MONTHLY PROGRESS REPORT #222
FOR SEPTEMBER 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 September to 30 September 2015.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of September 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 2.274 billion gallons of water treated and re-injected as of 25 September 2015. No shut downs of the Frank Perkins Road facility occurred in September.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 105 gpm with over 431 million gallons of water treated and re-injected as of 25 September 2015. The following Pew Road MTU shut down occurred in September:

- Shut down on 10 September 2015 at 0936 due to a system alarm and was restarted on 10 September 2015 at 1006.

The Base Boundary RA continues to operate at a flow rate of 65 gpm with over 125.1 million gallons of water treated and re-injected as of 25 September 2015. No Base Boundary MTU shut downs occurred in September.

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 25 September 2015, over 276 million gallons of water have been treated and re-injected. No J-1 Range Southern system shut downs occurred in September.

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 25 September 2015, over 196 million gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shut down occurred in September:

- Shut down on 4 September 2015 at 1200 to change bag filters and was restarted on 4 September 2015 at 1235.

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 25 September 2015, over 846 million gallons of water have been treated and re-injected. No J-3 Range system shut downs occurred in September.

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 25 September 2015, over 642 million gallons of water have been treated and re-injected. No Northern Treatment Building shut downs occurred in September.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 25 September 2015, over 1.038 million gallons of water have been treated and re-injected. The following J-2 Range Northern MTUs E and F shut down occurred in September:

- MTU E shut down on 10 September 2015 at 0432 due to a system alarm and was restarted on 10 September 2015 at 0753.

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 25 September 2015, over 716 million gallons of water have been treated and re-injected. The following shut down of MTUs H and I occurred in September:

- MTUs H and I shut down on 22 September 2015 at 0345 for a carbon change-out and were restarted on 24 September 2015 at 0845.

MTU J continues to operate at a flow rate of 120 gpm. As of 25 September 2015, over 340 million gallons of water have been treated and re-injected. No shut downs of MTU J occurred in September.

MTU K continues to operate at a flow rate of 125 gpm. As of 25 September 2015, over 403 million gallons of water have been treated and re-injected. No shut downs of MTU K occurred in September.

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 25 September 2015, over 435 million gallons of water have been treated and re-injected. No CIA treatment facility shutdowns occurred in Septemnber.

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 Southern, J-2 Range Eastern, J-2 Range Northern, and Western Boundary.

Additional delineation soil samples were collected from three new grids at the Former B Range.

Conducted hydraulic events at the CIA and J-1 Range Southern.

Performed vegetation removal on access roads and well pads within J-2 Range Eastern, J-2 Range Northern, J-1 Range Southern, J-3 Range, and L Range.

Performed monitoring well development at J-1 Range Southern.

Collected cued Metalmapper data in Phase II area 1 (10 acres), completed intrusive investigation of the 16-acre area (phase I blue grids), and commenced intrusive investigation of Phase II, Area 1 at the CIA.

Completed road repairs at the CIA.

Performed daily inspection of the BEM cover at the CIA to ensure cover is intact/secure.

JBCC IAGWSP Tech Update Meeting Minutes 2 September 2015

Project and Field Work Update

In the CIA, the dig teams are projecting the 16-arcre area will be completed by September 23. There are two Metal Mapper teams working in Phase II Area 1 and it is anticipated they will finish by mid-to late October.

USACE explained that the archeological survey has been completed and approved by the State Historic Preservation Office. Nothing of significance was found at any of the sites: nothing was found on the Demo 1 off-site parcel and three isolated shards were discovered at CIA and Demolition Area 2. The long-eared bat survey has been completed and is under review by Fish and Wildlife. The project will need to receive agreement from F&W on the acreage that will be disturbed under their new regulations.

As soon as all the necessary approvals are received, the REC can be completed and signed. Then the easement for the property can signed/counter-signed and the fee for the easement can be distributed to the Mendes family after which the construction contract will be awarded. IAGWSP reiterated that due to the discovery of long-eared bats on the site, construction cannot begin until after October 1.

Sampling at the Former B Range will begin next week. In addition, the USACE dig team will return to clear IBC, the road for J-3 extraction well and the Training Areas meandering path. The excavation contractor will start in early October. Additional sampling at the U Range is planned to help delineate recent detections of perchlorate in the soil.

Action Items

The action items were discussed and updated

CIA 100% Grid Presentation

A presentation was provided on the results of the 100% dig validation grid in the Central Impact Area. Amy Walker, Geophysicist with the USACE Huntsville Center, presented the results of the 100% dig grids selected by EPA for ongoing validation in the 16-acrea area and provided an update on the projects current status. The requirements of the Decision Document and the classification goals were reviewed. Charts and graphs showing the results of the two grids were displayed and discussed.

Ms. Walker noted that only two UXO items were missed (one partial 81mm and one very deep 81mm). The project has demonstrated that it is far exceeding the Decision Document requirement for removal of 75-95% net explosive weight and is meeting the classification goal of 70% reduction in clutter digs. However, it was noted that they are just under classification goal of 95% of targets of interest (TOI) which is due to site conditions of very deep TOI and too many pieces of metal in each hole.

The current status and path forward for the project was reviewed. Metal Mapper data collection for 30 acres has been completed and approximately 27 of the 30-acre Phase 1 intrusive is complete (finishing up in Area 9). The Metal Mapper data collection in the 10-acre Phase II Area 1 is ongoing and they are hoping finish by October. During this field season, approximately 16,000 out of the 25,098 Metal Mapper anomalies have been collected. EM-612 data collection in the 10-acre Phase II Area 2 is complete. Metal Mapper collection will restart in late fall/early spring and EPA will select additional grids (1 per 6 acres) for full intrusive investigation for ongoing validation.

JBCC IAGWSP Tech Update Meeting Minutes 24 September 2015

Project and Field Work Update

In the CIA, one item was successfully blown-in-place earlier today. When the final remaining digs are finished today, Phase I will be completed. IAGWSP will submit a letter to EPA noting the date Phase I finished. The team should be able to move right into Phase II. A site visit is scheduled with EPA for Friday morning. There is a team reacquiring targets and there are two Metal Mappers working in Phase II Area 1.

USACE explained that while the REC has finally been completed for the Demo 1 off-site parcel, one of the trustees is reconsidering the offer and the family may not sign the easement. Complicating factors is that the money that has been obligated for the purchase of the easement must be used before 30 September. The family has indicated that they will let USACE Real Estate know their decision by the end of the week. IAGWSP will keep the agencies informed of the progress of discussions with the family.

The REC has been completed for the well locations on Camp Good News property and those locations are ready to be drilled. The drill rig will be returning to the site on October 26th.

Action Items

The action items were discussed and updated

Demolition Area 2 Annual Monitoring Report Presentation

A presentation was provided on the Demolition Area 2 Annual Monitoring Report. It was noted that during the reporting period (July 2014 to June 2015), a revised plume shell was completed and a Decision Document Addendum was prepared. Sampling locations, groundwater monitoring results and trends were reviewed and discussed. RDX was detected in 7 of 18 monitoring wells ranging from 0.22 ppb to 4.3J ppb. Two wells exceeded the 0.6 ppb risk-based level and one exceeded the 2 ppb health advisory. HMX was detected in one well at 0.27 ppb. A figure showing RDX model-predicted vs. measured plume was shown and discussed. IAGWSP will be installing the two monitoring wells that were required as part of the Decision Document Addendum in November. It was noted that EPA and MassDEP comments on the report are pending.

JBCC Cleanup Team Meeting

The JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT) is next scheduled to meet on October 14, 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 September through 30 September 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. 221 for August 2015 9/10/2015
- Draft Demolition Area 2 2015 Annual Environmental Monitoring Report 9/23/2015
- Draft Western Boundary 2015 Annual Environmental Monitoring Report 9/23/2015
- Demolition Area 2 Decision Document Addendum No. 1 9/30/2015
- J-3 Range Decision Document 9/30/2015
- Small Arms Ranges Decision Document 9/30/2015

3. SCHEDULED ACTIONS

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

- CIA Groundwater Treatment Design;
- Demolition Area 1 Environmental and System Performance Monitoring Report;
- Demolition Area 1 Startup Plan;
- Demolition Area 2 2015 Environmental Monitoring Report;
- J-2 Range Project Note for Additional Wells to Evaluate Source Response;
- J-3 Range Decision Document;
- Small Arms Ranges Decision Document;
- 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; and
- Western Boundary Residual Risk Assessment Report.

TABLE 1
Sampling Progress: 1 September to 30 September 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-480M2	MW-480M2_F15	N	09/29/2015	Ground Water	143.6	153.6
J1 Range Southern	MW-402M2	MW-402M2_F15	N	09/29/2015	Ground Water	155.2	165.3
J1 Range Southern	MW-402M1	MW-402M1_F15	N	09/29/2015	Ground Water	190.1	200.1
J1 Range Southern	MW-400M2	MW-400M2_F15	N	09/29/2015	Ground Water	138.9	148.9
J1 Range Southern	MW-400M1	MW-400M1_F15	N	09/29/2015	Ground Water	192.8	202.8
J1 Range Southern	MW-131S	MW-131S_F15	N	09/28/2015	Ground Water	96	106
J1 Range Southern	MW-360M2	MW-360M2_F15	N	09/28/2015	Ground Water	102	112
J1 Range Southern	MW-360M2	MW-360M2_F15D	FD	09/28/2015	Ground Water	102	112
Central Impact Area	MW-89M2	MW-89M2_F15	N	09/28/2015	Ground Water	214	224
Central Impact Area	MW-89M2	MW-89M2_F15D	FD	09/28/2015	Ground Water	214	224
Central Impact Area	MW-23M1	MW-23M1_F15	N	09/28/2015	Ground Water	225	235
Central Impact Area	MW-223M2	MW-223M2_F15	N	09/28/2015	Ground Water	185	195
Central Impact Area	MW-223M1	MW-223M1_F15	N	09/28/2015	Ground Water	211	221
Western Boundary	4036000-04G	4036000-04G_15Q3	N	09/24/2015	Ground Water	55	65
Western Boundary	4036000-03G	4036000-03G_15Q3	N	09/24/2015	Ground Water	50	60
Western Boundary	4036000-06G	4036000-06G_15Q3	N	09/24/2015	Ground Water	108	128
Western Boundary	4036000-01G	4036000-01G_15Q3	N	09/24/2015	Ground Water	38	70
Central Impact Area	MW-123M2	MW-123M2_F15	N	09/22/2015	Ground Water	236	246
Central Impact Area	MW-123M1	MW-123M1_F15	N	09/22/2015	Ground Water	291	301
J2 Range Eastern	J2MW-04M2	J2MW-04M2_F15	N	09/22/2015	Ground Water	210	220
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F15	N	09/22/2015	Ground Water	257	267
Central Impact Area	MW-176M1	MW-176M1_F15	N	09/22/2015	Ground Water	270	280
J2 Range Eastern	MW-368M3	MW-368M3_F15	N	09/17/2015	Ground Water	155.5	165.5
J2 Range Eastern	MW-368M2	MW-368M2_F15	N	09/17/2015	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M2	MW-368M2_F15D	FD	09/17/2015	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M1	MW-368M1_F15	N	09/17/2015	Ground Water	237.4	247.4
J2 Range Eastern	MW-368M1	MW-368M1_F15D	FD	09/17/2015	Ground Water	237.4	247.4
J2 Range Eastern	MW-335M2	MW-335M2_F15	N	09/17/2015	Ground Water	215.3	225.3
J2 Range Eastern	MW-335M1	MW-335M1_F15	N	09/17/2015	Ground Water	255.2	265.2
J2 Range Eastern	MW-339M2	MW-339M2_F15	N	09/16/2015	Ground Water	213	223
J2 Range Eastern	MW-339M1	MW-339M1_F15	N	09/16/2015	Ground Water	233	243
J2 Range Eastern	MW-366M3	MW-366M3_F15	N	09/16/2015	Ground Water	145	155
J2 Range Eastern	MW-366M2	MW-366M2_F15	N	09/16/2015	Ground Water	175	185
J2 Range Eastern	MW-366M1	MW-366M1_F15	N	09/16/2015	Ground Water	215	225
J2 Range Eastern	MW-393M2	MW-393M2_F15	N	09/15/2015	Ground Water	218.2	228.2
J2 Range Eastern	MW-393M1	MW-393M1_F15	N	09/15/2015	Ground Water	268	278
J2 Range Eastern	MW-436M2	MW-436M2_F15	N	09/15/2015	Ground Water	235.5	245.5
J2 Range Eastern	MW-436M1	MW-436M1_F15	N	09/15/2015	Ground Water	295.5	305.5
J2 Range Eastern	MW-399M1	MW-399M1_F15	N	09/15/2015	Ground Water	238.2	248.2
J2 Range Eastern	MW-388M2	MW-388M2_F15	N	09/14/2015	Ground Water	144.8	154.8
J2 Range Eastern	MW-388M1	MW-388M1_F15	N	09/14/2015	Ground Water	175.2	185.2
J2 Range Eastern	MW-321M2	MW-321M2_F15	N	09/14/2015	Ground Water	155.7	165.7
J2 Range Eastern	MW-321M1	MW-321M1_F15	N	09/14/2015	Ground Water	174.6	184.6
J2 Range Eastern	MW-319M2	MW-319M2_F15	N	09/14/2015	Ground Water	165.2	175.2
J2 Range Eastern	MW-319M1	MW-319M1_F15	N	09/14/2015	Ground Water	200.3	210.3
J2 Range Eastern	MW-307M3	MW-307M3_F15	N	09/10/2015	Ground Water	125.8	135.8
J2 Range Eastern	MW-354M2	MW-354M2_F15	N	09/10/2015	Ground Water	234.8	244.8
J2 Range Eastern	MW-354M1	MW-354M1_F15	N	09/10/2015	Ground Water	274.5	284.5
J2 Range Eastern	MW-351M2	MW-351M2_F15	N	09/10/2015	Ground Water	233.7	243.7
J2 Range Eastern	MW-351M1	MW-351M1_F15	N	09/10/2015	Ground Water	278.6	288.6
J2 Range Eastern	MW-170M2	MW-170M2_F15	N	09/09/2015	Ground Water	198	208
J2 Range Eastern	MW-170M1	MW-170M1_F15	N	09/09/2015	Ground Water	265	275
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F15	N	09/09/2015	Ground Water	245	255
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F15D	FD	09/09/2015	Ground Water	245	255
J2 Range Eastern	J2MW-01M1	J2MW-01M1_F15	N	09/09/2015	Ground Water	275	285
J2 Range Eastern	MW-324M1	MW-324M1_F15	N	09/09/2015	Ground Water	234.9	244.9
J2 Range Eastern	MW-324M1	MW-324M1_F15D	FD	09/09/2015	Ground Water	234.9	244.9
J2 Range Eastern	MW-324M2	MW-324M2_F15	N	09/09/2015	Ground Water	203.7	214.7
J2 Range Eastern	MW-310M1	MW-310M1_F15	N	09/08/2015	Ground Water	171.4	181.4
J2 Range Eastern	MW-365M2	MW-365M2_F15	N	09/08/2015	Ground Water	205.5	215.5

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 September to 30 September 2015

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Former B Range	FBR12	MISFBR12-A	N	09/08/2015	Soil	0	0.25
Former B Range	FBR10	MISFBR10-A	N	09/08/2015	Soil	0	0.25
Former B Range	FBR11	MISFBR11-A_R2	FR	09/08/2015	Soil	0	0.25
Former B Range	FBR11	MISFBR11-A_R1	FR	09/08/2015	Soil	0	0.25
Former B Range	FBR11	MISFBR11-A	N	09/08/2015	Soil	0	0.25
J2 Range Eastern	MW-215M2	MW-215M2_F15	N	09/03/2015	Ground Water	205	215
J2 Range Eastern	MW-215M2	MW-215M2_F15D	FD	09/03/2015	Ground Water	205	215
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-114A	N	09/03/2015	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID3A	FPR-2-GAC-MID3A-114A	N	09/03/2015	Process Water	0	0
J2 Range Eastern	MW-215M1	MW-215M1_F15	N	09/03/2015	Ground Water	240	250
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-114A	N	09/03/2015	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-114A	N	09/03/2015	Process Water	0	0
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F15	N	09/03/2015	Ground Water	185	195
Demolition Area 1	PR-EFF	PR-EFF-114A	N	09/03/2015	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-114A	N	09/03/2015	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-114A	N	09/03/2015	Process Water	0	0
J2 Range Eastern	J2MW-05M1	J2MW-05M1_F15	N	09/03/2015	Ground Water	225	235
Demolition Area 1	PR-INF	PR-INF-114A	N	09/03/2015	Process Water	0	0
J2 Range Northern	MW-632M2	MW-632M2_F15	N	09/03/2015	Ground Water	229.5	239.5
Demolition Area 1	D1-EFF	D1-EFF-62A	N	09/03/2015	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-62A	N	09/03/2015	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-62A	N	09/03/2015	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-62A	N	09/03/2015	Process Water	0	0
J2 Range Northern	MW-632M1	MW-632M1_F15	N	09/03/2015	Ground Water	254.5	264.5
J1 Range Southern	J1S-EFF	J1S-EFF-94A	N	09/02/2015	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-94A	N	09/02/2015	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-94A	N	09/02/2015	Process Water	0	0
J3 Range	J3-EFF	J3-EFF-108A	N	09/02/2015	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-108A	N	09/02/2015	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-108A	N	09/02/2015	Process Water	0	0
J3 Range	J3-INF	J3-INF-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-108A	N	09/02/2015	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-108A	N	09/02/2015	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-23A	N	09/02/2015	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-23A	N	09/02/2015	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-23A	N	09/02/2015	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-23A	N	09/02/2015	Process Water	0	0
J2 Range Northern	MW-318M2	MW-318M2_F15	N	09/01/2015	Ground Water	205.8	215.8
Central Impact Area	CIA2-EFF	CIA2-EFF-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-20A	N	09/01/2015	Process Water	0	0
J2 Range Northern	MW-318M1	MW-318M1_F15	N	09/01/2015	Ground Water	305.8	315.8
Central Impact Area	CIA2-MID1	CIA2-MID1-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-20A	N	09/01/2015	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-20A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-84A	N	09/01/2015	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 September to 30 September 2015

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-84A	N	09/01/2015	Process Water	0	0
J2 Range Northern	MW-630M1	MW-630M1_F15	N	09/01/2015	Ground Water	217	227
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-84A	N	09/01/2015	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-84A	N	09/01/2015	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received September 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-586M2	MW-586M2_F15	211	221	08/25/2015	SW6850	Perchlorate	0.67		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-586M1	MW-586M1_F15	237	247	08/25/2015	SW6850	Perchlorate	1.0		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-635M1	MW-635M1_F15	265.4	275.4	08/25/2015	SW6850	Perchlorate	0.17	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-348M2	MW-348M2_F15	206.5	216.5	08/25/2015	SW6850	Perchlorate	0.14	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-621M2	MW-621M2_F15	219.4	229.4	08/25/2015	SW6850	Perchlorate	3.2		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-621M1	MW-621M1_F15	249.4	259.4	08/25/2015	SW6850	Perchlorate	0.041	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-293M2	MW-293M2_F15	196.4	206.4	08/24/2015	SW6850	Perchlorate	0.21		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-588M2	MW-588M2_F15	198	208	08/24/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26		UG/L	0.60		0.025	0.20
J2 Range Northern	MW-588M2	MW-588M2_F15	198	208	08/24/2015	SW6850	Perchlorate	13.7		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-588M2	MW-588M2_F15D	198	208	08/24/2015	SW6850	Perchlorate	13.4		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-631M2	MW-631M2_F15	200.1	210.1	08/24/2015	SW6850	Perchlorate	0.22		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-631M1	MW-631M1_F15	233.1	243.1	08/24/2015	SW6850	Perchlorate	0.47		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-589M2	MW-589M2_F15	211	221	08/20/2015	SW6850	Perchlorate	10.1		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-589M2	MW-589M2_F15D	211	221	08/20/2015	SW6850	Perchlorate	10.1		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-589M1	MW-589M1_F15	240	250	08/20/2015	SW6850	Perchlorate	0.020	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-622M2	MW-622M2_F15	220.4	230.4	08/17/2015	SW6850	Perchlorate	0.65		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-622M1	MW-622M1_F15	245.4	255.4	08/17/2015	SW6850	Perchlorate	3.2		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-587M2	MW-587M2_F15	220	230	08/17/2015	SW6850	Perchlorate	15.0		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-587M2	MW-587M2_F15D	220	230	08/17/2015	SW6850	Perchlorate	15.4		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-587M1	MW-587M1_F15	250	260	08/17/2015	SW6850	Perchlorate	1.2		UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW2-MW3-B	J2EW2-MW3-B_F15	212.7	222.7	08/17/2015	SW6850	Perchlorate	3.1		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-640M2	MW-640M2_F15	216	226	08/10/2015	SW6850	Perchlorate	1.2		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-640M1	MW-640M1_F15	246	256	08/10/2015	SW6850	Perchlorate	0.44		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-296M1	MW-296M1_F15	255.1	265.1	08/10/2015	SW6850	Perchlorate	1.9		UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW2-MW2-B	J2EW2-MW2-B_F15	209.8	219.8	08/10/2015	SW6850	Perchlorate	0.050	J	UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW2-MW2-C	J2EW2-MW2-C_F15	243.8	253.8	08/10/2015	SW6850	Perchlorate	0.061	J	UG/L	2.0		0.015	0.20
J2 Range Northern	MW-300M2	MW-300M2_F15	197.2	207.2	08/06/2015	SW6850	Perchlorate	0.34		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-289M2	MW-289M2_F15	162	172	08/06/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		UG/L	0.60	X	0.025	0.20
J2 Range Northern	MW-289M2	MW-289M2_F15	162	172	08/06/2015	SW6850	Perchlorate	1.7		UG/L	2.0		0.015	0.20
J2 Range Northern	MW-289M2	MW-289M2_F15	162	172	08/06/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.0		UG/L	400		0.019	0.20
J2 Range Northern	MW-289M2	MW-289M2_F15D	162	172	08/06/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		UG/L	0.60	X	0.025	0.20
J2 Range Northern	MW-289M2	MW-289M2_F15D	162	172	08/06/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.0		UG/L	400		0.019	0.20
J2 Range Northern	MW-289M1	MW-289M1_F15	305	315	08/06/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.30		UG/L	400		0.019	0.20
J2 Range Northern	MW-289M1	MW-289M1_F15	305	315	08/06/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.33		UG/L	0.60		0.025	0.20
J2 Range Northern	MW-289M1	MW-289M1_F15	305	315	08/06/2015	SW6850	Perchlorate	0.35		UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW1-MW1-B	J2EW1-MW1-B_F15	205.8	215.8	08/06/2015	SW6850	Perchlorate	0.33		UG/L	2.0		0.015	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_F15	240.8	250.8	08/06/2015	SW6850	Perchlorate	2.6		UG/L	2.0	X	0.015	0.20
J2 Range Northern	MW-619M1	MW-619M1_F15	255.1	265.1	08/05/2015	SW6850	Perchlorate	0.55		UG/L	2.0		0.030	0.40
J3 Range	90PZ0211	90PZ0211_F15	80	110	07/30/2015	SW6850	Perchlorate	0.092	J	UG/L	2.0		0.015	0.20
J3 Range	MW-576M3	MW-576M3_F15	98.9	108.9	07/30/2015	SW6850	Perchlorate	0.86		UG/L	2.0		0.015	0.20
J3 Range	MW-576M2	MW-576M2_F15	133.9	143.9	07/30/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.87		UG/L	0.60	X	0.025	0.20
J3 Range	MW-576M2	MW-576M2_F15	133.9	143.9	07/30/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.92		UG/L	400		0.019	0.20
J3 Range	MW-576M2	MW-576M2_F15	133.9	143.9	07/30/2015	SW6850	Perchlorate	19.9		UG/L	2.0	X	0.030	0.40

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 September 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
J3 Range	MW-576M2	MW-576M2_F15D	133.9	143.9	07/30/2015	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.86		UG/L	0.60	X	0.025	0.20
J3 Range	MW-576M2	MW-576M2_F15D	133.9	143.9	07/30/2015	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.93		UG/L	400		0.019	0.20
J3 Range	MW-576M2	MW-576M2_F15D	133.9	143.9	07/30/2015	SW6850	Perchlorate	20.2		UG/L	2.0	X	0.030	0.40
J3 Range	MW-576M1	MW-576M1_F15	173.9	183.9	07/30/2015	SW6850	Perchlorate	6.6		UG/L	2.0	X	0.015	0.20

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

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