

**MONTHLY PROGRESS REPORT #223  
FOR OCTOBER 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 October to 31 October 2015.

**1. SUMMARY OF REMEDIATION ACTIONS**

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of October 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 160 gpm (Extraction well EW-502 is off for repairs) with over 2.274 billion gallons of water treated and re-injected as of 30 October 2015. No shut downs of the Frank Perkins Road facility occurred in October.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 439.5 million gallons of water treated and re-injected as of 30 October 2015. The following Pew Road MTU shut downs occurred in October:

- Shut down on 5 October 2015 at 2001 due to a system alarm and was restarted on 6 October 2015 at 0740;
- Shut down on 15 October 2015 at 1321 for repairs and was restarted on 15 October 2015 at 1340; and
- Shut down on 27 October 2015 at 1156 due to a system alarm and was restarted on 27 October 2015 at 1433.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 136.0 million gallons of water treated and re-injected as of 30 October 2015. No Base Boundary MTU shut downs occurred in October.

### 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 30 October 2015, over 315 million gallons of water have been treated and re-injected. No J-1 Range Southern system shut downs occurred in October.

#### 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 30 October 2015, over 243 million gallons of water have been treated and re-injected. No J-1 Range Northern MTU shut downs occurred in October.

### 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 30 October 2015, over 845.7 million gallons of water have been treated and re-injected. No J-3 Range system shut downs occurred in October.

### 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 Re-infiltration 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 30 October 2015, over 704.5 million gallons of water have been treated and re-injected. No Northern Treatment Building shut downs occurred in October.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 30 October 2015, over 1.138 billion gallons of water have been treated and re-injected. The following J-2 Range Northern MTU E shut downs occurred in late September and October:

- MTU E shut down on 27 September 2015 at 1222 due to a system alarm and was restarted on 28 September 2015 at 0758; and
- MTU E shut down on 9 October 2015 at 1222 due to a system alarm and was restarted on 9 October 2015 at 1305.

#### 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 30 October 2015, over 783.5 million gallons of water have been treated and re-injected. No shut downs of MTUs H and I occurred in October.

MTU J continues to operate at a flow rate of 120 gpm. As of 30 October 2015, over 346 million gallons of water have been treated and re-injected. No shut downs of MTU J occurred in October.

MTU K continues to operate at a flow rate of 125 gpm. As of 30 October 2015, over 450 million gallons of water have been treated and re-injected. No shut downs of MTU K occurred in October.

#### 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 30 October 2015, over 462 million gallons of water have been treated and re-injected. The following CIA treatment facility shutdown occurred in October:

- CIA System 1 was shut down on 13 October 2015 at 1315 for repairs and was restarted on 13 October 2015 at 1322.

## **SUMMARY OF ACTIONS TAKEN**

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

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

Environmental and system performance monitoring groundwater samples were collected from CIA, J-1 Range Northern, J-1 Range Southern, J-2 Range Eastern, J-3 Range, and Demolition Area 1.

Performed vegetation removal on access roads and well pads within J-3 Range, Western Boundary, Northwest Corner and L Range.

Drilled in L Range (Camp Good News). Prepared well pads and roads for J-3 Range, L Range, and IBC Range.

Completed collection of cued Metalmapper data and continued intrusive investigation of Phase II area 1.

Completed Buried Explosive Module (BEM) and Blown in Place (BIP) Operations at CIA.

Performed daily inspection of BEM cover at the CIA to insure cover is secure and intact.

Surveyed future excavation areas and collected in-situ waste characterization samples at Small Arms Ranges (SAR)

Performed MEC investigations at IBC, KD and J3 ranges.

## **JBCC IAGWSP Tech Update Meeting Minutes 15 October 2015**

### **Project and Field Work Update**

The Phase II limited intrusive investigation is being conducted in the CIA with one team. Two other teams are working on the Buried Explosive Module. Metal Mapper has demobed for at least two weeks.

EPA stated they found some discrepancies with the MEC Tracking Log and the BIP Notifications. EPA asked why the 81 mortars were being disposed of in the BEM instead of the CDC. USACE replied that it is due to a safety issue because the items have been deemed "incompatible for storage" and cannot be held in the CDC bunker. EPA asked why the items were not BIPed. USACE replied that there had been an effort to reduce the number of BIPs and clarified that the items were not RCRA. USACE agreed to provide EPA with a protocol for how items are classified for the CDC bunker vs. the BEM. EPA asked when the BEM had last been used. USACE replied that it was used in December 2014.

IAGWSP reported that work at the Small Arms Ranges had begun. Crews are staking boundaries and vegetation clearance will begin next week. Excavation work is scheduled to begin the first week in November and all work should be completed by Christmas. EPA requested notification for when the soil goes off-site and the soil characterization results. USACE said that information would be provided per the usual protocols.

USACE report that a revised offer was submitted to the trustees of the Demo 1 off-site parcel. The easement duration was reduced from 25 years to 10 years and the payment was reduced from \$90k to \$60k. The offer was submitted to the trustees on 10/9. There has been no response to date.

The agencies discussed potential actions to persuade the trustees to accept the offer but it was decided that this might further delay or prevent the acceptance. USACE reported that the funds had been returned to AEC due to the fiscal year end but AEC would return them when needed.

MassDEP asked when the next sampling round would take place in the area. IAGWSP will provide that information.

### **Action Items**

The action items were discussed and updated

### **Additional Safety/Security Measures**

IAGWSP provided figures showing locations for new security cameras and gates. IAGWSP explained that the cameras were solar-powered and had thermal sensors for motion activation. There are two lenses on each camera: one for color and the other for black and white Hi-Def for night vision. The cameras can stream live video.

The locations of the cameras were discussed. USACE noted that the work is part of an existing contract, which will cover the installation and operation and maintenance of the cameras for eight months. IAGWSP and USACE indicated that Range Control would likely assume control of the equipment after the contract expiration. Range Control would also determine the access to the information from the cameras.

EPA requested that the existing gates be added to the figure showing the proposed gate locations.

### **Western Boundary Annual Monitoring Report Presentation**

A presentation was provided on the Western Boundary Monitoring Report. It was noted that during the reporting period (July 2014 to June 2015), no new field work was conducted. The Residual Risk Assessment Work Plan was approved on 23 April 2015 and the Draft Residual Risk Assessment was submitted on 9 October 2015.

Sampling locations, groundwater monitoring results, and trends were reviewed and discussed. Perchlorate was detected in 6 of 14 monitoring wells sampled. All detections were below the 2 µg/L MMCL. Perchlorate was detected in all 4 public water supply wells. All detections were below 2 µg/L MMCL.

IAGWSP compared the results to the 2010 Decision Document criteria. The DD states that contamination should be below the Health Advisory (2 µg/L) by 2010 and below the background level (0.35 µg/L) by 2017. IAGWSP reported that perchlorate levels have been below the Health Advisory since 2008 and below background levels since 2012. Land Use Controls have been implemented, as required and the DD Remedial Goals are being achieved.

The IAGWSP will maintain the current monitoring program and continue site closeout process. They will submit a Work Plan/Project Note to De-Commission Wells (Coordinate with Bourne Water District, EPA, DEP).

IAGWSP asked for clarification regarding the Administrative Order, which assumed all sites would be closed out simultaneously. IAGWSP requested clarification as to whether the Western Boundary could be closed-out beforehand since remediation goals have been met. EPA will discuss this with counsel.

## **JBCC IAGWSP Tech Update Meeting Minutes 29 October 2015**

### **Project and Field Work Update**

IAGWSP reported that Buried Explosive Module operations were ongoing therefore there wasn't a lot of source investigation work being conducted in the CIA.

IAGWSP stated that H&S completed surveying and staking boundaries at the Small Arms Ranges. The crews are currently performing vegetation clearance and will begin excavation work the first week in November and all work should be completed by Christmas. Work on three additional ranges will be completed next spring.

The meandering path at the KD and IBC Ranges has been completed. Nine grids at IBC have been completed and no MEC items were found. There were two unfuzed LITR rounds found at the KD Range; they were managed as munitions debris. USACE will find out how far down range they were uncovered. Work is ongoing at the full clearance areas of the J-3 Range Demolition Area.

USACE noted that the drill rig returned to the site today. They will set up first at the two L Range wells on Camp Good News. During this mobilization, they will drill at the IBC Range, the J-3 Range pilot boring, and the two locations at Demolition Area 2. Brush cutting and clearance has been completed at the IBC location; the road needs to be cut at Demolition Area 2. IAGWSP noted that they will try and include the J-1 Range wells at the end of the mobilization. UXO clearance will be required at these locations.

USACE provided an update on the revised offer that was submitted to the trustees of the Demolition Area 1 off-site parcel. The trustees indicated that they would accept the offer if the easement duration was 10 years and the payment was \$90k. The Army National Guard agreed and USACE Real Estate will be meeting with the trustees to sign paperwork tomorrow. USACE is working to get the funding in place for the system. The treatment system is an option on the CIA system contract and USACE will exercise it as soon as the funding is in place.

### **Action Items**

The action items were discussed and updated

## **Central Impact Area System Performance Monitoring Report Presentation**

A presentation was provided on the Central Impact Area (CIA) 2015 System Performance Monitoring Report. It was noted that during the reporting period (May 2014 to June 2015), the pilot boring was installed at the location of proposed extraction well CIA-EW3 and MW-644M1/M2 was installed downgradient of Burgoyne Road.

System performance data, sampling locations, groundwater monitoring results, and trends were reviewed and discussed. The maximum RDX concentrations during the reporting period were: 16.2 µg/L (upgradient of Burgoyne Road, MW-89M2), 17.9 µg/L (downgradient of Burgoyne Road, MW-629M1), and 1.46 µg/L (leading edge, MW-616M1). The maximum perchlorate concentrations during the reporting period were: 7.942 µg/L (upgradient of Burgoyne Road, MW-89M2), 0.17 µg/L (downgradient of Burgoyne Road, MW-629M1), and 1.37 µg/L (leading edge, MW-209M1). IAGWSP reviewed the two

water level gauging events and a capture zone analysis. The Zone 1 capture zone is as designed and consistent with startup data.

IAGWSP compared the results during this reporting period to the 2012 Decision Document criteria. The DD states that RDX contamination should be below the Health Advisory (2 µg/L) by 2051, below the risk-based level (0.6 µg/L) by 2059 and below the background level (0.25 µg/L) by 2114. IAGWSP noted these goals should be met. IAGWSP reviewed the recommendations from the report. IAGWSP is recommending adding wells to the hydraulic monitoring program, adding several wells to both the RDX and perchlorate monitoring network and reducing the frequency of monitoring for seven wells in the RDX network. IAGWSP also recommends recalibrating the flow model and updating the RDX plume shell following the results of CIA-EW3s startup.

### **Northwest Corner Annual Monitoring Report Presentation**

A presentation was provided on the Northwest Corner Annual Monitoring Report. It was noted that during the reporting period (July 2014 to June 2015), no new field work was conducted.

Sampling locations, groundwater monitoring results, and trends were reviewed and discussed. RDX was detected in 4 of 12 samples ranging from 0.25 µg/L to 8.4 µg/L. Two wells exceeded the 0.6 µg/L risk based concentration, one well exceeded the 2 µg/L EPA health advisory. Perchlorate was detected in 21 of 22 monitoring wells sampled ranging from 0.074 µg/L to 1.9 µg/L. All detections were below the 2 µg/L MMCL.

IAGWSP compared the results to the 2010 Decision Document criteria. The DD states that RDX contamination should be below the Health Advisory (2 µg/L) by 2012, below the risk-based level (0.6 µg/L) by 2022 and below the background level (0.25 µg/L) by 2044. IAGWSP noted that at this time, only one well exceeds 2 µg/L and the travel time from that well to the Cape Cod Canal is approximately eight years. For perchlorate, the DD states that concentrations will be below the MMCL (2 µg/L) by 2012 and below background (0.35 µg/L) by 2019. No wells exceeded 2 µg/L during the reporting period and seven exceeded background. The perchlorate plume has attenuated by approximately 95% (by area) since 2006. IAGWSP recommends removing six wells from the perchlorate sampling network. To date, the agencies have not commented on the annual report.

### **JBCC Cleanup Team Meeting**

The JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT) met on October 14, 2015, and is next scheduled to meet on January 13, 2016. 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 October through 31 October 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 and Jonathan Bourne Library).

## 2. DELIVERABLES SUBMITTED

Deliverables submitted during the reporting period include the following:

- |  |            |
|--|------------|
| • Monthly Progress Report No. 222 for August 2015  | 10/10/2015 |
| • Demolition Area 1 Optimized Hydraulic and Chemical Monitoring Network - Project Note                           | 10/02/2015 |
| • Optimization of J-1 Range Northern and Southern Chemical and Hydraulic Monitoring Well Networks – Project Note | 10/06/2015 |
| • Draft Western Boundary Residual Risk Assessment Report   | 10/09/2015 |
| • Draft Central Impact Area 2015 System Performance Monitoring Report  | 10/16/2015 |
| • Draft Northwest Corner 2015 Annual Environmental Monitoring Report   | 10/19/2015 |
| • Draft Central Impact Area Environmental Monitoring Work Plan   | 10/26/2015 |
| • J-1 Range Northern – Profile Investigation Project Note  | 10/29/2015 |
| • Removal of Treatment Train at Frank Perkins Road Treatment Plant Project Note                                  | 10/29/2015 |

## 3. SCHEDULED ACTIONS

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

- Demolition Area 1 Environmental and System Performance Monitoring Report;
- Demolition Area 2 2015 Environmental Monitoring Report;
- J-2 Range Project Note for Additional Wells to Evaluate Source Response;
- Training Areas Draft Investigation Report;
- Training Areas Draft Remedy Selection Plan;
- J-1 Range Northern and J-1 Range Southern 2015 Environmental Monitoring Report;
- Corrective Action Memo for BEM;
- Land Use Controls Annual Report;
- Western Boundary 2015 Annual Environmental Monitoring Report;
- Western Boundary Residual Risk Assessment Report;
- J-3 Range 2015 Interim Environmental Monitoring Report; and
- J-2 Range Eastern and J-2 Range Northern 2015 Environmental Monitoring Report.



**TABLE 1**  
**Sampling Progress:**  
**30 September through 31 October 2015**

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft of bgs)	Bottom of Screen (ft bgs)
J1 Range Northern	MW-563M1	MW-563M1_F15	N	10/28/2015	Ground Water	215	225
J1 Range Northern	MW-564M1	MW-564M1_F15	N	10/28/2015	Ground Water	227	237
J1 Range Northern	MW-564M1	MW-564M1_F15D	FD	10/28/2015	Ground Water	227	237
J1 Range Northern	MW-549M2	MW-549M2_F15	N	10/28/2015	Ground Water	187.3	197.3
J1 Range Northern	MW-549M1	MW-549M1_F15	N	10/28/2015	Ground Water	227.4	237.4
J1 Range Northern	MW-547M2	MW-547M2_F15	N	10/28/2015	Ground Water	178	188
J1 Range Northern	MW-547M1	MW-547M1_F15	N	10/28/2015	Ground Water	237	247
Demolition Area 1	MW-648M1	MW-648M1_R1	N	10/27/2015	Ground Water	112	122
J1 Range Southern	MW-647M2	MW-647M2_R1	N	10/27/2015	Ground Water	185.8	195.8
J1 Range Southern	MW-647M1	MW-647M1_R1	N	10/27/2015	Ground Water	207.8	217.8
J1 Range Southern	MW-646M2	MW-646M2_R1	N	10/26/2015	Ground Water	166	176
J1 Range Southern	MW-646M1	MW-646M1_R1	N	10/26/2015	Ground Water	196	206
J1 Range Southern	MW-645M2	MW-645M2_R1	N	10/26/2015	Ground Water	143.5	153.5
J1 Range Southern	MW-645M1	MW-645M1_R1	N	10/26/2015	Ground Water	183.5	193.5
Central Impact Area	MW-644M2	MW-644M2_R1	N	10/21/2015	Ground Water	230.9	240.9
Central Impact Area	MW-644M1	MW-644M1_R1	N	10/21/2015	Ground Water	275.9	285.9
J3 Range	MW-251M1	MW-251M1_F15	N	10/20/2015	Ground Water	128	133
J2 Range Eastern	J2MW-02PZ	J2MW-02PZ_F15	N	10/19/2015	Ground Water	191	201
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F15	N	10/19/2015	Ground Water	236	246
J2 Range Eastern	J2MW-02M1	J2MW-02M1_F15	N	10/19/2015	Ground Water	271	281
J1 Range Northern	MW-566M1	MW-566M1_F15	N	10/15/2015	Ground Water	232	242
J1 Range Northern	MW-479M1	MW-479M1_F15	N	10/15/2015	Ground Water	240	250
J1 Range Northern	MW-541M1	MW-541M1_F15	N	10/14/2015	Ground Water	210	220
J1 Range Northern	MW-430M2	MW-430M2_F15	N	10/14/2015	Ground Water	188.4	198.4
J1 Range Northern	MW-430M1	MW-430M1_F15	N	10/14/2015	Ground Water	245.2	255.2
J1 Range Northern	MW-606M2	MW-606M2_F15	N	10/14/2015	Ground Water	193.2	203.2
J1 Range Northern	MW-606M1	MW-606M1_F15	N	10/14/2015	Ground Water	233.3	243.3
J1 Range Northern	MW-540M1	MW-540M1_F15	N	10/14/2015	Ground Water	258	268
J1 Range Northern	MW-401M3	MW-401M3_F15	N	10/13/2015	Ground Water	228.5	238.5
J1 Range Northern	MW-401M1	MW-401M1_F15	N	10/13/2015	Ground Water	256.1	266.1
J1 Range Northern	MW-584M2	MW-584M2_F15	N	10/13/2015	Ground Water	228	238
J1 Range Northern	MW-584M1	MW-584M1_F15	N	10/13/2015	Ground Water	248	258
J1 Range Northern	MW-584M1	MW-584M1_F15D	FD	10/13/2015	Ground Water	248	258
J1 Range Northern	MW-590M2	MW-590M2_F15	N	10/13/2015	Ground Water	238	248
J1 Range Northern	MW-590M1	MW-590M1_F15	N	10/13/2015	Ground Water	258	268
J1 Range Southern	MW-524M1	MW-524M1_F15	N	10/08/2015	Ground Water	148	158
J1 Range Southern	MW-524M1	MW-524M1_F15D	FD	10/08/2015	Ground Water	148	158
J1 Range Southern	MW-482M3	MW-482M3_F15	N	10/08/2015	Ground Water	98.2	108.2
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3A	FPR-2-GAC-MID3A-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-115A	N	10/08/2015	Process Water	0	0
J1 Range Southern	MW-482M2	MW-482M2_F15	N	10/08/2015	Ground Water	172.6	182.6
J1 Range Southern	MW-482M2	MW-482M2_F15D	FD	10/08/2015	Ground Water	172.6	182.6
Demolition Area 1	PR-EFF	PR-EFF-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-115A	N	10/08/2015	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-115A	N	10/08/2015	Process Water	0	0
J1 Range Southern	MW-522M2	MW-522M2_F15	N	10/08/2015	Ground Water	165	175
Demolition Area 1	D1-EFF	D1-EFF-63A	N	10/08/2015	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-63A	N	10/08/2015	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-63A	N	10/08/2015	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-63A	N	10/08/2015	Process Water	0	0
J1 Range Southern	MW-522M1	MW-522M1_F15	N	10/08/2015	Ground Water	198	208
J1 Range Southern	MW-523M1	MW-523M1_F15	N	10/07/2015	Ground Water	158	168
J3 Range	J3-EFF	J3-EFF-109A	N	10/07/2015	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-109A	N	10/07/2015	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-109A	N	10/07/2015	Process Water	0	0
J3 Range	J3-INF	J3-INF-109A	N	10/07/2015	Process Water	0	0

N = Normal Sample  
 FD = Field Duplicate

**TABLE 1**  
**Sampling Progress:**  
**30 September through 31 October 2015**

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Southern	MW-481M2	MW-481M2_F15	N	10/07/2015	Ground Water	146.3	156.3
J1 Range Southern	MW-481M1	MW-481M1_F15	N	10/07/2015	Ground Water	189.7	199.7
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-85A	N	10/07/2015	Process Water	0	0
J1 Range Southern	MW-591M2	MW-591M2_F15	N	10/07/2015	Ground Water	165	175
J2 Range Eastern	J2E-INF-I	J2E-INF-I-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-85A	N	10/07/2015	Process Water	0	0
J1 Range Southern	MW-591M1	MW-591M1_F15	N	10/07/2015	Ground Water	200	210
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-85A	N	10/07/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-85A	N	10/07/2015	Process Water	0	0
J1 Range Southern	J1S-EW2-INF	J1S-EW2-INF_F15	N	10/07/2015	Process Water	0	0
J1 Range Southern	J1S-EW2-INF	J1S-EW2-INF_F15D	FD	10/07/2015	Process Water	0	0
J1 Range Southern	J1S-EW1-INF	J1S-EW1-INF_F15	N	10/07/2015	Process Water	0	0
J1 Range Southern	MW-521M1	MW-521M1_F15	N	10/06/2015	Ground Water	158	168
J1 Range Southern	MW-528M1	MW-528M1_F15	N	10/06/2015	Ground Water	117	127
Central Impact Area	CIA2-EFF	CIA2-EFF-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-21A	N	10/06/2015	Process Water	0	0
J1 Range Southern	MW-488PZ	MW-488PZ_F15	N	10/06/2015	Ground Water	119.3	129.3
Central Impact Area	CIA1-EFF	CIA1-EFF-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-21A	N	10/06/2015	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-21A	N	10/06/2015	Process Water	0	0
J1 Range Southern	MW-488M1	MW-488M1_F15	N	10/06/2015	Ground Water	149.6	159.6
J1 Range Southern	DP-389	DP-389_F15	N	10/05/2015	Ground Water	157.7	162.7
J1 Range Southern	J1S-EFF	J1S-EFF-95A	N	10/05/2015	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-95A	N	10/05/2015	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-95A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-109A	N	10/05/2015	Process Water	0	0
J1 Range Southern	DP-379	DP-379_F15	N	10/05/2015	Ground Water	184.3	189.3
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-109A	N	10/05/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-109A	N	10/05/2015	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-24A	N	10/05/2015	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-24A	N	10/05/2015	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-24A	N	10/05/2015	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-24A	N	10/05/2015	Process Water	0	0
J1 Range Southern	MW-526M1	MW-526M1_F15	N	10/01/2015	Ground Water	164	174
J1 Range Southern	MW-527M1	MW-527M1_F15	N	10/01/2015	Ground Water	165	175
J1 Range Southern	MW-403M2	MW-403M2_F15	N	10/01/2015	Ground Water	127.3	137.4
J1 Range Southern	MW-403M1	MW-403M1_F15	N	10/01/2015	Ground Water	159.9	169.9
J1 Range Southern	MW-525M2	MW-525M2_F15	N	10/01/2015	Ground Water	148	158
J1 Range Southern	MW-525M1	MW-525M1_F15	N	10/01/2015	Ground Water	172	182
J1 Range Southern	MW-592M2	MW-592M2_F15	N	09/30/2015	Ground Water	158	168

**TABLE 1**  
**Sampling Progress:**  
**30 September through 31 October 2015**

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Southern	MW-592M1	MW-592M1_F15	N	09/30/2015	Ground Water	201	211
J1 Range Southern	MW-398M2	MW-398M2_F15	N	09/30/2015	Ground Water	131.5	141.5
J1 Range Southern	MW-398M1	MW-398M1_F15	N	09/30/2015	Ground Water	172.2	182.2
J1 Range Southern	MW-483M1	MW-483M1_F15	N	09/30/2015	Ground Water	139.5	149.5

**TABLE 2**  
**VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS**  
 Data Received October 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 Eastern	J2MW-02PZ	J2MW-02PZ_F15	191	201	10/19/2015	SW6850	Perchlorate	0.031	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F15	236	246	10/19/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.58		UG/L	0.60		0.025	0.20
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F15	236	246	10/19/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.96		UG/L	400		0.019	0.20
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F15	236	246	10/19/2015	SW6850	Perchlorate	4.0		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	J2MW-04M2	J2MW-04M2_F15	210	220	09/22/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.40		UG/L	0.60		0.025	0.20
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F15	257	267	09/22/2015	SW6850	Perchlorate	0.26		UG/L	2.0		0.015	0.20
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F15	257	267	09/22/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.41		UG/L	0.60		0.025	0.20
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F15	257	267	09/22/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.63		UG/L	400		0.019	0.20
Central Impact Area	MW-176M1	MW-176M1_F15	270	280	09/22/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.35		UG/L	400		0.019	0.20
Central Impact Area	MW-176M1	MW-176M1_F15	270	280	09/22/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	4.1		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-368M2	MW-368M2_F15	202.7	212.7	09/17/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.1		UG/L	400		0.019	0.20
J2 Range Eastern	MW-368M2	MW-368M2_F15	202.7	212.7	09/17/2015	SW6850	Perchlorate	28.1		UG/L	2.0	X	0.045	0.60
J2 Range Eastern	MW-368M2	MW-368M2_F15	202.7	212.7	09/17/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	8.8		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-368M2	MW-368M2_F15D	202.7	212.7	09/17/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.1		UG/L	400		0.019	0.20
J2 Range Eastern	MW-368M2	MW-368M2_F15D	202.7	212.7	09/17/2015	SW6850	Perchlorate	27.5		UG/L	2.0	X	0.045	0.60
J2 Range Eastern	MW-368M2	MW-368M2_F15D	202.7	212.7	09/17/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	8.3		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-368M1	MW-368M1_F15	237.4	247.4	09/17/2015	SW6850	Perchlorate	67.1	J	UG/L	2.0	X	0.15	2.0
J2 Range Eastern	MW-368M1	MW-368M1_F15	237.4	247.4	09/17/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	9.4		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-368M1	MW-368M1_F15D	237.4	247.4	09/17/2015	SW6850	Perchlorate	66.6	J	UG/L	2.0	X	0.15	2.0
J2 Range Eastern	MW-368M1	MW-368M1_F15D	237.4	247.4	09/17/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	9.2		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-335M2	MW-335M2_F15	215.3	225.3	09/17/2015	SW6850	Perchlorate	0.026	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-335M1	MW-335M1_F15	255.2	265.2	09/17/2015	SW6850	Perchlorate	0.12	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-339M2	MW-339M2_F15	213	223	09/16/2015	SW6850	Perchlorate	0.15	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-339M1	MW-339M1_F15	233	243	09/16/2015	SW6850	Perchlorate	0.95		UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-366M2	MW-366M2_F15	175	185	09/16/2015	SW6850	Perchlorate	0.073	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-366M1	MW-366M1_F15	215	225	09/16/2015	SW6850	Perchlorate	1.3		UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-393M2	MW-393M2_F15	218.2	228.2	09/15/2015	SW6850	Perchlorate	0.024	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-436M2	MW-436M2_F15	235.5	245.5	09/15/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		UG/L	0.60		0.025	0.20
J2 Range Eastern	MW-436M1	MW-436M1_F15	295.5	305.5	09/15/2015	SW6850	Perchlorate	0.043	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-399M1	MW-399M1_F15	238.2	248.2	09/15/2015	SW6850	Perchlorate	0.044	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-388M2	MW-388M2_F15	144.8	154.8	09/14/2015	SW6850	Perchlorate	0.21		UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-388M1	MW-388M1_F15	175.2	185.2	09/14/2015	SW6850	Perchlorate	0.026	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-321M2	MW-321M2_F15	155.7	165.7	09/14/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		UG/L	0.60		0.025	0.20
J2 Range Eastern	MW-321M2	MW-321M2_F15	155.7	165.7	09/14/2015	SW6850	Perchlorate	1.4		UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-321M2	MW-321M2_F15	155.7	165.7	09/14/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.2		UG/L	400		0.019	0.20
J2 Range Eastern	MW-321M1	MW-321M1_F15	174.6	184.6	09/14/2015	SW6850	Perchlorate	0.16	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-319M2	MW-319M2_F15	165.2	175.2	09/14/2015	SW6850	Perchlorate	0.24		UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-319M1	MW-319M1_F15	200.3	210.3	09/14/2015	SW6850	Perchlorate	0.16	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-307M3	MW-307M3_F15	125.8	135.8	09/10/2015	SW6850	Perchlorate	2.3	J	UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-354M2	MW-354M2_F15	234.8	244.8	09/10/2015	SW6850	Perchlorate	0.050	J	UG/L	2.0		0.015	0.20

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

**TABLE 2**  
**VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS**  
 Data Received October 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 Eastern	MW-354M1	MW-354M1_F15	274.5	284.5	09/10/2015	SW6850	Perchlorate	0.052	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-351M2	MW-351M2_F15	233.7	243.7	09/10/2015	SW6850	Perchlorate	0.052	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-351M1	MW-351M1_F15	278.6	288.6	09/10/2015	SW6850	Perchlorate	0.12	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-170M2	MW-170M2_F15	198	208	09/09/2015	SW6850	Perchlorate	0.051	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-170M1	MW-170M1_F15	265	275	09/09/2015	SW6850	Perchlorate	0.30	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F15	245	255	09/09/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.78		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F15	245	255	09/09/2015	SW6850	Perchlorate	9.2	J	UG/L	2.0	X	0.015	0.20
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F15D	245	255	09/09/2015	SW6850	Perchlorate	9.0		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15	234.9	244.9	09/09/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.82	J	UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15	234.9	244.9	09/09/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.4	J	UG/L	400		0.019	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15	234.9	244.9	09/09/2015	SW6850	Perchlorate	7.7		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15D	234.9	244.9	09/09/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.82	J	UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15D	234.9	244.9	09/09/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.3	J	UG/L	400		0.019	0.20
J2 Range Eastern	MW-324M1	MW-324M1_F15D	234.9	244.9	09/09/2015	SW6850	Perchlorate	7.7		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-324M2	MW-324M2_F15	203.7	214.7	09/09/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.50		UG/L	0.60		0.025	0.20
J2 Range Eastern	MW-324M2	MW-324M2_F15	203.7	214.7	09/09/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.9		UG/L	400		0.019	0.20
J2 Range Eastern	MW-324M2	MW-324M2_F15	203.7	214.7	09/09/2015	SW6850	Perchlorate	8.5		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-310M1	MW-310M1_F15	171.4	181.4	09/08/2015	SW6850	Perchlorate	0.069	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	MW-215M2	MW-215M2_F15	205	215	09/03/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.6		UG/L	400		0.019	0.20
J2 Range Eastern	MW-215M2	MW-215M2_F15	205	215	09/03/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-215M2	MW-215M2_F15	205	215	09/03/2015	SW6850	Perchlorate	6.5		UG/L	2.0	X	0.015	0.20
J2 Range Eastern	MW-215M2	MW-215M2_F15D	205	215	09/03/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.5		UG/L	400		0.019	0.20
J2 Range Eastern	MW-215M2	MW-215M2_F15D	205	215	09/03/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		UG/L	0.60	X	0.025	0.20
J2 Range Eastern	MW-215M1	MW-215M1_F15	240	250	09/03/2015	SW6850	Perchlorate	0.13	J	UG/L	2.0		0.015	0.20
J2 Range Eastern	J2MW-05M1	J2MW-05M1_F15	225	235	09/03/2015	SW6850	Perchlorate	0.092	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-632M1	MW-632M1_F15	254.5	264.5	09/03/2015	SW6850	Perchlorate	0.52		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-318M2	MW-318M2_F15	205.8	215.8	09/01/2015	SW6850	Perchlorate	0.018	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-318M1	MW-318M1_F15	305.8	315.8	09/01/2015	SW6850	Perchlorate	0.029	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-630M1	MW-630M1_F15	217	227	09/01/2015	SW6850	Perchlorate	0.033	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-585M3	MW-585M3_F15	198.5	208.5	08/31/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.1		UG/L	400		0.019	0.20
J2 Range Northern	MW-585M3	MW-585M3_F15	198.5	208.5	08/31/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.7		UG/L	0.60	X	0.025	0.20
J2 Range Northern	MW-585M3	MW-585M3_F15	198.5	208.5	08/31/2015	SW6850	Perchlorate	7.4		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-585M2	MW-585M2_F15	218.5	228.5	08/31/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.45		UG/L	0.60		0.025	0.20
J2 Range Northern	MW-585M2	MW-585M2_F15	218.5	228.5	08/31/2015	SW6850	Perchlorate	16.9		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-585M2	MW-585M2_F15D	218.5	228.5	08/31/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.45		UG/L	0.60		0.025	0.20
J2 Range Northern	MW-585M2	MW-585M2_F15D	218.5	228.5	08/31/2015	SW6850	Perchlorate	16.8		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-585M1	MW-585M1_F15	240	250	08/31/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.44		UG/L	0.60		0.025	0.20
J2 Range Northern	MW-585M1	MW-585M1_F15	240	250	08/31/2015	SW6850	Perchlorate	20.5		UG/L	2.0	X	0.030	0.40
J2 Range Northern	MW-585M1	MW-585M1_F15D	240	250	08/31/2015	SW6850	Perchlorate	20.9		UG/L	2.0	X	0.030	0.40
J2 Range Northern	MW-313M3	MW-313M3_F15	195.1	205.6	08/31/2015	SW6850	Perchlorate	0.037	J	UG/L	2.0		0.015	0.20

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**TABLE 2**  
**VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS**  
 Data Received October 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	MW-313M2	MW-313M2_F15	215.5	225.5	08/31/2015	SW6850	Perchlorate	1.1		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-313M1	MW-313M1_F15	255.4	265.4	08/31/2015	SW6850	Perchlorate	8.6		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-313M1	MW-313M1_F15D	255.4	265.4	08/31/2015	SW6850	Perchlorate	8.3		UG/L	2.0	X	0.015	0.20
Demolition Area 1	MW-432	MW-432_T15	88	188	08/28/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.23		UG/L	0.60		0.025	0.20
Demolition Area 1	MW-432	MW-432_T15	88	188	08/28/2015	SW6850	Perchlorate	0.38		UG/L	2.0		0.015	0.20
Demolition Area 1	MW-431	MW-431_T15	88	188	08/28/2015	SW6850	Perchlorate	0.13	J	UG/L	2.0		0.015	0.20
Demolition Area 1	MW-431	MW-431_T15	88	188	08/28/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.29		UG/L	0.60		0.025	0.20
Demolition Area 1	MW-431	MW-431_T15	88	188	08/28/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.29		UG/L	400		0.019	0.20
Demolition Area 1	MW-258M1	MW-258M1_T15	109	119	08/28/2015	SW6850	Perchlorate	11.7		UG/L	2.0	X	0.015	0.20
Demolition Area 1	MW-258M1	MW-258M1_T15D	109	119	08/28/2015	SW6850	Perchlorate	11.9		UG/L	2.0	X	0.015	0.20
Demolition Area 1	MW-532M2	MW-532M2_T15	138	148	08/28/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.68		UG/L	0.60	X	0.025	0.20
Demolition Area 1	MW-532M2	MW-532M2_T15	138	148	08/28/2015	SW6850	Perchlorate	5.1		UG/L	2.0	X	0.015	0.20
Demolition Area 1	MW-532M1	MW-532M1_T15	168	178	08/28/2015	SW6850	Perchlorate	0.53		UG/L	2.0		0.015	0.20
Demolition Area 1	MW-341M2	MW-341M2_T15	264.5	269.5	08/28/2015	SW6850	Perchlorate	3.7		UG/L	2.0	X	0.015	0.20
J2 Range Northern	J2EW0001	J2EW0001_F15	179	234	08/27/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.23		UG/L	0.60		0.025	0.20
J2 Range Northern	J2EW0001	J2EW0001_F15	179	234	08/27/2015	SW6850	Perchlorate	4.2		UG/L	2.0	X	0.015	0.20
J2 Range Northern	J2EW0001	J2EW0001_F15D	179	234	08/27/2015	SW6850	Perchlorate	4.3		UG/L	2.0	X	0.015	0.20
J2 Range Northern	J2EW0002	J2EW0002_F15	198	233	08/27/2015	SW6850	Perchlorate	4.5		UG/L	2.0	X	0.015	0.20
J2 Range Northern	J2EW0003	J2EW0003_F15	202	232	08/27/2015	SW6850	Perchlorate	0.74		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-340M2	MW-340M2_F15	215.8	225.1	08/27/2015	SW6850	Perchlorate	0.063	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-340M1	MW-340M1_F15	255.9	265.9	08/27/2015	SW6850	Perchlorate	0.015	J	UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW3-MW-2-B	J2EW3-MW-2-B_F15	216.2	226.2	08/27/2015	SW6850	Perchlorate	0.027	J	UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW3-MW-2-C	J2EW3-MW-2-C_F15	251.1	261.1	08/27/2015	SW6850	Perchlorate	0.10	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-634M3	MW-634M3_F15	170.6	180.6	08/26/2015	SW6850	Perchlorate	0.31		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-634M2	MW-634M2_F15	200.6	210.6	08/26/2015	SW6850	Perchlorate	3.7		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-634M2	MW-634M2_F15D	200.6	210.6	08/26/2015	SW6850	Perchlorate	3.5		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-634M1	MW-634M1_F15	305.6	315.6	08/26/2015	SW6850	Perchlorate	0.17	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-63M2	MW-63M2_F15	214	224	08/26/2015	SW6850	Perchlorate	0.030	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-63M1	MW-63M1_F15	244	254	08/26/2015	SW6850	Perchlorate	0.029	J	UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW3-MW1-B	J2EW3-MW1-B_F15	210.7	220.7	08/26/2015	SW6850	Perchlorate	0.045	J	UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW3-MW1-C	J2EW3-MW1-C_F15	245.7	255.7	08/26/2015	SW6850	Perchlorate	5.3		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-345M2	MW-345M2_F15	236.6	246.6	08/13/2015	SW6850	Perchlorate	0.029	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-327M3	MW-327M3_F15	220.2	230.2	08/13/2015	SW6850	Perchlorate	0.041	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-327M2	MW-327M2_F15	265	275	08/13/2015	SW6850	Perchlorate	0.46		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-337M1	MW-337M1_F15	243.7	253.7	08/12/2015	SW6850	Perchlorate	0.089	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15	110	120	08/12/2015	SW6850	Perchlorate	0.16	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15	110	120	08/12/2015	SW8330	2,4-Dinitrotoluene	0.33		UG/L	5.0		0.027	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15	110	120	08/12/2015	SW8330	2,4,6-Trinitrotoluene	1.3	J	UG/L	2.0		0.028	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15	110	120	08/12/2015	SW8330	4-Amino-2,6-dinitrotoluene	3.3		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15	110	120	08/12/2015	SW8330	2-Amino-4,6-dinitrotoluene	6.6		UG/L	7.3		0.023	0.20

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VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS  
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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	MW-234M2	MW-234M2_F15D	110	120	08/12/2015	SW8330	2,4-Dinitrotoluene	0.35		UG/L	5.0		0.027	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15D	110	120	08/12/2015	SW8330	2,4,6-Trinitrotoluene	1.9	J	UG/L	2.0		0.028	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15D	110	120	08/12/2015	SW8330	4-Amino-2,6-dinitrotoluene	3.3		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F15D	110	120	08/12/2015	SW8330	2-Amino-4,6-dinitrotoluene	6.4		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-234M1	MW-234M1_F15	130	140	08/12/2015	SW6850	Perchlorate	0.092	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-234M1	MW-234M1_F15	130	140	08/12/2015	SW8330	2,4,6-Trinitrotoluene	1.5		UG/L	2.0		0.028	0.20
J2 Range Northern	MW-234M1	MW-234M1_F15	130	140	08/12/2015	SW8330	2-Amino-4,6-dinitrotoluene	1.5		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-234M1	MW-234M1_F15	130	140	08/12/2015	SW8330	4-Amino-2,6-dinitrotoluene	1.7		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-230M1	MW-230M1_F15	130	140	08/12/2015	SW6850	Perchlorate	0.033	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-130S	MW-130S_F15	103	113	08/12/2015	SW6850	Perchlorate	0.16	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-130S	MW-130S_F15	103	113	08/12/2015	SW8330	2-Amino-4,6-dinitrotoluene	0.21		UG/L	7.3		0.023	0.20
J2 Range Northern	MW-130S	MW-130S_F15	103	113	08/12/2015	SW8330	4-Amino-2,6-dinitrotoluene	0.86		UG/L	7.3		0.023	0.20
J3 Range	RS0011OSNK	RS0011OSNK_F15	0	0	08/04/2015	SW6850	Perchlorate	0.27		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-305M1	MW-305M1_F15	202.8	212.8	08/04/2015	SW6850	Perchlorate	0.20		UG/L	2.0		0.015	0.20
J3 Range	MW-637M2	MW-637M2_F15	214.1	224.1	08/04/2015	SW6850	Perchlorate	3.4		UG/L	2.0	X	0.015	0.20
J3 Range	MW-637M2	MW-637M2_F15D	214.1	224.1	08/04/2015	SW6850	Perchlorate	3.4		UG/L	2.0	X	0.015	0.20

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