 system shut downs and re-starts occurred in February:

- Shut down on 10 February 2013 at 0810 due to FS-12 system shut down and restarted on 10 February 2013 at 0855.
- Shut down on 15 February 2013 at 2330 due to a power outage and restarted on 18 February 2013 at 1212.
- EW-0032 shut down on 27 February 2013 at 0622 due to a system alarm and restarted on 27 February 2013 at 0959.

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 February 2014, over 476 million gallons of water have been treated and re-injected. The following Northern Treatment Building shut downs and system re-starts occurred in February:

- Shut down on 13 February 2013 at 1710 due to a power interruption and restarted on 14 February 2013 at 1415.
- Shut down on 15 February 2013 at 1838 due to a power interruption and restarted on 18 February 2013 at 1001.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 28 February 2014, over 873 million gallons of water have been treated and re-injected. The following Northern MTU shut downs and system re-starts occurred in February:

- MTU E shut down on 13 February 2013 at 1720 due to a power interruption and restarted on 14 February 2013 at 1010.
- MTU F shut down on 13 February 2013 at 1708 due to a power interruption and restarted on 14 February 2013 at 1007.
- MTUs E and F were shut down on 15 February 2013 at 1840 due to a power interruption and restarted on 18 February 2013 at 1302.
- MTU E shut down on 21 February 2013 at 1825 due to a system alarm and restarted on 24 February 2013 at 1033.
- MTU F shut down on 21 February 2013 at 1814 due to a system alarm and restarted on 24 February 2013 at 1028.

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 425 gpm.

The MTUs H and I continue to operate at a flow rate of 210 gpm. As of 28 February 2014, over 558 million gallons of water have been treated and re-injected. The following MTUs H and I shut downs and system re-starts occurred in February:

- MTUs H and I were shut down on 16 February 2013 at 0015 due to a power interruption and restarted on 18 February 2013 at 0855.

MTU J continues to operate at a flow rate of 90 gpm. As of 28 February 2014, over 260 million gallons of water have been treated and re-injected. No shut downs of MTU J occurred in February.

MTU K continues to operate at a flow rate of 125 gpm. As of 28 February 2014, over 323 million gallons of water have been treated and re-injected. No shut downs of MTU K occurred in February.

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. The system completed start-up evaluation in January 2014. No MTU shutdowns occurred in February.

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 Central Impact Area (CIA), J-2 Range Northern, and Small Arms Ranges.

Continued drilling and well development and collected profile samples at J-2 Range Northern (BH-630), J-2 Range Eastern (BH-627), and Central Impact Area (BH-629, BH-633).

Completed EM-61 survey in 16-Acre Area at the CIA.

JBCC IAGWSP Tech Update Meeting Minutes 13 February 2014

Construction Update

An update was provided on CIA treatment system. The system has been operating as designed since start-up and the last sample needed as part of the start-up evaluation was collected. An update was provided on the J-1 Range construction project. USACE is reviewing locations for installation of a new reinjection trench extending east from where it originally was located. The location will be cleared beginning next week, followed by perc testing. The treatment system is operating as specified in the Decision Document and Watermark began operating the system this week.

Drilling Update

IAGWSP reviewed drilling progress. Drilling continues at location CIA-11 had been completed, and a screen setting call was scheduled for Friday morning. Discussion was held on the location of CIA-12 and IAGWSP suggesting the location may need to be adjusted and wondered if it would affect the proposed extraction well location around Avery Road. It was agreed to discuss during the screen setting call. Additional drilling is underway at J2N locations.

Project and Fieldwork Update

IAGWSP noted that they planned to schedule a meeting with the Bourne Water District and their contractor to discuss proposed changes to the Western Boundary monitoring program. EPA and MassDEP requested that the meeting be coordinated with them so that they could attend.

IAGWSP explained that they would like to revise the Monthly Reports, beginning in February. EPA and MassDEP agreed and noted that they no longer need hard copies of the reports.

Demo 1

An update was provided on steps taken to contact the property owners in Pocasset. EPA indicated that received the certified mail postcard back indicating that their first letter had been received however they have not heard from the property owner. They plan to send another, stronger letter. IAGWSP agreed to telephone the property owner to try and encourage them to respond to EPA's letter.

Action Items

The action items were discussed and updated.

J-3 Plume Shell Development

Discussion was held on the development of the J-3 plume shell. It was noted that all the data through December 2013 that was available in EDMS for the J-3 Range was used in developing the plumes. A steady-state MODFLOW groundwater model was run to determine average conditions. Particles were initiated in MODPATH at locations and times of each sample collection point and then migrated using the results of the MODFLOW groundwater flow model. A simulation was run to migrate particles to the present time. It was noted that perchlorate concentrations were not adjusted but RDX concentrations are decayed a maximum of 55% after 5 years. Values are then imported to ArcView which is used as a guide to manually develop the plume contours representing 10 foot layers. IAGWSP remains on-schedule to submit the draft J-3 RI/FS by April 1.

Western Boundary Monitoring Presentation

A monitoring presentation was provided on the Western Boundary annual monitoring report. It was noted that during the reporting period (October 2012 through September 2013), the maximum detection was 0.30 ppb for perchlorate and there was a consistent and continuing decline in perchlorate in wells that had historically exhibited the highest concentrations. Wells within the Monument Beach well field continue to exhibit low (<0.2 ppb) perchlorate concentrations. It was explained that a Decision Document response evaluation was performed and that the remedial goals outlined in the Decision Document have been achieved. IAGWSP recommended optimizing the monitoring well network by reducing the number of wells sampled from 30 to 14. It was also recommended that a draft work plan be drafted to propose the residual risk assessment for the Western Boundary to initiate close out actions for the site. MassDEP said they were hesitant to have this site be the first to be "closed" considering that there are water supply wells downgradient. IAGWSP said they would draft a project note for the agencies consideration and also gauge how the Bourne Water District feels about the decommissioning of wells in their area.

JBCC Cleanup Team Meeting

The JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT) is scheduled to meet on April 9, 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 February through 28 February 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:

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| • Monthly Progress Report No. 202 for January 2014 | 2/11/2014 |
| • J-2 Range Eastern Extraction Rate Adjustment Project Note | 2/04/2014 |
| • Final L Range Environmental Monitoring Work Plan | 2/18/2014 |
| • Draft Small Arms Ranges Decision Document | 2/24/2014 |

3. SCHEDULED ACTIONS

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

- CIA Report for 8-acre Grid Investigation;
- 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;
- Five Year Review 2006-2011;
- 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;
- Demolition Area 1 2014 Environmental Monitoring and System Performance Response Action Groundwater Treatment System; and
- L Range 2014 Environmental Monitoring Report.

TABLE 1
Sampling Progress: 1 February - 28 February 2014

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
B Range	MW-538M1	MW-538M1_S14	N	02/27/2014	Ground Water	107	117
J2 Range Northern	BH-630	J2N-3_246-251	N	02/27/2014	GW Profile	246	251
J2 Range Northern	BH-630	J2N-3_246-251D	FD	02/27/2014	GW Profile	246	251
B Range	MW-537M1	MW-537M1_S14	N	02/27/2014	Ground Water	106	116
B Range	MW-72S	MW-72S_S14	N	02/27/2014	Ground Water	106	116
B Range	MW-72S	MW-72S_S14D	FD	02/27/2014	Ground Water	106	116
J2 Range Northern	BH-630	J2N-3_236-241	N	02/27/2014	GW Profile	236	241
B Range	MW-455S	MW-455S_S14	N	02/27/2014	Ground Water	117.6	127.6
J2 Range Northern	BH-630	J2N-3_226-231	N	02/27/2014	GW Profile	226	231
J2 Range Eastern	BH-627	J2E-6_316-321	N	02/27/2014	GW Profile	316	321
J2 Range Northern	BH-630	J2N-3_216-221	N	02/27/2014	GW Profile	216	221
J2 Range Northern	BH-630	J2N-3_206-211	N	02/27/2014	GW Profile	206	211
Central Impact Area	MW-174S	MW-174S_S14	N	02/27/2014	Ground Water	190	200
J2 Range Northern	BH-630	J2N-3_196-201	N	02/26/2014	GW Profile	196	201
J2 Range Northern	BH-630	J2N-3_186-191	N	02/26/2014	GW Profile	186	191
J2 Range Eastern	BH-627	J2E-6_306-311	N	02/26/2014	GW Profile	306	311
J2 Range Eastern	BH-627	J2E-6_296-301	N	02/26/2014	GW Profile	296	301
J2 Range Eastern	BH-627	J2E-6_286-291	N	02/26/2014	GW Profile	286	291
J2 Range Eastern	BH-627	J2E-6_276-281	N	02/25/2014	GW Profile	276	281
Central Impact Area	MW-623M3	MW-623M3_FEB14	N	02/25/2014	Ground Water	275	285
Central Impact Area	MW-623M3	MW-623M3_FEB14D	FD	02/25/2014	Ground Water	275	285
Central Impact Area	MW-623M1	MW-623M1_FEB14	N	02/25/2014	Ground Water	340	350
J2 Range Eastern	BH-627	J2E-6_266-271	N	02/25/2014	GW Profile	266	271
J2 Range Eastern	BH-627	J2E-6_256-261	N	02/25/2014	GW Profile	256	261
Central Impact Area	MW-624M2	MW-624M2_FEB14	N	02/25/2014	Ground Water	254	264
J2 Range Eastern	BH-627	J2E-6_246-251	N	02/25/2014	GW Profile	246	251
Central Impact Area	MW-624M1	MW-624M1_FEB14	N	02/25/2014	Ground Water	284	294
J2 Range Eastern	BH-627	J2E-6_236-241	N	02/25/2014	GW Profile	236	241
Central Impact Area	MW-614M2	MW-614M2_FEB14	N	02/24/2014	Ground Water	215	225
Central Impact Area	MW-614M1	MW-614M1_FEB14	N	02/24/2014	Ground Water	275	285
Central Impact Area	MW-614M1	MW-614M1_FEB14MS	MS	02/24/2014	Ground Water	275	285
Central Impact Area	MW-614M1	MW-614M1_FEB14SD	SD	02/24/2014	Ground Water	275	285
Central Impact Area	MW-615M2	MW-615M2_FEB14	N	02/24/2014	Ground Water	200	210
J2 Range Eastern	BH-627	J2E-6_226-231	N	02/24/2014	GW Profile	226	231
Central Impact Area	MW-615M1	MW-615M1_FEB14	N	02/24/2014	Ground Water	260	270
J2 Range Eastern	BH-627	J2E-6_216-221	N	02/24/2014	GW Profile	216	221
J2 Range Eastern	BH-627	J2E-6_216-221D	FD	02/24/2014	GW Profile	216	221
J2 Range Eastern	BH-627	J2E-6_206-211	N	02/24/2014	GW Profile	206	211
J2 Range Eastern	BH-627	J2E-6_196-201	N	02/24/2014	GW Profile	196	201
J2 Range Eastern	BH-627	J2E-6_186-191	N	02/21/2014	GW Profile	186	191
J2 Range Eastern	BH-627	J2E-6_176-181	N	02/21/2014	GW Profile	176	181
J2 Range Eastern	BH-627	J2E-6_166-171	N	02/21/2014	GW Profile	166	171
J2 Range Eastern	BH-627	J2E-6_156-161	N	02/21/2014	GW Profile	156	161
Central Impact Area	BH-633	CIA13_286-291	N	02/20/2014	GW Profile	286	291
Central Impact Area	BH-633	CIA13_276-281	N	02/19/2014	GW Profile	276	281
Central Impact Area	BH-633	CIA13_256-261	N	02/18/2014	GW Profile	256	261
Central Impact Area	BH-633	CIA13_256-261D	FD	02/18/2014	GW Profile	256	261
Central Impact Area	BH-633	CIA13_246-251	N	02/18/2014	GW Profile	246	251
Central Impact Area	BH-633	CIA13_236-241	N	02/13/2014	GW Profile	236	241
Central Impact Area	BH-633	CIA13_226-231	N	02/13/2014	GW Profile	226	231
Central Impact Area	BH-633	CIA13_216-221	N	02/13/2014	GW Profile	216	221
Central Impact Area	BH-633	CIA13_206-211	N	02/12/2014	GW Profile	206	211
J2 Range Northern	MW-619M2	MW-619M2_R1	N	02/12/2014	Ground Water	232	242
Central Impact Area	BH-633	CIA13_196-201	N	02/12/2014	GW Profile	196	201
J2 Range Northern	MW-619M1	MW-619M1_R1	N	02/12/2014	Ground Water	253	263
Central Impact Area	BH-633	CIA13_186-191	N	02/12/2014	GW Profile	186	191
J2 Range Northern	MW-613M2	MW-613M2_R1	N	02/12/2014	Ground Water	246.7	256.7
J2 Range Northern	MW-613M1	MW-613M1_R1	N	02/12/2014	Ground Water	267.7	277.7
Central Impact Area	CIA1-INF	CIA1-INF-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-W4	N	02/12/2014	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 February - 28 February 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	CIA2-MID2	CIA2-MID2-W4	N	02/12/2014	Process Water	0	0
Central Impact Area	CIA2-EFF	CIA2-EFF-W4	N	02/12/2014	Process Water	0	0
E Range	MW-468S	MW-468S_S14	N	02/11/2014	Ground Water	169.8	179.8
O Range	MW-492S	MW-492S_S14	N	02/11/2014	Ground Water	79.5	89.5
G Range	MW-470S	MW-470S_S14	N	02/11/2014	Ground Water	76.3	86.3
J1 Range Northern	J1N-EFF	J1N-EFF-04A	N	02/11/2014	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-04A	N	02/11/2014	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-04A	N	02/11/2014	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-04A	N	02/11/2014	Process Water	0	0
J2 Range Northern	MW-612M2	MW-612M2_R1	N	02/10/2014	Ground Water	266	276
J2 Range Northern	MW-612M1	MW-612M1_R1	N	02/10/2014	Ground Water	296	306
Central Impact Area	MW-607M3	MW-607M3_R2	N	02/10/2014	Ground Water	156.2	166.2
Central Impact Area	MW-607M2	MW-607M2_R2	N	02/10/2014	Ground Water	176.2	186.2
Central Impact Area	MW-607M1	MW-607M1_R2	N	02/10/2014	Ground Water	206.2	216.2
Demolition Area 1	FPR-2-EFF	FPR-2-EFF-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3B	FPR-2-GAC-MID3B-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID2A	FPR-2-GAC-MID2A-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-B	FPR2-POST-IX-B-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-95A	N	02/06/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_251-256	N	02/06/2014	GW Profile	251	256
Demolition Area 1	PR-EFF	PR-EFF-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-95A	N	02/06/2014	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-95A	N	02/06/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_241-246	N	02/06/2014	GW Profile	241	246
Demolition Area 1	D1-EFF	D1-EFF-43A	N	02/06/2014	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-43A	N	02/06/2014	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-43A	N	02/06/2014	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-43A	N	02/06/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_231-236	N	02/06/2014	GW Profile	231	236
J3 Range	J3-EFF	J3-EFF-89A	N	02/06/2014	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-89A	N	02/06/2014	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-89A	N	02/06/2014	Process Water	0	0
J3 Range	J3-INF	J3-INF-89A	N	02/06/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_221-226	N	02/06/2014	GW Profile	221	226
Central Impact Area	BH-629	CIA11_221-226D	FD	02/06/2014	GW Profile	221	226
Central Impact Area	BH-629	CIA11_211-216	N	02/05/2014	GW Profile	211	216
Central Impact Area	BH-629	CIA11_201-206	N	02/05/2014	GW Profile	201	206
Central Impact Area	BH-629	CIA11_191-196	N	02/05/2014	GW Profile	191	196
Central Impact Area	BH-629	CIA11_181-186	N	02/05/2014	GW Profile	181	186
Central Impact Area	BH-629	CIA11_181-186D	FD	02/05/2014	GW Profile	181	186
Central Impact Area	BH-629	CIA11_171-176	N	02/05/2014	GW Profile	171	176
Central Impact Area	BH-629	CIA11_161-166	N	02/04/2014	GW Profile	161	166
Central Impact Area	BH-629	CIA11_151-156	N	02/04/2014	GW Profile	151	156
Central Impact Area	MW-609M2	MW-609M2_R2	N	02/04/2014	Ground Water	181.3	191.3
Central Impact Area	BH-629	CIA11_141-146	N	02/04/2014	GW Profile	141	146
Central Impact Area	MW-609M1	MW-609M1_R2	N	02/04/2014	Ground Water	209.3	219.3
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_131-136	N	02/04/2014	GW Profile	131	136
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_121-126	N	02/04/2014	GW Profile	121	126
Central Impact Area	MW-608M4	MW-608M4_R2	N	02/04/2014	Ground Water	184.6	194.6
Central Impact Area	BH-629	CIA11_111-116	N	02/04/2014	GW Profile	111	116
Central Impact Area	MW-608M3	MW-608M3_R2	N	02/04/2014	Ground Water	219.6	229.6
Central Impact Area	BH-629	CIA11_101-106	N	02/04/2014	GW Profile	101	106
Central Impact Area	CIA1-INF	CIA1-INF-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-W3	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-65A	N	02/04/2014	Process Water	0	0

N = Normal Sample
 FD = Field Duplicate

TABLE 1
Sampling Progress: 1 February - 28 February 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	CIA1-EFF	CIA1-EFF-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	MW-608M2	MW-608M2_R2	N	02/04/2014	Ground Water	252.6	262.6
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_91-96	N	02/04/2014	GW Profile	91	96
Central Impact Area	CIA2-INF	CIA2-INF-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-W3	N	02/04/2014	Process Water	0	0
Central Impact Area	CIA2-EFF	CIA2-EFF-W3	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	MW-608M1	MW-608M1_R2	N	02/04/2014	Ground Water	266.6	276.6
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_81-86	N	02/04/2014	GW Profile	81	86
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-65A	N	02/04/2014	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-65A	N	02/04/2014	Process Water	0	0
Central Impact Area	BH-629	CIA11_71-76	N	02/04/2014	GW Profile	71	76
J1 Range Southern	J1S-EFF	J1S-EFF-75A	N	02/03/2014	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-75A	N	02/03/2014	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-75A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-89A	N	02/03/2014	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-89A	N	02/03/2014	Process Water	0	0

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
L Range	MW-530S	MW-530S_S14	97	107	01/29/2014	SW6860	Perchlorate	0.046	J	UG/L	2.0		0.011	0.050
L Range	MW-529M1	MW-529M1_S14	107	117	01/29/2014	SW6860	Perchlorate	0.050		UG/L	2.0		0.011	0.050
L Range	90WT0013	90WT0013_S14	92	102	01/28/2014	SW6860	Perchlorate	0.016	J	UG/L	2.0		0.011	0.050
L Range	MW-291M2	MW-291M2_S14	125.3	135.3	01/27/2014	SW6860	Perchlorate	0.041	J	UG/L	2.0		0.011	0.050
L Range	MW-153M2	MW-153M2_S14	144	154	01/27/2014	SW6860	Perchlorate	0.25		UG/L	2.0		0.011	0.050
L Range	90WT0019	90WT0019_S14	82	103	01/27/2014	SW6860	Perchlorate	0.017	J	UG/L	2.0		0.011	0.050
L Range	MW-288M1	MW-288M1_S14	190	200	01/17/2014	SW6860	Perchlorate	0.29		UG/L	2.0		0.011	0.050
L Range	90MW0019	90MW0019_S14	161	166	01/17/2014	SW6860	Perchlorate	0.16		UG/L	2.0		0.011	0.050
L Range	MW-238M2	MW-238M2_S14	125	135	01/16/2014	SW6860	Perchlorate	0.031	J	UG/L	2.0		0.011	0.050
J2 Range Northern	J2EW0001	J2EW0001_S14	179	234	01/15/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.31		UG/L	0.60		0.055	0.22
J2 Range Northern	J2EW0001	J2EW0001_S14	179	234	01/15/2014	SW6860	Perchlorate	8.3		UG/L	2.0	X	0.11	0.50
J2 Range Northern	J2EW0001	J2EW0001_S14D	179	234	01/15/2014	SW6860	Perchlorate	8.1		UG/L	2.0	X	0.11	0.50
J2 Range Northern	J2EW0002	J2EW0002_S14	198	233	01/15/2014	SW6860	Perchlorate	3.9		UG/L	2.0	X	0.011	0.050
J2 Range Northern	J2EW0003	J2EW0003_S14	202	232	01/15/2014	SW6860	Perchlorate	1.2		UG/L	2.0		0.011	0.050
L Range	MW-242M3	MW-242M3_S14	124	134	01/15/2014	SW6860	Perchlorate	0.012	J	UG/L	2.0		0.011	0.050
L Range	MW-242M1	MW-242M1_S14	235	245	01/15/2014	SW6860	Perchlorate	0.39		UG/L	2.0		0.011	0.050
L Range	MW-242M1	MW-242M1_S14	235	245	01/15/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	5.4		UG/L	0.60	X	0.053	0.21
L Range	MW-242M1	MW-242M1_S14D	235	245	01/15/2014	SW6860	Perchlorate	0.39		UG/L	2.0		0.011	0.050
L Range	MW-242M1	MW-242M1_S14D	235	245	01/15/2014	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	4.6	J	UG/L	0.60	X	0.056	0.22
J2 Range Northern	MW-322M1	MW-322M1_S14	245.8	255.8	01/15/2014	SW6860	Perchlorate	0.047	J	UG/L	2.0		0.011	0.050
J2 Range Northern	MW-327M3	MW-327M3_S14	220.2	230.2	01/10/2014	SW6860	Perchlorate	0.032	J	UG/L	2.0		0.011	0.050
J2 Range Northern	J2EW3-MW-2-B	J2EW3-MW-2-B_S14	216.2	226.2	01/10/2014	SW6860	Perchlorate	0.031	J	UG/L	2.0		0.011	0.050
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_S14	240.8	250.8	01/10/2014	SW6860	Perchlorate	3.7		UG/L	2.0	X	0.011	0.050
J2 Range Northern	MW-337M1	MW-337M1_S14	243.7	253.7	01/08/2014	SW6860	Perchlorate	0.15		UG/L	2.0		0.011	0.050
J2 Range Northern	MW-313M3	MW-313M3_S14	195.1	205.6	01/08/2014	SW6860	Perchlorate	0.027	J	UG/L	2.0		0.011	0.050
J2 Range Northern	MW-313M2	MW-313M2_S14	215.5	225.5	01/08/2014	SW6860	Perchlorate	3.5		UG/L	2.0	X	0.011	0.050
J2 Range Northern	MW-313M1	MW-313M1_S14	255.4	265.4	01/08/2014	SW6860	Perchlorate	0.088		UG/L	2.0		0.011	0.050
Northwest Corner	MW-284M2	MW-284M2_F13	45	55	12/11/2013	SW6860	Perchlorate	1.7		UG/L	2.0		0.011	0.050
Northwest Corner	MW-441M1	MW-441M1_F13	204.6	214.6	12/11/2013	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.21	J	UG/L	0.60		0.052	0.21
Western Boundary	4036000-04G	4036000-04G_13Q4	55	65	12/10/2013	SW6860	Perchlorate	0.15		UG/L	2.0		0.011	0.050
Western Boundary	4036000-03G	4036000-03G_13Q4	50	60	12/10/2013	SW6860	Perchlorate	0.17		UG/L	2.0		0.011	0.050
Western Boundary	4036000-06G	4036000-06G_13Q4	108	128	12/10/2013	SW6860	Perchlorate	0.11		UG/L	2.0		0.011	0.050
Western Boundary	4036000-01G	4036000-01G_13Q4	38	70	12/10/2013	SW6860	Perchlorate	0.14		UG/L	2.0		0.011	0.050
J1 Range Northern	MW-166M3	MW-166M3_F13	125	135	12/09/2013	SW8330	4-Amino-2,6-Dinitrotoluene	0.40		UG/L	7.3		0.056	0.21
J1 Range Northern	MW-166M3	MW-166M3_F13	125	135	12/09/2013	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40		UG/L	0.60		0.052	0.21
J1 Range Northern	MW-303M3	MW-303M3_F13	140	150	12/09/2013	SW6860	Perchlorate	0.027	J	UG/L	2.0		0.011	0.050
J1 Range Northern	MW-303M3	MW-303M3_F13	140	150	12/09/2013	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.22		UG/L	400		0.059	0.21
J1 Range Northern	MW-303M3	MW-303M3_F13	140	150	12/09/2013	SW8330	4-Amino-2,6-Dinitrotoluene	0.60		UG/L	7.3		0.056	0.21
J1 Range Northern	MW-303M2	MW-303M2_F13	235	245	12/09/2013	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	16.8		UG/L	0.60	X	0.26	1.0
J1 Range Northern	MW-303M2	MW-303M2_F13	235	245	12/09/2013	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	4.2		UG/L	400		0.058	0.20
J1 Range Northern	MW-303M2	MW-303M2_F13	235	245	12/09/2013	SW6860	Perchlorate	4.5		UG/L	2.0	X	0.011	0.050
J1 Range Northern	MW-303M2	MW-303M2_F13D	235	245	12/09/2013	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	17.0	J	UG/L	0.60	X	0.26	1.0
J1 Range Northern	MW-303M2	MW-303M2_F13D	235	245	12/09/2013	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	4.0	J	UG/L	400		0.058	0.20
J1 Range Northern	MW-303M1	MW-303M1_F13	299	309	12/09/2013	SW6860	Perchlorate	0.018	J	UG/L	2.0		0.011	0.050

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