MONTHLY PROGRESS REPORT #216
FOR MARCH 2015

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

JOINT BASE CAPE COD (JBCC)
TRAINING RANGE AND IMPACT AREA

The following summary of progress is for the period from 1 March to 31 March 2015.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of March 2015. 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 was operating at a flow rate of 250 gpm with over 2.196 billion gallons of water treated and re-injected as of 27 March 2015. No shut downs of the Frank Perkins Road facility occurred in March.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 405 million gallons of water treated and re-injected as of 27 March 2015. The following Pew Road MTU shut downs occurred in March:

- Shut down on 22 March 2015 at 1715 due to a system alarm, and was restarted on 23 March 2015 at 0745; and
- Shut down on 28 March 2015 at 1830 due to a system alarm, and was restarted on 30 March 2015 at 0758.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 106.9 million gallons of water treated and re-injected as of 27 March 2015. No Base Boundary MTU shut downs 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 (increased from 50 gpm when Extraction Well EW-2 was off). As of 27 March 2015, over 250 million gallons of water have been treated and re-injected. The following J-1 Range Southern system shut downs occurred in March:

- EW-2 was shut down on 20 January 2015 at 1411 due to electrical line damage. EW-2 was restarted on 24 March 2015 at 1135; and
- Shut down on 30 March 2015 at 1300 to prepare for media change-out and was restarted on 1 April 2015 at 1000.

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 will continue to operate at a total system flow rate of 250 gpm. As of 27 March 2015, over 144 million gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shut down occurred in March:

- Shut down on 23 March 2015 at 1042 for system maintenance and was restarted on 23 March 2015 at 1109.

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 27 March 2015, over 795 million gallons of water have been treated and re-injected. The following J-3 system shut downs occurred in March:

- Shut down on 1 March 2015 at 0013 due to system alarm and was restarted on 2 March 2015 at 0933;
- Shut down on 2 March 2015 at 2231 due to system alarm and was restarted on 3 March 2015 at 0810; and
- Shut down on 7 March 2015 at 0021 due to system alarm and was restarted on 9 March 2015 at 0800.

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 27 March 2015, over 585 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 27 March 2015, over 977 million gallons of water have been treated and re-injected. The following J-2 Range Northern MTUs shut downs occurred in March:

- MTUs E and shut down on 12 March 2015 at 0912 and 0902, respectively, due to system alarm and were restarted on 12 March 2015 at 1356 and 1354, respectively;
- MTUs E and shut down on 23 March 2015 at 0859 and 0850, respectively, due to system alarm and were restarted on 23 March 2015 at 1014 and 1010, respectively; and
- MTUs E and shut down on 30 March 2015 at 1250 and 1241, respectively, due to system alarm and were restarted on 30 March 2015 at 1433 and 1429, respectively.

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 27 March 2015, over 665 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. As of 27 March 2015, over 314 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 27 March 2015, over 377 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 continue to

run at a combined total flow rate of 500 gpm. As of 27 March 2015, over 305 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 Demolition Area 1, J-2 Range Northern, J-2 Range Eastern, CIA, Small Arms Ranges, and Western Boundary.

JBCC IAGWSP Tech Update Meeting Minutes 12 March 2015

Project and Field Work Update

IAGWSP explained that field operations have been limited due to ongoing inclement weather conditions. Groundwater sampling is underway in Demolition Area 1, the J-2 Range and Small Arms Ranges however accessing wells had become problematic due to snow. Photos showing the conditions at some of the well locations were displayed. All of the treatment plants have been running uninterrupted with the exception of EW-2 on the J-1 Southern treatment system. USACE reported that they were able to remove the snow pile and replace the pump however there appears to be an electrical problem as the pump is shorting out. The contractor is troubleshooting the issue.

Demo 1

USACE reported the State Historic Preservation Office is requiring a full archeological survey for the off-site area where the extraction well, infiltration gallery and access road are to be located. In the past, SHPO has not required this level of effort; however, because the area is previously undisturbed, near a wetland and the project requires sub surface work such as trenching and road building, they are asking for a full survey. Every attempt will be made to complete the fieldwork by May 31st, when the offer to sell and right of entry expire. The government cannot countersign the offer to sell until the Record of Environmental Consideration (REC) is completed. USACE is contracting to have the survey done but noted that the survey can't be performed until the snow melts and the ground thaws. Once the archeological survey is competed and a report is issued, the REC can be completed and a new offer can be signed. It is anticipated that will happen sometime in late July. IAGWSP noted that are continuing to move forward in parallel and will do as much of the design work as possible. Once all the environmental paperwork is completed, it will take about 6 to 9 months to get to system start-up. IAGWSP will continue to provide updates at tech meetings.

CIA

It was reported that the CIA project is on a similar track to Demo 1. It was explained that since an ROA was required for CIA, an archeological survey will be performed there also, using the same contract being used for Demo 1. It is anticipated that the construction will take approximately the same amount of time as Demo 1.

Demo 2

The USACE noted that they had provided the RDX attenuation rate project note and that the next step would be to submit the well installation project note. They explained that they would like to combine the

well installation project note with the tech memo, which is essentially complete. EPA indicated that they agreed with that approach. USACE will work with IAGWSP to draft a schedule for submittal of the Decision Document addendum. EPA noted that they would need to determine if there was a place for the DD addendum on an upcoming JBCC Cleanup Team meeting agenda. EPA suggested that IAGWSP and USACE review the original DD as they draft the DD addendum. They noted that the majority of the information has not changed, just the cleanup date and the monitoring network. EPA said they would provide more guidance as needed.

Action Items
The action items were discussed and updated.

J-3 Range Decision Document
Discussion was held on the J-3 Range Decision Document. IAGWSP stated that they had a few concerns. First it was suggested that the term "UXO" should be changed throughout the document to better represent the categories of MEC found at the site. They also explained that they would like to remove the reference to a separate project note for the Barrage Rockets and handle those investigations/removals as part of the geophysical anomalies project note. They noted that Barrage Rockets do not contain the COCs found in groundwater. Finally they asked if the additional monitoring well to monitor off-base migration could be handled as part of long-term monitoring rather than a project noted appended to the DD. EPA said they didn't think that there were any wells that were just off-base to monitor migration in this area but would review and consider the suggestion. IAGWSP will provide a redline strikeout of the DD with their suggested changes to EPA by the end of the week.

JBCC Cleanup Team Meeting

The JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT), is next scheduled to meet on April 8, 2015. The Cleanup Team meeting discusses late breaking news and responses to action items, as well as updates from the IAGWSP and the Installation Restoration Program (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 2015. 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. 215 for February 2015 3/10/2015
- J-1 Range Southern – Off Base Profile Investigation Project Note 3/18/2015
- Draft L Range 2015 Annual Environmental Monitoring Report 3/25/2015
- Demolition Area 2 Plume Shell Development and Proposed Well Locations Project Note 3/30/2015

3. SCHEDULED ACTIONS

The following documents are being prepared or revised during April 2015:

- CIA Project Note for ESTCP Metal Mapper Results;
- CIA Design Package Project Note;
- CIA 2014 Interim Environmental Monitoring Report;
- CIA BEM Project Note;
- CIA 2014 Source Report;
- Demolition Area 1 Startup Plan;
- J-2 Range Project Note for Additional Wells to Evaluate Source Response;
- J-3 Range Decision Document;
- J-3 Range Draft Post-Decision Document Field Work Project Notes;
- Small Arms Ranges Decision Document;
- Training Areas Draft Investigation Report;
- Demolition Area 2 2014 Annual Environmental Monitoring Report;
- Demolition Area 2 Decision Document Addendum;
- 2013 BIP Report;
- J-3 Range 2014 Environmental Monitoring Report;
- J-2 Range Eastern and J-2 Range Northern 2014 Environmental Monitoring Report;
- J-1 Range Northern and J-1 Range Southern 2015 Environmental Monitoring Report; and
- L Range 2015 Environmental Monitoring Report.

TABLE 1

Sampling Progress: 1 March to 31 March 2015

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-31S	MW-31S_S15	N	03/31/2015	Ground Water	98	103
Demolition Area 1	MW-31S	MW-31S_S15D	FD	03/31/2015	Ground Water	98	103
Demolition Area 1	MW-31M	MW-31M_S15	N	03/31/2015	Ground Water	113	123
Demolition Area 1	MW-31M	MW-31M_S15D	FD	03/31/2015	Ground Water	113	123
Demolition Area 1	MW-31D	MW-31D_S15	N	03/31/2015	Ground Water	133	138
J2 Range Eastern	MW-307M3	MW-307M3_S15	N	03/31/2015	Ground Water	125.8	135.8
J2 Range Eastern	MW-436M2	MW-436M2_S15	N	03/30/2015	Ground Water	235.5	245.5
J2 Range Eastern	MW-436M1	MW-436M1_S15	N	03/30/2015	Ground Water	295.5	305.5
J2 Range Eastern	MW-228S	MW-228S_S15	N	03/30/2015	Ground Water	104	114
J2 Range Eastern	MW-339M1	MW-339M1_S15	N	03/30/2015	Ground Water	233	243
I Range	MW-639S	MW-639S_R3	N	03/26/2015	Ground Water	87.5	97.5
J2 Range Northern	MW-640M2	MW-640M2_R3	N	03/26/2015	Ground Water	216	226
J2 Range Northern	MW-640M1	MW-640M1_R3	N	03/26/2015	Ground Water	246	256
Central Impact Area	MW-51M2	MW-51M2_S15	N	03/25/2015	Ground Water	203	213
Central Impact Area	MW-108M4	MW-108M4_S15	N	03/25/2015	Ground Water	240	250
Central Impact Area	MW-108M1	MW-108M1_S15	N	03/25/2015	Ground Water	297	307
Central Impact Area	MW-178M1	MW-178M1_S15	N	03/25/2015	Ground Water	257	267
Central Impact Area	MW-202M1	MW-202M1_S15	N	03/25/2015	Ground Water	264	274
Central Impact Area	MW-615M2	MW-615M2_S15	N	03/24/2015	Ground Water	200	210
Central Impact Area	MW-615M1	MW-615M1_S15	N	03/24/2015	Ground Water	260	270
Central Impact Area	MW-615M1	MW-615M1_S15D	FD	03/24/2015	Ground Water	260	270
Central Impact Area	MW-614M2	MW-614M2_S15	N	03/24/2015	Ground Water	215	225
Central Impact Area	MW-614M1	MW-614M1_S15	N	03/24/2015	Ground Water	275	285
Central Impact Area	MW-102M2	MW-102M2_S15	N	03/23/2015	Ground Water	237	247
Central Impact Area	MW-123M2	MW-123M2_S15	N	03/23/2015	Ground Water	236	246
Central Impact Area	MW-123M1	MW-123M1_S15	N	03/23/2015	Ground Water	291	301
Central Impact Area	MW-23M1	MW-23M1_S15	N	03/23/2015	Ground Water	225	235
Demolition Area 1	MW-597M2	MW-597M2_S15	N	03/19/2015	Ground Water	118	128
Demolition Area 1	MW-597M1	MW-597M1_S15	N	03/19/2015	Ground Water	148	158
Demolition Area 1	MW-352M1	MW-352M1_S15	N	03/19/2015	Ground Water	115	125
Demolition Area 1	MW-353M2	MW-353M2_S15	N	03/19/2015	Ground Water	57	67
Demolition Area 1	MW-353M1	MW-353M1_S15	N	03/19/2015	Ground Water	107	117
Demolition Area 1	MW-165M2	MW-165M2_S15	N	03/18/2015	Ground Water	124.5	134.5
Demolition Area 1	MW-165M1	MW-165M1_S15	N	03/18/2015	Ground Water	184.5	194.5
J2 Range Eastern	MW-368M2	MW-368M2_S15	N	03/18/2015	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M2	MW-368M2_S15D	FD	03/18/2015	Ground Water	202.7	212.7
Central Impact Area	MW-174S	MW-174S_S15	N	03/17/2015	Ground Water	190	200
Former B Range	MW-475S	MW-475S_S15	N	03/17/2015	Ground Water	50.3	60.3
Former B Range	MW-476S	MW-476S_S15	N	03/17/2015	Ground Water	59.9	69.8
Demolition Area 1	MW-431	MW-431_S15	N	03/16/2015	Ground Water	88	188
Demolition Area 1	MW-129M3	MW-129M3_S15	N	03/16/2015	Ground Water	96	106
Demolition Area 1	MW-129M2	MW-129M2_S15	N	03/16/2015	Ground Water	116	126
Demolition Area 1	MW-129M1	MW-129M1_S15	N	03/16/2015	Ground Water	136	146
J1 Range Southern	J1S-EFF	J1S-EFF-88A	N	03/16/2015	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-88A	N	03/16/2015	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-88A	N	03/16/2015	Process Water	0	0
Demolition Area 1	MW-432	MW-432_S15	N	03/12/2015	Ground Water	88	188
C Range	MW-491S	MW-491S_S15	N	03/12/2015	Ground Water	146.9	156.9
J3 Range	J3-EFF	J3-EFF-102A	N	03/12/2015	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-102A	N	03/12/2015	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-102A	N	03/12/2015	Process Water	0	0
J3 Range	J3-INF	J3-INF-102A	N	03/12/2015	Process Water	0	0
Demolition Area 1	MW-139M2	MW-139M2_S15	N	03/12/2015	Ground Water	154	164
Demolition Area 1	D1-EFF	D1-EFF-56A	N	03/11/2015	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-56A	N	03/11/2015	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1

Sampling Progress: 1 March to 31 March 2015

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	D1-MID-1	D1-MID-1-56A	N	03/11/2015	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-56A	N	03/11/2015	Process Water	0	0
Demolition Area 1	MW-36M2	MW-36M2_S15	N	03/11/2015	Ground Water	131	141
Demolition Area 1	FPR-2-EFF-B	FPR-2-EFF-B-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3B	FPR-2-GAC-MID3B-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-B	FPR2-POST-IX-B-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	MW-36M1	MW-36M1_S15	N	03/11/2015	Ground Water	152	162
Demolition Area 1	PR-EFF	PR-EFF-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-108A	N	03/11/2015	Process Water	0	0
Demolition Area 1	MW-34M2	MW-34M2_S15	N	03/11/2015	Ground Water	131	141
Central Impact Area	CIA2-EFF	CIA2-EFF-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-14A	N	03/11/2015	Process Water	0	0
Demolition Area 1	MW-34M1	MW-34M1_S15	N	03/11/2015	Ground Water	151	161
Central Impact Area	CIA1-EFF	CIA1-EFF-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-14A	N	03/11/2015	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-14A	N	03/11/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-78A	N	03/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-78A	N	03/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-78A	N	03/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-78A	N	03/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-78A	N	03/10/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-78A	N	03/10/2015	Process Water	0	0
C Range	MW-456S	MW-456S_S15	N	03/10/2015	Ground Water	150.3	160.3
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-102A	N	03/10/2015	Process Water	0	0
B Range	MW-490S	MW-490S_S15	N	03/10/2015	Ground Water	108.1	118.1
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-102A	N	03/10/2015	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-102A	N	03/10/2015	Process Water	0	0
B Range	MW-539M1	MW-539M1_S15	N	03/10/2015	Ground Water	113	123
J1 Range Northern	J1N-EFF	J1N-EFF-17A	N	03/10/2015	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-17A	N	03/10/2015	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-17A	N	03/10/2015	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-17A	N	03/10/2015	Process Water	0	0
B Range	MW-538M1	MW-538M1_S15	N	03/09/2015	Ground Water	107	117
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-78A	N	03/09/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-78A	N	03/09/2015	Process Water	0	0
B Range	MW-537M1	MW-537M1_S15	N	03/09/2015	Ground Water	106	116

N = Normal Sample
FD = Field Duplicate

TABLE 1

Sampling Progress: 1 March to 31 March 2015

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-72S	MW-72S_S15	N	03/09/2015	Ground Water	106	116
B Range	MW-72S	MW-72S_S15D	FD	03/09/2015	Ground Water	106	116
Western Boundary	4036000-04G	4036000-04G_15Q1	N	03/05/2015	Ground Water	55	65
Western Boundary	4036000-03G	4036000-03G_15Q1	N	03/05/2015	Ground Water	50	60
Western Boundary	4036000-06G	4036000-06G_15Q1	N	03/05/2015	Ground Water	108	128
Western Boundary	4036000-01G	4036000-01G_15Q1	N	03/05/2015	Ground Water	38	70
Demolition Area 1	MW-545M4	MW-545M4_S15	N	03/04/2015	Ground Water	72	82
Demolition Area 1	MW-545M3	MW-545M3_S15	N	03/04/2015	Ground Water	101.5	111.5
Demolition Area 1	MW-545M2	MW-545M2_S15	N	03/04/2015	Ground Water	142	152
Demolition Area 1	MW-545M1	MW-545M1_S15	N	03/04/2015	Ground Water	162	172
J2 Range Eastern	MW-351M2	MW-351M2_S15	N	03/03/2015	Ground Water	233.7	243.7
J2 Range Eastern	MW-351M1	MW-351M1_S15	N	03/03/2015	Ground Water	278.6	288.6
Demolition Area 1	MW-341M3	MW-341M3_S15	N	03/03/2015	Ground Water	209.5	219.5
Demolition Area 1	MW-341M2	MW-341M2_S15	N	03/03/2015	Ground Water	264.5	269.5
J2 Range Eastern	MW-310M1	MW-310M1_S15	N	03/02/2015	Ground Water	171.4	181.4
Demolition Area 1	MW-544M3	MW-544M3_S15	N	03/02/2015	Ground Water	77.5	87.5
Demolition Area 1	MW-544M2	MW-544M2_S15	N	03/02/2015	Ground Water	112	122
Demolition Area 1	MW-544M1	MW-544M1_S15	N	03/02/2015	Ground Water	162	172

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received March 2015

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
Western Boundary	4036000-04G	4036000-04G_15Q1	55	65	03/05/2015	SW6850	Perchlorate	0.16	J	UG/L	2.0		0.019	0.20
Western Boundary	4036000-03G	4036000-03G_15Q1	50	60	03/05/2015	SW6850	Perchlorate	0.14	J	UG/L	2.0		0.019	0.20
Western Boundary	4036000-06G	4036000-06G_15Q1	108	128	03/05/2015	SW6850	Perchlorate	0.097	J	UG/L	2.0		0.019	0.20
Western Boundary	4036000-01G	4036000-01G_15Q1	38	70	03/05/2015	SW6850	Perchlorate	0.14	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-545M4	MW-545M4_S15	72	82	03/04/2015	SW6850	Perchlorate	0.41		UG/L	2.0		0.019	0.20
Demolition Area 1	MW-545M3	MW-545M3_S15	101.5	111.5	03/04/2015	SW6850	Perchlorate	0.28		UG/L	2.0		0.019	0.20
Demolition Area 1	MW-545M2	MW-545M2_S15	142	152	03/04/2015	SW6850	Perchlorate	1.6		UG/L	2.0		0.019	0.20
Demolition Area 1	MW-545M1	MW-545M1_S15	162	172	03/04/2015	SW6850	Perchlorate	1.8		UG/L	2.0		0.019	0.20
J2 Range Eastern	MW-351M1	MW-351M1_S15	278.6	288.6	03/03/2015	SW6850	Perchlorate	0.069	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-341M3	MW-341M3_S15	209.5	219.5	03/03/2015	SW6850	Perchlorate	0.027	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-341M2	MW-341M2_S15	264.5	269.5	03/03/2015	SW6850	Perchlorate	2.5		UG/L	2.0	X	0.019	0.20
J2 Range Eastern	MW-310M1	MW-310M1_S15	171.4	181.4	03/02/2015	SW6850	Perchlorate	0.076	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-544M3	MW-544M3_S15	77.5	87.5	03/02/2015	SW6850	Perchlorate	0.063	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-544M2	MW-544M2_S15	112	122	03/02/2015	SW6850	Perchlorate	0.61		UG/L	2.0		0.019	0.20
Demolition Area 1	MW-544M1	MW-544M1_S15	162	172	03/02/2015	SW6850	Perchlorate	1.2		UG/L	2.0		0.019	0.20
Demolition Area 1	XX9514	XX9514_S15	102	112	02/26/2015	SW6850	Perchlorate	2.6		UG/L	2.0	X	0.019	0.20
Demolition Area 1	MW-546M2	MW-546M2_S15	100	110	02/26/2015	SW6850	Perchlorate	0.095	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-546M1	MW-546M1_S15	140	150	02/26/2015	SW6850	Perchlorate	0.068	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-543M2	MW-543M2_S15	91.8	101.8	02/25/2015	SW6850	Perchlorate	0.097	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-543M1	MW-543M1_S15	127	137	02/25/2015	SW6850	Perchlorate	0.074	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-642M2	MW-642M2_S15	77.3	87.3	02/25/2015	SW6850	Perchlorate	0.091	J	UG/L	2.0		0.019	0.20
Demolition Area 1	MW-642M1	MW-642M1_S15	104.3	114.3	02/25/2015	SW6850	Perchlorate	0.10	J	UG/L	2.0		0.019	0.20
J2 Range Eastern	MW-354M1	MW-354M1_S15	274.5	284.5	02/11/2015	SW6850	Perchlorate	0.044	J	UG/L	2.0		0.019	0.20
J2 Range Eastern	MW-335M2	MW-335M2_S15	215.3	225.3	02/11/2015	SW6850	Perchlorate	0.038	J	UG/L	2.0		0.019	0.20
J2 Range Eastern	MW-335M1	MW-335M1_S15	255.2	265.2	02/11/2015	SW6850	Perchlorate	0.18	J	UG/L	2.0		0.019	0.20
J2 Range Eastern	MW-324M2	MW-324M2_S15	203.7	214.7	02/10/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.80		UG/L	0.60	X	0.026	0.20
J2 Range Eastern	MW-324M2	MW-324M2_S15	203.7	214.7	02/10/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.1		UG/L	400		0.023	0.20
J2 Range Eastern	MW-324M2	MW-324M2_S15	203.7	214.7	02/10/2015	SW6850	Perchlorate	9.9		UG/L	2.0	X	0.038	0.40
J2 Range Eastern	MW-324M1	MW-324M1_S15	234.9	244.9	02/10/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.97		UG/L	0.60	X	0.026	0.20
J2 Range Eastern	MW-324M1	MW-324M1_S15	234.9	244.9	02/10/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.2		UG/L	400		0.023	0.20
J2 Range Eastern	MW-324M1	MW-324M1_S15	234.9	244.9	02/10/2015	SW6850	Perchlorate	9.4		UG/L	2.0	X	0.019	0.20
J2 Range Eastern	MW-319M1	MW-319M1_S15	200.3	210.3	02/10/2015	SW6850	Perchlorate	0.17	J	UG/L	2.0		0.019	0.20
MP-1	MW-68S	MW-68S_S15	84	94	02/05/2015	SW6850	Perchlorate	0.26		UG/L	2.0		0.019	0.20
J2 Range Northern	J2EW0002	J2EW0002_S15	198	233	02/05/2015	SW6850	Perchlorate	4.3		UG/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_S15	240.8	250.8	02/04/2015	SW6850	Perchlorate	0.81		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-313M2	MW-313M2_S15	215.5	225.5	02/04/2015	SW6850	Perchlorate	1.4		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-313M1	MW-313M1_S15	255.4	265.4	02/04/2015	SW6850	Perchlorate	6.1		UG/L	2.0	X	0.019	0.20
J2 Range Northern	MW-313M1	MW-313M1_S15D	255.4	265.4	02/04/2015	SW6850	Perchlorate	5.9		UG/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW3-MW-2-B	J2EW3-MW-2-B_S15	216.2	226.2	01/26/2015	SW6850	Perchlorate	0.023	J	UG/L	2.0		0.019	0.20
J2 Range Northern	J2EW0001	J2EW0001_S15	179	234	01/26/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.24		UG/L	0.60		0.026	0.20

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

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received March 2015

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
J2 Range Northern	J2EW0001	J2EW0001_S15	179	234	01/26/2015	SW6850	Perchlorate	5.3		UG/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW0003	J2EW0003_S15	202	232	01/26/2015	SW6850	Perchlorate	0.83		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-337M1	MW-337M1_S15	243.7	253.7	01/26/2015	SW6850	Perchlorate	0.10	J	UG/L	2.0		0.019	0.20
L Range	MW-595M1	MW-595M1_S15	255.3	265.3	01/07/2015	SW6850	Perchlorate	0.11	J	UG/L	2.0		0.019	0.20
L Range	MW-595M1	MW-595M1_S15	255.3	265.3	01/07/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		UG/L	0.60	X	0.026	0.20
L Range	MW-530S	MW-530S_S15	97	107	01/06/2015	SW6850	Perchlorate	0.039	J	UG/L	2.0		0.019	0.20
L Range	MW-529M1	MW-529M1_S15	107	117	01/06/2015	SW6850	Perchlorate	0.039	J	UG/L	2.0		0.019	0.20

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

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