MONTHLY PROGRESS REPORT #215
FOR FEBRUARY 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 February to 28 February 2015.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of February 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 2.184 billion gallons of water treated and re-injected as of 27 February 2015. No shut downs of the Frank Perkins Road facility occurred in February.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 401 million gallons of water treated and re-injected as of 27 February. The following Pew Road MTU shut downs occurred in February:

- Shut down on 11 February 2015 at 1324 due to a power interruption, and was restarted on 11 February at 1404;
- Shut down on 14 February 2015 at 1038 due to a power interruption, and was restarted on 17 February at 1000;
- Shut down on 22 February 2015 at 2109 due to a system alarm, and was restarted on 23 February at 1807;
- Shut down on 23 February 2015 at 0939 due to a system alarm, and was restarted on 24 February at 1900; and
- Shut down on 26 February 2015 at 0222 due to a system alarm, and was restarted on 26 February at 0902.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 104.1 million gallons of water treated and re-injected as of 27 February 2015. No Base Boundary MTU shut downs 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 50 gpm (with Extraction Well EW-2 off). As of 27 February 2015, over 247.3 million gallons of water have been treated and re-injected. The following J-1 Range Southern system shut downs occurred in February:

- Shut down on 17 February 2015 at 1330 for media change-out. Due to media change-out equipment failure, the system remained off until 23 February at 0953.

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 February 2015, over 136 million gallons of water have been treated and re-injected. No J-1 Range 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 27 February 2015, over 787 million gallons of water have been treated and re-injected. The following J-3 system shut downs occurred in February:

- EW-IP1 was shut down on 22 February at 0135 due to power interruption and was restarted on 23 February at 1224 (for EW-IP1 only).

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 February 2015, over 577 million gallons of water have been treated and re-injected. No Northern Treatment Building shut downs occurred in February.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 27 February 2015, over 969 million gallons of water have been treated and re-injected. No J-2 Range Northern MTUs shut downs occurred in February.

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 February 2015, over 657 million gallons of water have been treated and re-injected. No shut downs of MTUs H and I occurred in February.

MTU J continues to operate at a flow rate of 120 gpm. As of 27 February 2015, over 310 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 27 February 2015, over 373 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 continue to run at a combined total flow rate of 500 gpm. As of 27 February 2015, over 285 million gallons of water have been treated and re-injected. No CIA treatment facility 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 Demolition Area 1, J-2 Range Northern, J-2 Range Eastern, and Small Arms Ranges.

JBCC IAGWSP Tech Update Meeting Minutes 12 February 2015

Project and Field Work Update

IAGWSP explained that there was no new field work to report. The majority of field operations have been shut down due to ongoing inclement weather conditions. All of the treatment plants are operational with the exception of EW-2 on the J-1 Southern treatment system. The well cannot be accessed due to a large accumulation of snow on top of the well vault. Groundwater sampling was underway in the J-2 Range and Small Arms Ranges however accessing wells had become problematic due to snow. Samplers will move to Demolition Area 1 and collect samples from wells that can be accessed.

Demo 1

USACE reported that they had received feedback from Coastal Zone Management and Natural Heritage on the environmental paperwork. CZM had no problems; however, Natural Heritage questioned why an environmental assessment was not needed for the project. USACE explained that they provided additional justification to Natural Heritage and don't anticipate any further problem from them. A response has not been received from the State Historic Preservation Office. USACE explained that they are on schedule to have the record of environmental consideration completed by the end of February and be ready to start the pre-design fieldwork activities (e.g. pilot boring, perc test and road work). IAGWSP will continue to provide updates at tech meetings.

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-1 Southern Plume Shell Update Presentation

A presentation was provided on the J-1 Southern Plume Shell. It was explained that the plume shell was updated to more accurately predict the time to cleanup, capture and future plume behavior. Figures depicting the model-predicted vs. observed RDX plume were displayed and discussed. The process for the development of the updated plume shell was reviewed. USACE explained that they forward migrated particles using the full groundwater data set. It was noted that model parameters have been confirmed by both the 2007 and 2012 system startup tests. USACE explained that they next interpreted iso-concentration contours (0.6-2 ppb, 2-6 ppb, 6-20 ppb, and 20-200 ppb) and manually contoured the historical data in 2-D in vertically discretized data set of 10 foot thick layers. They explained that the 2-D Contours become the data set of control points to be interpolated with historical samples to become 3-D plume shell initial concentrations. It was noted that an attenuation to a maximum 47% of the original was applied if the sample was five years or older. A figure displaying the migrated RDX concentrations from all elevations was displayed and reviewed.

Conclusions on the updated plume shell exercise were reviewed. It was noted that the plume consists of on- and off-base plumes and that the observed capture zone appears to contain both. The core of the plume off-base has lower concentrations and less mass above 20 ppb, e.g. Grand Oak Road MW-524M1

has been less than 20 ppb since March 2012. The chemical monitoring network trends indicate possible off-base RDX above 0.6 ppb along the eastern perimeter of the capture zone near Song Bird Circle. Additional profiles and samples are being recommended to better define the plumelets near the eastern boundary plume and to improve accuracy of delineating observed hydraulic capture zone. A figure showing the proposed new wells and profiles was displayed and discussed.

The next steps are to perform three new profiles and install six new well screens off-base. Update the 2014 plume shell with new data. Obtain agency concurrence on 2-D layer contours of 10' elevation ranges. Complete 3-D interpolation for new plume shell. Finally, perform contaminant transport simulation with new plume shell to confirm the estimated time to cleanup to 0.6 ppb.

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 February through 28 February 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. 214 for January 2015 2/10/2015
- Final Demolition Area 1 Off-Base Groundwater Extraction System Well Field Design Project Note 2/12/2015
- Final J-1 Range Northern and J-1 Range Southern Environmental Monitoring Work Plan 2/27/2015

3. SCHEDULED ACTIONS

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

- CIA Project Note for ESTCP Metal Mapper Results;
- CIA Design Package Project Note;
- CIA 2014 Interim Environmental Monitoring Report;
- CIA BEM Project Note;
- 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 Plume Shell Reassessment Tech Memo;
- 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
February 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	XX9514	XX9514_S15	N	02/26/2015	Ground Water	102	112
Demolition Area 1	MW-546M2	MW-546M2_S15	N	02/26/2015	Ground Water	100	110
Demolition Area 1	MW-546M1	MW-546M1_S15	N	02/26/2015	Ground Water	140	150
Demolition Area 1	MW-543M2	MW-543M2_S15	N	02/25/2015	Ground Water	91.8	101.8
Demolition Area 1	MW-543M1	MW-543M1_S15	N	02/25/2015	Ground Water	127	137
Demolition Area 1	MW-642M2	MW-642M2_S15	N	02/25/2015	Ground Water	77.3	87.3
Demolition Area 1	MW-642M1	MW-642M1_S15	N	02/25/2015	Ground Water	104.3	114.3
Demolition Area 1	MW-611M2	MW-611M2_S15	N	02/24/2015	Ground Water	91	101
Demolition Area 1	MW-611M1	MW-611M1_S15	N	02/24/2015	Ground Water	141	151
Demolition Area 1	MW-598M2	MW-598M2_S15	N	02/24/2015	Ground Water	88	98
Demolition Area 1	MW-598M2	MW-598M2_S15D	FD	02/24/2015	Ground Water	88	98
Demolition Area 1	MW-598M1	MW-598M1_S15	N	02/24/2015	Ground Water	122	132
Demolition Area 1	MW-610M2	MW-610M2_S15	N	02/23/2015	Ground Water	85	95
Demolition Area 1	MW-610M1	MW-610M1_S15	N	02/23/2015	Ground Water	110	120
Demolition Area 1	MW-641M2	MW-641M2_S15	N	02/23/2015	Ground Water	86.2	96.2
Demolition Area 1	MW-641M1	MW-641M1_S15	N	02/23/2015	Ground Water	113.2	123.2
Demolition Area 1	MW-558M2	MW-558M2_S15	N	02/19/2015	Ground Water	98	108
Demolition Area 1	MW-558M1	MW-558M1_S15	N	02/19/2015	Ground Water	134	144
Demolition Area 1	MW-559M2	MW-559M2_S15	N	02/19/2015	Ground Water	87	97
Demolition Area 1	MW-559M1	MW-559M1_S15	N	02/19/2015	Ground Water	135.6	145.6
Demolition Area 1	MW-556M2	MW-556M2_S15	N	02/18/2015	Ground Water	111	121
Demolition Area 1	MW-556M1	MW-556M1_S15	N	02/18/2015	Ground Water	153	163
Demolition Area 1	MW-556M1	MW-556M1_S15D	FD	02/18/2015	Ground Water	153	163
Demolition Area 1	MW-554M2	MW-554M2_S15	N	02/18/2015	Ground Water	89.1	99.1
Demolition Area 1	MW-554M1	MW-554M1_S15	N	02/18/2015	Ground Water	120	130
Demolition Area 1	MW-211M2	MW-211M2_S15	N	02/17/2015	Ground Water	175	185
Demolition Area 1	MW-211M1	MW-211M1_S15	N	02/17/2015	Ground Water	200	210
Demolition Area 1	MW-211M1	MW-211M1_S15D	FD	02/17/2015	Ground Water	200	210
Demolition Area 1	MW-114M2	MW-114M2_S15	N	02/17/2015	Ground Water	120	130
Demolition Area 1	MW-114M1	MW-114M1_S15	N	02/17/2015	Ground Water	177	187
J1 Range Southern	J1S-EFF	J1S-EFF-87A	N	02/12/2015	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-87A	N	02/12/2015	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-87A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA2-EFF	CIA2-EFF-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-13A	N	02/12/2015	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-13A	N	02/12/2015	Process Water	0	0
J3 Range	J3-EFF	J3-EFF-101A	N	02/11/2015	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-101A	N	02/11/2015	Process Water	0	0
J2 Range Eastern	MW-354M1	MW-354M1_S15	N	02/11/2015	Ground Water	274.5	284.5
J3 Range	J3-MID-1	J3-MID-1-101A	N	02/11/2015	Process Water	0	0
J3 Range	J3-INF	J3-INF-101A	N	02/11/2015	Process Water	0	0
Demolition Area 1	FPR-2-EFF-B	FPR-2-EFF-B-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3B	FPR-2-GAC-MID3B-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-B	FPR2-POST-IX-B-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-107A	N	02/11/2015	Process Water	0	0
J2 Range Eastern	MW-335M2	MW-335M2_S15	N	02/11/2015	Ground Water	215.3	225.3
Demolition Area 1	D1-EFF	D1-EFF-55A	N	02/11/2015	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-55A	N	02/11/2015	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-55A	N	02/11/2015	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress
February 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-INF	D1-INF-55A	N	02/11/2015	Process Water	0	0
J2 Range Eastern	MW-335M1	MW-335M1_S15	N	02/11/2015	Ground Water	255.2	265.2
Demolition Area 1	PR-EFF	PR-EFF-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-107A	N	02/11/2015	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-107A	N	02/11/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	MW-324M2	MW-324M2_S15	N	02/10/2015	Ground Water	203.7	214.7
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	MW-324M1	MW-324M1_S15	N	02/10/2015	Ground Water	234.9	244.9
J2 Range Eastern	MW-319M1	MW-319M1_S15	N	02/10/2015	Ground Water	200.3	210.3
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-77A	N	02/10/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-77A	N	02/10/2015	Process Water	0	0
G Range	MW-470S	MW-470S_S15	N	02/10/2015	Ground Water	76.3	86.3
J2 Range Eastern	J2E-INF-J	J2E-INF-J-77A	N	02/10/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-101A	N	02/09/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-101A	N	02/09/2015	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-16A	N	02/09/2015	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-16A	N	02/09/2015	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-16A	N	02/09/2015	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-16A	N	02/09/2015	Process Water	0	0
MP-1	MW-68S	MW-68S_S15	N	02/05/2015	Ground Water	84	94
B Range	MW-455S	MW-455S_S15	N	02/05/2015	Ground Water	117.6	127.6
J2 Range Northern	J2EW0002	J2EW0002_S15	N	02/05/2015	Ground Water	198	233
J2 Range Northern	MW-322M1	MW-322M1_S15	N	02/05/2015	Ground Water	245.8	255.8
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_S15	N	02/04/2015	Ground Water	240.8	250.8
J2 Range Northern	MW-313M3	MW-313M3_S15	N	02/04/2015	Ground Water	195.1	205.6
J2 Range Northern	MW-313M2	MW-313M2_S15	N	02/04/2015	Ground Water	215.5	225.5
J2 Range Northern	MW-313M1	MW-313M1_S15	N	02/04/2015	Ground Water	255.4	265.4
J2 Range Northern	MW-313M1	MW-313M1_S15D	FD	02/04/2015	Ground Water	255.4	265.4

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
L Range	MW-153M2	MW-153M2_S15	144	154	01/21/2015	SW6850	Perchlorate	0.22		UG/L	2.0		0.019	0.20
L Range	90MW0031	90MW0031_S15	195.3	200.2	01/21/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.63		UG/L	0.60	X	0.026	0.20
J2 Range Eastern	MW-627M1	MW-627M1_R3	269.5	279.5	01/20/2015	SW6850	Perchlorate	0.27		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-622M2	MW-622M2_R3	220.4	230.4	01/20/2015	SW6850	Perchlorate	0.74		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-622M1	MW-622M1_R3	245.4	255.4	01/20/2015	SW6850	Perchlorate	1.3		UG/L	2.0		0.019	0.20
L Range	MW-242M3	MW-242M3_S15	124	134	01/15/2015	SW6850	Perchlorate	0.030	J	UG/L	2.0		0.019	0.20
L Range	MW-242M1	MW-242M1_S15	235	245	01/15/2015	SW6850	Perchlorate	0.30		UG/L	2.0		0.019	0.20
L Range	MW-242M1	MW-242M1_S15	235	245	01/15/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.8		UG/L	0.60	X	0.026	0.20
L Range	MW-242M1	MW-242M1_S15D	235	245	01/15/2015	SW6850	Perchlorate	0.30		UG/L	2.0		0.019	0.20
L Range	MW-242M1	MW-242M1_S15D	235	245	01/15/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.7		UG/L	0.60	X	0.026	0.20
L Range	MW-288M1	MW-288M1_S15	190	200	01/15/2015	SW6850	Perchlorate	0.22		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-631M2	MW-631M2_R3	200.1	210.1	01/14/2015	SW6850	Perchlorate	0.12	J	UG/L	2.0		0.019	0.20
J2 Range Northern	MW-631M1	MW-631M1_R3	233.1	243.1	01/14/2015	SW6850	Perchlorate	0.36		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-630M1	MW-630M1_R3	217	227	01/14/2015	SW6850	Perchlorate	0.022	J	UG/L	2.0		0.019	0.20
J2 Range Northern	MW-634M3	MW-634M3_R3	170.6	180.6	01/13/2015	SW6850	Perchlorate	0.11	J	UG/L	2.0		0.019	0.20
J2 Range Northern	MW-634M2	MW-634M2_R3	200.6	210.6	01/13/2015	SW6850	Perchlorate	4.5		UG/L	2.0	X	0.019	0.20
J2 Range Northern	MW-634M2	MW-634M2_R3D	200.6	210.6	01/13/2015	SW6850	Perchlorate	4.3		UG/L	2.0	X	0.019	0.20
J2 Range Northern	MW-634M1	MW-634M1_R3	305.6	315.6	01/13/2015	SW6850	Perchlorate	0.039	J	UG/L	2.0		0.019	0.20
J3 Range	MW-636M2	MW-636M2_R3	110.5	120.5	01/13/2015	SW6850	Perchlorate	2.2		UG/L	2.0	X	0.019	0.20
J3 Range	MW-576M3	MW-576M3_R3	89.9	108.9	01/12/2015	SW6850	Perchlorate	0.66		UG/L	2.0		0.019	0.20
J3 Range	MW-576M2	MW-576M2_R3	133.9	143.9	01/12/2015	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	1.2		UG/L	400		0.023	0.20
J3 Range	MW-576M2	MW-576M2_R3	133.9	143.9	01/12/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.5		UG/L	0.60	X	0.026	0.20
J3 Range	MW-576M2	MW-576M2_R3	133.9	143.9	01/12/2015	SW6850	Perchlorate	28.3		UG/L	2.0	X	0.076	0.80
J3 Range	MW-576M2	MW-576M2_R3D	133.9	143.9	01/12/2015	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	1.2		UG/L	400		0.023	0.20
J3 Range	MW-576M2	MW-576M2_R3D	133.9	143.9	01/12/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	2.5		UG/L	0.60	X	0.026	0.20
J3 Range	MW-576M2	MW-576M2_R3D	133.9	143.9	01/12/2015	SW6850	Perchlorate	28.8		UG/L	2.0	X	0.076	0.80
J3 Range	MW-576M1	MW-576M1_R3	173.9	183.9	01/12/2015	SW6850	Perchlorate	0.47		UG/L	2.0		0.019	0.20
J3 Range	MW-637M2	MW-637M2_R3	214.1	224.1	01/12/2015	SW6850	Perchlorate	3.0		UG/L	2.0	X	0.019	0.20
J3 Range	90EW0001	90EW0001_S15	83.1	143.8	01/05/2015	SW6850	Perchlorate	0.45		UG/L	2.0		0.019	0.20
J3 Range	90EW0001	90EW0001_S15	83.1	143.8	01/05/2015	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.74		UG/L	400		0.023	0.20
J3 Range	J3EW0032	J3EW0032_S15	102	152	01/05/2015	SW6850	Perchlorate	0.61		UG/L	2.0		0.019	0.20
J3 Range	J3EW0032	J3EW0032_S15	102	152	01/05/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	1.6		UG/L	0.60	X	0.026	0.20
J3 Range	J3EWIP1	J3EWIP1_S15	153	193	01/05/2015	SW8330	Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	0.27		UG/L	400		0.023	0.20
J3 Range	J3EWIP1	J3EWIP1_S15	153	193	01/05/2015	SW8330	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	0.40		UG/L	0.60		0.026	0.20
J3 Range	J3EWIP1	J3EWIP1_S15	153	193	01/05/2015	SW6850	Perchlorate	10.9		UG/L	2.0	X	0.038	0.40
J2 Range Northern	MW-632M2	MW-632M2_R3	229.5	239.5	01/05/2015	SW6850	Perchlorate	0.021	J	UG/L	2.0		0.019	0.20
J2 Range Northern	MW-632M1	MW-632M1_R3	254.5	264.5	01/05/2015	SW6850	Perchlorate	0.54		UG/L	2.0		0.019	0.20
J2 Range Northern	MW-635M1	MW-635M1_R3	265.4	275.4	01/05/2015	SW6850	Perchlorate	0.19	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