MONTHLY PROGRESS REPORT #247
FOR OCTOBER 2017

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 2017.

1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of October 2017.

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, Base Boundary, and the Leading Edge 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 continues to operate at a flow rate of 175 gpm, with over 2.509 billion gallons of water treated and re-injected as of 27 October 2017. The following Frank Perkins Road facility shut downs occurred in October:

- EW-658 (only) tripped at 0410 on 30 October 2017; alarm was “VFD Fault” due to a power outage. EW-658 was restarted at 0735 on 30 October 2017

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 103 gpm with over 544.2 million gallons of water treated and re-injected as of 27 October 2017. The following Pew Road MTU shut downs occurred in October:

- Tripped at 0321 on 30 October 2017; alarm was “VFD Fault” due to a power outage. MTU was restarted at 0800 on 30 October 2017; and
- Tripped at 1320 on 30 October 2017; alarm was “VFD Fault” due to another power outage. MTU was restarted at 1447 on 30 October 2017.

The Base Boundary MTU is operating at a flow rate of 65 gpm with over 179.0 million gallons of water treated and re-injected as of 27 October 2017. The following Base Boundary MTU shut downs occurred in October:

- Turned off at 1340 on 26 October 2017 to change bag filters and was restarted at 1400 on 26 October 2017.

The Leading Edge system continues to operate at a flow rate of 100 gpm with over 75.3 million gallons of water treated and re-injected as of 27 October 2017. The following Leading Edge system shut downs occurred in October:

- Shut down at 1139 on 6 September 2017 due to thunderstorms and was restarted at 1201 on 6 September 2017;
- Shut down at 1635 on 16 October 2017; alarm was "Phase/Voltage Fault" due to a power interruption. The system was restarted at 0855 on 17 October 2017; and
- Shut down at 0322 on 30 October 2017; alarm was "Phase/Voltage Fault" due to a power outage. The System was restarted at 0910 on 30 October 2017.

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 27 October 2017, over 443.1 million gallons of water have been treated and re-injected. The following J-1 Range Southern system shut downs occurred in October:

- Shut down at 2202 on 29 October 2017 due to a power outage; BETCO was onsite on 3 November 2017 to replace fuses on two separate poles that had been knocked out during the storm and the system was restarted at 0935 on 3 November 2017.

Northern Plant

The J-1 Range Northern Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The ETR system includes two extraction wells, ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater, and an infiltration trench to return treated water to the aquifer.

The Northern MTU continues to operate at a total system flow rate of 250 gpm. As of 27 October 2017, over 501.4 million gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shut downs occurred in October:

- Tripped at 1055 on 2 October 2017 due to a power surge and was restarted at 1020 on 3 October 2017.

J-3 Range Groundwater RA

The J-3 Range Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The ETR system includes four 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 is currently operating at a flow rate of 225 gpm while 90EW0001 is offline awaiting repair. As of 27 October 2017, over 1.059 billion gallons of water have been treated and re-injected. The following J-3 Range system shut downs occurred in October:

- The system was turned off at 1300 on 19 September 2017 due to a communications issue with J3EWIP1; BETCO was onsite on 5 October 2017 and communications with J3EWIP1 was restored. J3EWIP1 was restarted at 1505 on 5 October 2017; and
- The System tripped at 0221 on 30 October 2017 due to a power outage. J3EW0032 and J3EWIP2 were restarted at 1420 on 1 November 2017 when power was restored; J3EWIP1 will not start, alarm is "VFD Fault" "Precharge Error" and alarm will not clear. As of 30 October, the system is running at 125 gpm with J3EW0032 and J3EWIP2 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 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 27 October 2017, over 936.5 million gallons of water have been treated and re-injected. The following Northern Treatment Building shut downs occurred in October:

- Turned off at 1155 on 2 October 2017 to prevent damage from a power surge and was restarted at 0928 on 3 October 2017; and
- Shut down at 1632 on 16 October 2017; alarm was "VFD Fault" due to a power interruption. Plant was restarted at 0820 on 17 October 2017.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 27 October 2017, over 1.386 billion gallons of water have been treated and re-injected. The following J-2 Range Northern MTU shut down occurred in October:

- MTU F tripped at 1055 on 2 October 2017 due to a power surge; when power was restored communication with the program was not regained. BETCO was onsite on 4 October 2017 to address the communication issue, which was determined to be that the program had been lost during the power outage. The program was reinstalled and the system was restarted at 0941 on 4 October 2017;
- MTU E tripped at 1055 on 2 October 2017 due to a power surge; when power was restored communication with the program was not regained. BETCO was onsite on 4 October 2017 to address the communication issue, which was determined to be that the program had been lost during the power outage. The program was reinstalled and the system was restarted at 1020 on 4 October 2017;
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- MTU F tripped at 1641 on 16 October 2017; alarm was "VFD Fault" due to a power interruption. Plant was restarted at 0832 on 17 October 2017; and

- MTU E tripped at 1641 on 16 October 2017; alarm was “VFD Fault” due to a power interruption. MTU was restarted at 0839 on 17 October 2017.

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 October 2017, over 1.004 billion gallons of water have been treated and re-injected. The following MTU H and I shut downs occurred in October:

- MTUs H and I tripped at 2226 on 29 October 2017 due to a power outage; BETCO was onsite on 3 November 2017 to replace fuses on two separate poles that had been knocked out during the storm as well as to replace two motor starters that had been damaged during the outage. The MTUs were restarted at 1025 on 3 November 2017; and
- MTUs H & I were turned off at 1230 on 24 October 2017 to repair a leaking hose on MTU I GAC vessel and were restarted at 1326 on 24 October 2017.

MTU J continues to operate at a flow rate of 120 gpm. As of 27 October 2017, over 465.3 million gallons of water have been treated and re-injected. The following shut downs of MTU J occurred in October:

- MTU J shut down at 2209 on 29 October 2017 due to a power outage; BETCO was onsite on 3 November 2017 to replace fuses on two separate poles that had been knocked out during the storm as well as to replace one motor starter that had been damaged during the outage. MTU J was restarted at 1004 on 3 November 2017.

MTU K continues to operate at a flow rate of 125 gpm. As of 27 October 2017, over 577.0 million gallons of water have been treated and re-injected. The following shut downs of MTU K occurred in October:

- MTU K shut down at 2359 on 29 October 2017 due to a power outage; BETCO was onsite on 3 November 2017 to replace fuses on two separate poles that had been knocked out during the storm as well as to replace two motor starters that had been damaged during the outage. MTU K was restarted at 1044 on 3 November 2017.

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: three 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 three infiltration galleries to return treated water to the aquifer. The CIA systems 1, 2, and 3 continue to run at a combined total flow rate of 750 gpm. As of 27 October 2017, over 1.124 billion gallons of

water have been treated and re-injected. The following CIA treatment facility shut downs occurred in October:

- System 3 tripped at 0843 on 30 September 2017; alarm was “Low Flow.” Plant was restarted at 0750 on 3 October 2017;
- System 2 was turned off at 0930 on 10 October 2017 to drain GAC Vessels #2, #3, #5 and #6 for carbon changeout on 12 October 2017 and was restarted at 0731 on 13 October 2017;
- System 1 tripped at 0411 on 30 October 2017; alarm was “Motor Faulted” due to a power outage. System 1 was restarted at 1025 on 30 October 2017;
- System 2 tripped at 0356 on 30 October 2017; alarm was “Motor Faulted” due to a power outage. System 2 was restarted at 1005 on 30 October 2017;
- System 3 tripped at 0207 on 30 October 2017; alarm was “Phase/Voltage Fault” due to a power outage. System 2 was restarted at 0734 on 31 October 2017;
- System 1 was turned off at 0800 on 31 October to drain GAC vessels #2 and #5 for carbon exchange on 1 November 2017 and was restarted at 0745 on 2 November 2017;
- System 2 was turned off at 1110 on 31 October 2017 to allow injection gallery to dry for injection well installation and will be restarted when installation is complete; and
- System 3 shut down at 1635 on 16 October 2017; alarm was “Phase/Voltage Fault” due to a power interruption. Plant was restarted on 0737 on 17 October 2017.

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, Leading Edge, 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 at CIA, Demolition Area 1, J-1 Range Southern, J-2 Range Eastern and Northwest Corner.

Completed excavation of 9th lift at one C Range grid and 3rd lift at one D Range grid.

Transported and disposed of IDW from H Range.

Completed drilling, installation and development of IW-660 (CIA-2 Injection Well) and installed pitless adapter.

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

JBCC IAGWSP Tech Update Meeting Minutes 26 October 2017

Project and Fieldwork Update

The CIA reinjection well is in and developed and the pitless adaptor has been ordered. There is no date yet for the remaining construction tasks but it is anticipated it should be in a few days. The J-3 system extraction well EW0032 is still down because it needs a new VFD, however the model of the VFD is obsolete and has

been discontinued. A compatible one has been ordered but has not been delivered yet. Dawson has been working on firebreaks. They cut a 40' firebreak from Wood Road on Greenway to Barlow Road on the south side of Wood Road (adjacent to the MMRP work being conducted by AFCEC at the Old K Range), L4 and L5 which are essentially laterals that go off into the area south of Wood Road, and a 20' firebreak at Barlow Road from Wood Road north past Jefferson Road. The crew is currently cutting 5 acres north of Chadwick Road downrange of the KD Range. They will also be moving the APC at the end of the KD Range. Another 2 acres of firebreaks were cut in Former E next to the Demolition Area 1 bowl connecting through to Turpentine Road. UXO surface clearance of all the firebreak areas is also being performed.

In the Small Arms Ranges, crews are in the process of excavating at three of the ranges that still require additional lifts; there are four lifts in total. Earlier in the week Dawson finished one grid at D Range and one at C Range. Two grids at the Former B Range will be done next however crews have been delayed because of the rain and may not continue until next week. MassDEP reminded the group that the small access path cut between D and C Ranges needs to be restored as it is filling with water and turning into a wetland. IAGWSP noted that they have begun moving some soil and will fill it back in when they get a front-end loader on-site.

Action Items

The action items were discussed and updated.

Demolition Area 1 Annual Environmental Monitoring Report – Presentation

A presentation was provided on the Demolition Area 1 Environmental Monitoring Report. During the reporting period (June 2016 through June 2017) the off-base extraction, treatment and reinjection system was brought on-line and additional optimization of the Frank Perkins Road ETR system was completed with the installation near-source extraction well which began operation In July of 2016. It was noted that due to a trend of rising perchlorate concentrations at deep well MW- 341M2, samples were collected from downgradient out of network locations which resulted in IAGWSP installing four profile borings BH-661 (Pew Road) and BH-662 through BH-664 in the eastern portion of Zone 3 to determine the extent of this deep contamination. The maximum perchlorate (10.4 ppb) and RDX (1.89 ppb) was detected in BH-663. IAGWSP installed MW- 661D, MW-662D, MW-663D and MW-664M1/M2. A figure was shown highlighting these locations.

Treatment system performance, sampling locations, groundwater monitoring results, and trends were reviewed and discussed. For Zone 1 (source to Frank Perkins Road), the maximum RDX concentration was 3.33 ppb (MW-31S) and the maximum perchlorate concentration was 0.3 ppb (D1-EW-501). For Zone 2 (Frank Perkins Road to Pew Road), the maximum RDX concentration was 1.17 ppb (MW-341M2) and the maximum perchlorate concentration was 4.4 ppb (MW- 341M2). For Zone 3 (Pew Road to Base Boundary), the maximum RDX concentration was 1.61 ppb (MW-258M1) and the maximum perchlorate concentration was 19.3 ppb (MW-663D). For Zone 4 (off-base), the maximum RDX concentration was 0.25 ppb (MW-556M1) and the maximum perchlorate concentration was 4.07 ppb (MW-582M1).

Results of hydraulic monitoring and a capture zone analysis were discussed. For the aquifer hydraulic monitoring, one site-wide synoptic water level round was conducted during the reporting period. System startup efforts were reported separately. For the capture zone analysis, the capture zones were developed manually and indicate that the existing systems are adequately capturing the plumes. It was noted that in Zones 1 & 2, perchlorate concentrations of 4.4 ppb in December 2016 and 3.29 ppb in May 2017 in MW-341M2 and 13.2 ppb and 19.3 ppb in MW-663D in December 2016 and May 2017, respectively are below a defined clay layer and outside of the vertical capture zone of D1-EW-2. In addition, it appears that portion

of plume at MW-663D is within the base boundary extraction well D1-EW-3. It was noted that portions of the perchlorate plume west of D1-EW-5 is predicted to attenuate/discharge to Buzzards Bay.

Measured vs. model predicted mass removal statistics were reviewed and discussed. The total perchlorate measured in all systems was 0.64 pounds. The total simulated in all systems was 0.48 pounds. The maximum system removal measured at Pew Rd was 0.34 pounds; simulated was 0.17 pounds. The total RDX measured in all systems was 0.38 pounds. The total simulated in all systems was 0.31 pounds. The maximum system removal measured at FPR was 0.251 pounds; simulated was 0.277 pounds.

Decision Document (DD) cleanup timelines were discussed. The DD estimated perchlorate would clean up in 2025; this was based on the 2013 technical memorandum. Current cleanup predictions indicate zones 3 and 4 are expected to clean up by 2031.5 and 2032 respectively. The DD estimates RDX will clean up by 2022. Current predictions indicate cleanup in zone 1 in 2026 and zone 3 in 2025.

IAGWSP is recommending that no change be made to the system flow rates and no changes be made to the hydraulic monitoring network. IAGWSP recommends adding annual monitoring for explosives at XX9514 in Zone 3 and reducing chemical monitoring frequency for six wells (MW-554M1/M2, MW-556M1, MW-558M1, MW-559M1, and MW-659M2) from semi-annual to annual in Zone 4 for perchlorate and explosives. Also a project note describing the need for deeper monitoring well screens at locations MW-248, MW-252 and MW-533/531, to determine if perchlorate/RDX may extend beneath the existing well screens, is recommended. Agency comments on the annual report are pending.

JBCC Cleanup Team Meeting

The next meeting of the JBCC Cleanup Team (JBCCCT), formerly the MMR Cleanup Team (MMRCT) has not been scheduled. 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 to 31 October 2017. 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. 246 for September 2017 10/10/2017
- Draft Demolition Area 1 2017 Annual Environmental Monitoring Report 10/19/2017
- Draft Northwest Corner 2017 Annual Environmental Monitoring Report 10/19/2017
- Final J-1 Range Northern and J-1 Range Southern 2017 Annual Environmental Monitoring Report 10/30/2017
- Draft Central Impact Area 2017 Annual Environmental Monitoring Report 10/31/2017
- 2016 BIP and Cracked Open Items Summary Report 10/31/2017

3. SCHEDULED ACTIONS

The following documents are being prepared or revised during November 2017:

- Training Areas Draft Investigation Report;
- Training Areas Remedy Selection Plan;
- 2016 CIA Source Removal Annual Report;
- J-3 Range Confirmatory Geophysical and Soil Investigation Technical Memorandum;
- J-1 Range Southern Drive Point and Water Table Well Locations Project Note;
- Five Year Review Report;
- Demolition Area 1 2017 Annual Environmental Monitoring Report;
- Demolition Area 2 2017 Annual Environmental Monitoring Report;
- Northwest Corner 2017 Annual Environmental Monitoring Report; and
- J-3 Range 2017 Annual Environmental Monitoring Report.

TABLE 1

Sampling Progress: 1 October to 31 October 2017

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Demolition Area 1	MW-661D	MW-661D_R3	N	10/30/2017	Ground Water	251.6	261.6
Demolition Area 1	MW-662D	MW-662D_R3	N	10/30/2017	Ground Water	202.3	212.3
Demolition Area 1	MW-663D	MW-663D_R3	N	10/30/2017	Ground Water	240.6	250.6
Demolition Area 1	MW-664M2	MW-664M2_R3	N	10/30/2017	Ground Water	218.5	228.5
Demolition Area 1	MW-664M1	MW-664M1_R3	N	10/30/2017	Ground Water	248.5	258.5
J1 Range Southern	MW-398M2	MW-398M2_F17	N	10/24/2017	Ground Water	131.53	141.53
J1 Range Southern	MW-398M1	MW-398M1_F17	N	10/24/2017	Ground Water	172.15	182.15
J1 Range Southern	MW-483M1	MW-483M1_F17	N	10/24/2017	Ground Water	139.52	149.52
J1 Range Southern	MW-528M1	MW-528M1_F17	N	10/23/2017	Ground Water	117	127
J1 Range Southern	MW-522M2	MW-522M2_F17	N	10/23/2017	Ground Water	165	175
J1 Range Southern	MW-522M1	MW-522M1_F17	N	10/23/2017	Ground Water	198	208
J1 Range Southern	MW-521M1	MW-521M1_F17	N	10/23/2017	Ground Water	158	168
J1 Range Southern	MW-523M1	MW-523M1_F17	N	10/19/2017	Ground Water	158	168
J1 Range Southern	MW-526M1	MW-526M1_F17	N	10/19/2017	Ground Water	164	174
J1 Range Southern	MW-527M1	MW-527M1_F17	N	10/19/2017	Ground Water	165	175
J1 Range Southern	MW-480M2	MW-480M2_F17	N	10/19/2017	Ground Water	143.57	153.57
J1 Range Southern	MW-524M1	MW-524M1_F17	N	10/19/2017	Ground Water	148	158
J1 Range Southern	MW-524M1	MW-524M1_F17D	FD	10/19/2017	Ground Water	148	158
J1 Range Southern	DP-389	DP-389_F17	N	10/18/2017	Ground Water	157.7	162.7
J1 Range Southern	MW-488M1	MW-488M1_F17	N	10/18/2017	Ground Water	149.62	159.62
J1 Range Southern	MW-488PZ	MW-488PZ_F17	N	10/17/2017	Ground Water	119.28	129.28
J1 Range Southern	DP-379	DP-379_F17	N	10/17/2017	Ground Water	184.3	189.3
Central Impact Area	MW-686M2	MW-686M2_F17	N	10/16/2017	Ground Water	194.3	204.3
Central Impact Area	MW-686M1	MW-686M1_F17	N	10/16/2017	Ground Water	243.2	253.2
Central Impact Area	MW-687M2	MW-687M2_F17	N	10/16/2017	Ground Water	188	198
Central Impact Area	MW-687M1	MW-687M1_F17	N	10/16/2017	Ground Water	232.6	242.6
J2 Range Eastern	MW-122S	MW-122S_F17	N	10/12/2017	Ground Water	88	98
Central Impact Area	MW-616M1	MW-616M1_F17	N	10/12/2017	Ground Water	217.1	227.1
Central Impact Area	MW-617M1	MW-617M1_F17	N	10/12/2017	Ground Water	175.8	185.8
Central Impact Area	MW-624M2	MW-624M2_F17	N	10/12/2017	Ground Water	254	264
Central Impact Area	MW-624M1	MW-624M1_F17	N	10/12/2017	Ground Water	284	294
Central Impact Area	MW-623M3	MW-623M3_F17	N	10/11/2017	Ground Water	275	285
Central Impact Area	MW-623M3	MW-623M3_F17D	FD	10/11/2017	Ground Water	275	285
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-109A	N	10/11/2017	Process Water	0	0
Central Impact Area	MW-623M2	MW-623M2_F17	N	10/11/2017	Ground Water	291.8	301.8
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-109A	N	10/11/2017	Process Water	0	0
Central Impact Area	MW-623M1	MW-623M1_F17	N	10/11/2017	Ground Water	340	350
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-109A	N	10/11/2017	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-109A	N	10/11/2017	Process Water	0	0
Northwest Corner	MW-441M2	MW-441M2_F17	N	10/10/2017	Ground Water	109.5	119.5
Central Impact Area	MW-625M2	MW-625M2_F17	N	10/10/2017	Ground Water	230	240
Central Impact Area	MW-625M1	MW-625M1_F17	N	10/10/2017	Ground Water	260	270
J2 Range Eastern	MW-339M2	MW-339M2_F17	N	10/10/2017	Ground Water	213	223
J2 Range Eastern	MW-339M1	MW-339M1_F17	N	10/10/2017	Ground Water	233	243
J2 Range Eastern	MW-170M2	MW-170M2_F17	N	10/09/2017	Ground Water	198	208
J2 Range Eastern	MW-170M1	MW-170M1_F17	N	10/09/2017	Ground Water	265	275
J2 Range Eastern	MW-335M2	MW-335M2_F17	N	10/09/2017	Ground Water	215.3	225.3
J1 Range Southern	J1S-EFF	J1S-EFF-119A	N	10/09/2017	Process Water	0	0
J1 Range Southern	J1S-MID-2	J1S-MID-2-119A	N	10/09/2017	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

J1 Range Southern	J1S-INF-2	J1S-INF-2-119A	N	10/09/2017	Process Water	0	0
J2 Range Eastern	MW-335M1	MW-335M1_F17	N	10/09/2017	Ground Water	255.2	265.2
J3 Range	J3-EFF	J3-EFF-133A	N	10/09/2017	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-133A	N	10/09/2017	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-133A	N	10/09/2017	Process Water	0	0
J3 Range	J3-INF	J3-INF-133A	N	10/09/2017	Process Water	0	0
Demolition Area 1	PR-EFF	PR-EFF-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	PR-MID-1	PR-MID-1-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-139A	N	10/09/2017	Process Water	0	0
J2 Range Eastern	MW-324M2	MW-324M2_F17	N	10/09/2017	Ground Water	203.7	214.7
J2 Range Eastern	MW-324M2	MW-324M2_F17D	FD	10/09/2017	Ground Water	203.7	214.7
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-139A	N	10/09/2017	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-139A	N	10/09/2017	Process Water	0	0
J2 Range Eastern	MW-324M1	MW-324M1_F17	N	10/09/2017	Ground Water	234.9	244.9
Demolition Area 1	D1-EFF	D1-EFF-87A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-87A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-87A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-87A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1LE-EFF	D1LE-EFF-15A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-15A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-15A	N	10/09/2017	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-15A	N	10/09/2017	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-133A	N	10/05/2017	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-133A	N	10/05/2017	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-133A	N	10/05/2017	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-133A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA2-EFF	CIA2-EFF-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-45A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA3-EFF	CIA3-EFF-16A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-16A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-16A	N	10/05/2017	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-16A	N	10/05/2017	Process Water	0	0
J2 Range Eastern	MW-393M2	MW-393M2_F17	N	10/04/2017	Ground Water	218.2	228.2
J2 Range Eastern	MW-393M1	MW-393M1_F17	N	10/04/2017	Ground Water	268	278
J2 Range Eastern	MW-351M2	MW-351M2_F17	N	10/04/2017	Ground Water	233.7	243.7
J2 Range Eastern	MW-351M1	MW-351M1_F17	N	10/04/2017	Ground Water	278.6	288.6
J2 Range Eastern	MW-321M2	MW-321M2_F17	N	10/04/2017	Ground Water	155.7	165.7
J2 Range Eastern	MW-321M1	MW-321M1_F17	N	10/04/2017	Ground Water	174.6	184.6
J2 Range Eastern	MW-366M3	MW-366M3_F17	N	10/03/2017	Ground Water	145	155
J2 Range Eastern	MW-366M2	MW-366M2_F17	N	10/03/2017	Ground Water	175	185
J2 Range Eastern	MW-366M1	MW-366M1_F17	N	10/03/2017	Ground Water	215	225
J2 Range Eastern	MW-666M3	MW-666M3_F17	N	10/03/2017	Ground Water	199.8	209.8
J2 Range Eastern	MW-666M2	MW-666M2_F17	N	10/03/2017	Ground Water	219.8	229.8
J2 Range Eastern	MW-666M1	MW-666M1_F17	N	10/03/2017	Ground Water	244.8	254.8
J2 Range Eastern	MW-368M3	MW-368M3_F17	N	10/02/2017	Ground Water	155.5	165.5
J2 Range Eastern	MW-368M2	MW-368M2_F17	N	10/02/2017	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M2	MW-368M2_F17D	FD	10/02/2017	Ground Water	202.7	212.7
J2 Range Eastern	MW-368M1	MW-368M1_F17	N	10/02/2017	Ground Water	237.4	247.4
J2 Range Eastern	MW-368M1	MW-368M1_F17D	FD	10/02/2017	Ground Water	237.4	247.4
J2 Range Eastern	MW-665M3	MW-665M3_F17	N	10/02/2017	Ground Water	175.2	185.2
J2 Range Eastern	MW-665M2	MW-665M2_F17	N	10/02/2017	Ground Water	205.2	215.2
J2 Range Eastern	MW-665M2	MW-665M2_F17D	FD	10/02/2017	Ground Water	205.2	215.2
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-133A	N	10/02/2017	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-133A	N	10/02/2017	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-133A	N	10/02/2017	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

J2 Range Northern	J2N-INF-EF	J2N-INF-EF-133A	N	10/02/2017	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-133A	N	10/02/2017	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-133A	N	10/02/2017	Process Water	0	0
J2 Range Eastern	MW-665M1	MW-665M1_F17	N	10/02/2017	Ground Water	225.2	235.2
J1 Range Northern	J1N-EFF	J1N-EFF-48A	N	10/02/2017	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-48A	N	10/02/2017	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-48A	N	10/02/2017	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-48A	N	10/02/2017	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received October 2017

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	J2EW2-MW2-B	J2EW2-MW2-B_F17	209.8	219.8	09/26/2017	SW6850	Perchlorate	0.084	J	ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW2-MW2-C	J2EW2-MW2-C_F17	243.8	253.8	09/26/2017	SW6850	Perchlorate	0.053	J	ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW1-MW1-B	J2EW1-MW1-B_F17	205.8	215.8	09/26/2017	SW6850	Perchlorate	0.25		ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_F17	240.8	250.8	09/26/2017	SW6850	Perchlorate	0.90		ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW3-MW-2-B	J2EW3-MW-2-B_F17	216.2	226.2	09/26/2017	SW6850	Perchlorate	0.041	J	ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW3-MW-2-C	J2EW3-MW-2-C_F17	251.1	261.1	09/25/2017	SW6850	Perchlorate	0.18	J	ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW3-MW1-C	J2EW3-MW1-C_F17	245.7	255.7	09/25/2017	SW6850	Perchlorate	4.8		ug/L	2.0	X	0.019	0.20
J2 Range Eastern	MW-365M2	MW-365M2_F17	205.5	215.5	09/14/2017	SW6850	Perchlorate	0.045	J	ug/L	2.0		0.019	0.20
J2 Range Eastern	MW-399M1	MW-399M1_F17	238.2	248.2	09/14/2017	SW6850	Perchlorate	0.040	J	ug/L	2.0		0.019	0.20
J2 Range Eastern	MW-388M2	MW-388M2_F17	144.8	154.8	09/14/2017	SW6850	Perchlorate	0.10	J	ug/L	2.0		0.019	0.20
J2 Range Eastern	MW-388M1	MW-388M1_F17	175.2	185.2	09/14/2017	SW6850	Perchlorate	0.033	J	ug/L	2.0		0.019	0.20
J2 Range Eastern	MW-436M1	MW-436M1_F17	295.5	305.5	09/14/2017	SW6850	Perchlorate	0.062	J	ug/L	2.0		0.019	0.20
J2 Range Eastern	MW-668M1	MW-668M1_F17	168.7	178.7	09/12/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.36		ug/L	0.60		0.025	0.20
J2 Range Eastern	MW-668M1	MW-668M1_F17	168.7	178.7	09/12/2017	SW6850	Perchlorate	13.0		ug/L	2.0	X	0.019	0.20
J2 Range Eastern	MW-668M1	MW-668M1_F17D	168.7	178.7	09/12/2017	SW6850	Perchlorate	13.0		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-634M3	MW-634M3_F17	170.6	180.6	09/11/2017	SW6850	Perchlorate	0.44		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-634M2	MW-634M2_F17	200.6	210.6	09/11/2017	SW6850	Perchlorate	1.5		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-634M1	MW-634M1_F17	305.6	315.6	09/11/2017	SW6850	Perchlorate	0.41		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-640M2	MW-640M2_F17	216	226	09/07/2017	SW6850	Perchlorate	0.54		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-640M1	MW-640M1_F17	246	256	09/07/2017	SW6850	Perchlorate	2.7		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-632M2	MW-632M2_F17	229.5	239.5	09/07/2017	SW6850	Perchlorate	0.035	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-632M1	MW-632M1_F17	254.5	264.5	09/07/2017	SW6850	Perchlorate	0.23		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-318M2	MW-318M2_F17	205.8	215.8	09/07/2017	SW6850	Perchlorate	0.025	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-318M1	MW-318M1_F17	305.8	315.8	09/07/2017	SW6850	Perchlorate	0.052	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-622M2	MW-622M2_F17	220.4	230.4	09/06/2017	SW6850	Perchlorate	2.5		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-622M1	MW-622M1_F17	245.4	255.4	09/06/2017	SW6850	Perchlorate	0.26		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-585M3	MW-585M3_F17	198.5	208.5	09/06/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.1		ug/L	0.60	X	0.025	0.20
J2 Range Northern	MW-585M3	MW-585M3_F17	198.5	208.5	09/06/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.2		ug/L	400		0.019	0.20
J2 Range Northern	MW-585M3	MW-585M3_F17	198.5	208.5	09/06/2017	SW6850	Perchlorate	3.0		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-585M3	MW-585M3_F17D	198.5	208.5	09/06/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.1		ug/L	0.60	X	0.025	0.20
J2 Range Northern	MW-585M3	MW-585M3_F17D	198.5	208.5	09/06/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.1		ug/L	400		0.019	0.20
J2 Range Northern	MW-585M2	MW-585M2_F17	218.5	228.5	09/06/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.35		ug/L	0.60		0.025	0.20
J2 Range Northern	MW-585M2	MW-585M2_F17	218.5	228.5	09/06/2017	SW6850	Perchlorate	8.5		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-585M2	MW-585M2_F17D	218.5	228.5	09/06/2017	SW6850	Perchlorate	8.1		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-585M1	MW-585M1_F17	240	250	09/06/2017	SW6850	Perchlorate	1.3		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-585M1	MW-585M1_F17D	240	250	09/06/2017	SW6850	Perchlorate	1.2		ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW0001	J2EW0001_F17	179	234	09/05/2017	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_F17	179	234	09/05/2017	SW6850	Perchlorate	1.8		ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW0002	J2EW0002_F17	198	233	09/05/2017	SW6850	Perchlorate	4.1		ug/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW0002	J2EW0002_F17D	198	233	09/05/2017	SW6850	Perchlorate	4.1		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-305M1	MW-305M1_F17	202.8	212.8	09/05/2017	SW6850	Perchlorate	0.053	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-589M2	MW-589M2_F17	211	221	09/05/2017	SW6850	Perchlorate	5.9		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-589M2	MW-589M2_F17D	211	221	09/05/2017	SW6850	Perchlorate	5.6		ug/L	2.0	X	0.019	0.20

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

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

J2 Range Northern	MW-589M1	MW-589M1_F17	240	250	09/05/2017	SW6850	Perchlorate	0.051	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-119S	MW-119S_F17	103	113	08/31/2017	SW6850	Perchlorate	0.084	J	ug/L	2.0		0.019	0.20
J2 Range Northern	J2EW0003	J2EW0003_F17	202	232	08/31/2017	SW6850	Perchlorate	0.46		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-313M1	MW-313M1_F17	255.4	265.4	08/31/2017	SW6850	Perchlorate	11.5		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-313M1	MW-313M1_F17D	255.4	265.4	08/31/2017	SW6850	Perchlorate	11.6		ug/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW2-MW3-B	J2EW2-MW3-B_F17	212.7	222.7	08/30/2017	SW6850	Perchlorate	3.8		ug/L	2.0	X	0.019	0.20
J2 Range Northern	J2EW2-MW3-B	J2EW2-MW3-B_F17D	212.7	222.7	08/30/2017	SW6850	Perchlorate	4.0		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-130S	MW-130S_F17	103	113	08/29/2017	SW6850	Perchlorate	0.13	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-130S	MW-130S_F17	103	113	08/29/2017	SW8330	4-Amino-2,6-dinitrotoluene	0.63		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-296M1	MW-296M1_F17	255.1	265.1	08/29/2017	SW6850	Perchlorate	0.38		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-230M2	MW-230M2_F17	110	120	08/29/2017	SW6850	Perchlorate	0.085	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-230M1	MW-230M1_F17	130	140	08/29/2017	SW6850	Perchlorate	0.28		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17	110	120	08/28/2017	SW6850	Perchlorate	0.14	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17	110	120	08/28/2017	SW8330	2,4-Dinitrotoluene	0.33		ug/L	5.0		0.027	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17	110	120	08/28/2017	SW8330	4-Amino-2,6-dinitrotoluene	1.9		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17	110	120	08/28/2017	SW8330	2-Amino-4,6-dinitrotoluene	3.7		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17	110	120	08/28/2017	SW8330	2,4,6-Trinitrotoluene	5.4		ug/L	2.0	X	0.028	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17D	110	120	08/28/2017	SW8330	2,4-Dinitrotoluene	0.35		ug/L	5.0		0.027	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17D	110	120	08/28/2017	SW8330	4-Amino-2,6-dinitrotoluene	2.0		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17D	110	120	08/28/2017	SW8330	2-Amino-4,6-dinitrotoluene	3.8		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M2	MW-234M2_F17D	110	120	08/28/2017	SW8330	2,4,6-Trinitrotoluene	5.6		ug/L	2.0	X	0.028	0.20
J2 Range Northern	MW-234M1	MW-234M1_F17	130	140	08/28/2017	SW6850	Perchlorate	0.11	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-234M1	MW-234M1_F17	130	140	08/28/2017	SW8330	4-Amino-2,6-dinitrotoluene	0.71		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M1	MW-234M1_F17	130	140	08/28/2017	SW8330	2-Amino-4,6-dinitrotoluene	1.0		ug/L	7.3		0.023	0.20
J2 Range Northern	MW-234M1	MW-234M1_F17	130	140	08/28/2017	SW8330	2,4,6-Trinitrotoluene	3.6		ug/L	2.0	X	0.028	0.20
J2 Range Northern	MW-327M2	MW-327M2_F17	265	275	08/28/2017	SW6850	Perchlorate	0.12	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-620M1	MW-620M1_F17	268.6	278.6	08/24/2017	SW6850	Perchlorate	0.046	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-337M1	MW-337M1_F17	243.7	253.7	08/24/2017	SW6850	Perchlorate	0.045	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-619M1	MW-619M1_F17	255.1	265.1	08/24/2017	SW6850	Perchlorate	0.13	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-289M2	MW-289M2_F17	162	172	08/24/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.7		ug/L	400		0.019	0.20
J2 Range Northern	MW-289M2	MW-289M2_F17	162	172	08/24/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.8		ug/L	0.60	X	0.025	0.20
J2 Range Northern	MW-289M2	MW-289M2_F17	162	172	08/24/2017	SW6850	Perchlorate	2.3		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-289M2	MW-289M2_F17D	162	172	08/24/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.7		ug/L	400		0.019	0.20
J2 Range Northern	MW-289M2	MW-289M2_F17D	162	172	08/24/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.8		ug/L	0.60	X	0.025	0.20
J2 Range Northern	MW-289M1	MW-289M1_F17	305	315	08/24/2017	SW6850	Perchlorate	0.55		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-289M1	MW-289M1_F17	305	315	08/24/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.58		ug/L	400		0.019	0.20
J2 Range Northern	MW-289M1	MW-289M1_F17	305	315	08/24/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.63		ug/L	0.60	X	0.025	0.20
Central Impact Area	MW-695S	MW-695S_R1	130	140	08/23/2017	SW6850	Perchlorate	0.050	J	ug/L	2.0		0.019	0.20
Central Impact Area	MW-695S	MW-695S_R1	130	140	08/23/2017	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.31		ug/L	400		0.019	0.20
Central Impact Area	MW-695S	MW-695S_R1	130	140	08/23/2017	SW8330	2-Amino-4,6-dinitrotoluene	0.39		ug/L	7.3		0.023	0.20
Central Impact Area	MW-695S	MW-695S_R1	130	140	08/23/2017	SW8330	4-Amino-2,6-dinitrotoluene	0.45		ug/L	7.3		0.023	0.20
Central Impact Area	MW-695S	MW-695S_R1	130	140	08/23/2017	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-630M1	MW-630M1_F17	217	227	08/22/2017	SW6850	Perchlorate	0.036	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-612M1	MW-612M1_F17	297	307	08/22/2017	SW6850	Perchlorate	0.031	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-613M2	MW-613M2_F17	246.1	256.1	08/22/2017	SW6850	Perchlorate	0.038	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-613M1	MW-613M1_F17	267.1	277.1	08/22/2017	SW6850	Perchlorate	0.024	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-300M2	MW-300M2_F17	197.2	207.2	08/21/2017	SW6850	Perchlorate	0.29		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-340M1	MW-340M1_F17	255.9	265.9	08/21/2017	SW6850	Perchlorate	0.024	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-63M2	MW-63M2_F17	214	224	08/21/2017	SW6850	Perchlorate	0.042	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

J2 Range Northern	MW-63M1	MW-63M1_F17	244	254	08/21/2017	SW6850	Perchlorate	0.033	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-293M2	MW-293M2_F17	196.4	206.4	08/17/2017	SW6850	Perchlorate	0.15	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-586M2	MW-586M2_F17	211	221	08/17/2017	SW6850	Perchlorate	0.69		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-586M1	MW-586M1_F17	237	247	08/17/2017	SW6850	Perchlorate	23.1		ug/L	2.0	X	0.095	1.0
J2 Range Northern	MW-587M2	MW-587M2_F17	220	230	08/17/2017	SW6850	Perchlorate	49.0		ug/L	2.0	X	0.19	2.0
J2 Range Northern	MW-587M2	MW-587M2_F17D	220	230	08/17/2017	SW6850	Perchlorate	47.7		ug/L	2.0	X	0.19	2.0
J2 Range Northern	MW-587M1	MW-587M1_F17	250	260	08/17/2017	SW6850	Perchlorate	0.39		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-348M2	MW-348M2_F17	206.5	216.5	08/16/2017	SW6850	Perchlorate	0.51		ug/L	2.0		0.019	0.20
J2 Range Northern	MW-588M2	MW-588M2_F17	198	208	08/16/2017	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.30		ug/L	0.60		0.025	0.20
J2 Range Northern	MW-588M2	MW-588M2_F17	198	208	08/16/2017	SW6850	Perchlorate	4.3		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-588M2	MW-588M2_F17D	198	208	08/16/2017	SW6850	Perchlorate	4.3		ug/L	2.0	X	0.019	0.20
J2 Range Northern	MW-588M1	MW-588M1_F17	238	248	08/16/2017	SW6850	Perchlorate	0.025	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-631M2	MW-631M2_F17	200.1	210.1	08/16/2017	SW6850	Perchlorate	0.17	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-631M1	MW-631M1_F17	233.1	243.1	08/16/2017	SW6850	Perchlorate	0.17	J	ug/L	2.0		0.019	0.20
J2 Range Northern	MW-635M1	MW-635M1_F17	265.4	275.4	08/16/2017	SW6850	Perchlorate	0.049	J	ug/L	2.0		0.019	0.20

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RL = Reporting LImit

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