## MONTHLY PROGRESS REPORT #256 FOR JULY 2018

# 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 2 July to 27 July 2018.

### 1. SUMMARY OF REMEDIATION ACTIONS

The following is a description of Remediation Actions (RA) underway at Camp Edwards as of July 2018.

## 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 2.575 billion gallons of water treated and re-injected as of 27 July 2018. No shut downs occurred in July.

The Pew Road Mobile Treatment Unit (MTU) is operating at a flow rate of 100 gpm (increased from 65 gpm on 18 June 2018), with over 576.2 million gallons of water treated and re-injected as of 27 July 2018. The following Pew Road MTU shut down occurred in July:

• 0738 on 18 July 2018 due to a planned JBCC power outage. The plant was restarted at 0752 on 18 July 2018.

The Base Boundary MTU is operating at a flow rate of 65 gpm with over 204.9 million gallons of water treated and re-injected as of 27 July 2018. No Base Boundary MTU shut downs occurred in July.

The Leading Edge system continues to operate at a flow rate of 100 gpm. As of 27 July 2018, over 113.3 million gallons of water treated and re-injected. No Leading Edge system shut downs occurred in July.

## 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 July 2018, over 1.021 billion gallons of water have been treated and re-injected. No Northern Treatment Building shutdowns occurred in July.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 27 July 2018, over 1.523 billion gallons of water have been treated and re-injected. No J-2 Range Northern MTU E or F shut downs occurred in July.

## 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 July 2018, over 1.102 billion gallons of water have been treated and re-injected. No MTU H and I shutdowns occurred in July.

MTU J continues to operate at a flow rate of 120 gpm. As of 27 July 2018, over 508.0 million gallons of water have been treated and re-injected. No MTU J shutdowns occurred in July.

MTU K continues to operate at a flow rate of 125 gpm. As of 27 July 2018, over 644.0 million gallons of water have been treated and re-injected. The following MTU K shutdowns occurred in July.

### 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 235 gpm (while J3EW0032 is running at 45 gpm instead of 65 gpm). As of 27 July 2018, over 1.133 billion gallons of water have been treated and reinjected. The following J-3 Range system shut down occurred in July:

0903 on 12 July 2018 due to FS-12 being off. The System was restarted at 1115 on 12 July 2018.

## 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 aguifer.

The Southern MTU continues to operate at a flow rate of 125 gpm. As of 27 July 2018, over 490.8 million gallons of water have been treated and re-injected. No J-1 Range Southern system shut downs occurred in July.

#### 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 July 2018, over 597.6 million gallons of water have been treated and re-injected. No J-1 Range Northern MTU shut downs occurred in June.

## 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 July 2018, over 1.437 billion gallons of water have been treated and re-injected. The following CIA treatment facility shut downs occurred in July.

- System 1 was turned off at 0800 on 10 July 2018 to drain GAC vessels #3 and #6 for carbon exchange on the 11 July 2018. The system was restarted at 0750 on 12 July 2018.
- System 1 shut down at 0738 on 18 July 2018 due to a planned JBCC power outage. The system was restarted at 0750 on 18 July 2018.
- System 2 shut down at 0738 on 18 July 2018 due to a planned JBCC power outage. The system was restarted at 0750 on 18 July 2018.

#### SUMMARY OF ACTIONS TAKEN

Performed routine inspections of BEM cover at the CIA to ensure cover is secure and intact.

Groundwater sampling within the J2 and J3 Range SPM program

Monitoring well drilling and installation for J2 and J3.

Vegetation and MEC surface clearance at Former E Range.

Collection of cued MetalMapper data and intrusive investigation in Phase 3 Area 1.

Annual hydraulic monitoring within the J3 Range SPM program.

Road improvements at Pew and Estey Roads and the access paths and pads at MW-245 and J3EWIP2.

Process water samples were collected from the Central Impact Area (CIA), Demolition Area 1, J-1 Range Northern, J-1 Range Southern, J-2 Range Eastern, J-2 Range Northern, and J-3 Range.

Environmental and system performance monitoring groundwater samples were collected from J-2 Range Eastern, J-2 Range Northern, and J-3 Range.

ISM surface soil sampling at Deep Bottom Pond (Training Area B-9) grids SS214A and SS214B and from Southern Landing Zone (Training Area C-15) grid SS213A.

## **JBCC IAGWSP Tech Update Meeting Minutes 26 July 2018**

## **Project and Fieldwork Update**

The drill rig installed MW-699 (CIA location #1 on Canal View Road), MW-705, (J-2 East location off of the P Range), MW-703 (J-2 North location that is co-located with MW-305). A screen setting call was held for MW-705 and the well was installed. The rig is currently at MW-702 (J-2 North location). Drilling is going well and moving along without any issues. A second CIA well location has been sited downgradient of the flow path of the main body of the plume between MW-628 and MW-699. The map of the proposed location will be sent to the agencies so they can provide feedback. AECOM has a tentative schedule for the installation of the J-1 South drive points. August 6th-7th they will stake the locations; August 8th-9th they will clear brush; August 13th-14th UXO clearance activities and the drill rig will mob on the 14th. The water table wells will be the last installed. The burial pit has been filled in at water table well location 2 and all well pads are ready to go. Watermark is in J-3 performing annual long-term monitoring program sampling. The treatment systems are up and running except for CIA 2 which went down and lost its programming yesterday. The programmer is on-site today and will re-install the required software and get the system restarted.

In the CIA, there is a second Metal Mapper up and running. Figures showing progress were displayed and discussed. Areas A, B and E are 100% queued data collection complete; Area D is 75% complete and Area C is approximately 5% complete. A second dig team will mobilize to the site next week.

In the Training Areas, Dawson is continuing with vegetation and surface clearance activities at the Former E Range. They are approximately halfway done. To date they have found seventeen 3.5" rockets and two 37mm mortars. All that remains is to clear and sample under the primary target at the KD Range once it is removed. Pyrotechnics sampling was conducted on July 10th and results are pending.

Result of sampling at the outwash area of the Former D Range were displayed and discussed. It was noted that the boundaries of the area were GPS surveyed and the area is approximately 4,500 square feet. The depth of the sediment was about a foot. They collected a 100 point composite at 0-3". IAGWSP would like to collect a 6-12" MIS sample and another surface sample. They will discuss internally and send a proposal to the agencies via email.

A discussion as held on recent questions about the potential for PFAS contamination at OB/OD sites. IAGWSP plans to recommend sampling at a few locations. They will provide the agencies with a project note outlining their proposal.

EPA noted that they would check into next steps for issuing a "Certificate of Compliance" for those sites that are completed; e.g. Western Boundary and Former A Range.

## **Action Items**

Action items were discussed and updated.

## **JBCC Cleanup Team Meeting**

The next JBCC Cleanup Team (JBCCCT) meeting has yet to be 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 1 summarizes sampling for all media from 1 July to 30 July 2018. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 1 July to 31 July 2018. 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.

Twelve operable units (OU) are 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:

Final Central Impact Area Long Term Source Area Response

Monthly Progress Report No. 255 for June 2018

07/02/2018 07/11/2018

## 3. SCHEDULED ACTIONS

The following documents are being prepared or revised during July 2018:

#### **Training Areas**

• Draft Training Areas Decision Document

## Annual Reports/ Environmental Monitoring Reports/Work Plans

- J-1 North and J-1 South Annual Monitoring Report
- L-Range Annual Monitoring Report

## Central Impact Area

• 2017 CIA Source Removal Annual Report

### Miscellaneous

- Five Year Review report
- J-3 Geophysical and Soil Technical Memorandum
- Technology evaluation and attenuation study reports

TABLE 1
Sampling Progress: 1 July to 31 July 2018

|                      |           | Sampling Pr        | ogress: 1.     | July to 31 July 2 | 018           |                        |                              |
|----------------------|-----------|--------------------|----------------|-------------------|---------------|------------------------|------------------------------|
| Area Of Concern      | Location  | Field Sample ID    | Sample<br>Type | Date Sampled      | Matrix        | Top of Screen (ft bgs) | Bottom<br>of Screen (ft bgs) |
| J3 Range             | LKSNK0006 | LKSNK0006_F18      | N              | 07/30/2018        | Surface Water | 0                      | 1                            |
| J3 Range             | LKSNK0005 | LKSNK0005_F18      | N              | 07/30/2018        | Surface Water | 0                      | 4                            |
| J3 Range             | LKSNK0007 | LKSNK0007_F18      | N              | 07/30/2018        | Surface Water | 0                      | 4                            |
| J3 Range             | 90MW0104C | 90MW0104C_F18      | N              | 07/30/2018        | Ground Water  | 84.81                  | 89.81                        |
| J3 Range             | 90MW0104B | 90MW0104B_F18      | N              | 07/30/2018        | Ground Water  | 115                    | 120                          |
| J2 Range Northern    | BH-702    | BH-702-GW-281-286  | N              | 07/27/2018        | Water         | 281                    | 286                          |
| J2 Range Northern    | BH-702    | BH-702-GW-271-276  | N              | 07/27/2018        | Water         | 271                    | 276                          |
| J2 Range Northern    | BH-702    | BH-702-GW-261-266D | FD             | 07/26/2018        | Water         | 261                    | 266                          |
| J2 Range Northern    | BH-702    | BH-702-GW-261-266  | N              | 07/26/2018        | Water         | 261                    | 266                          |
| J3 Range             | MW-143M3  | MW-143M3_F18       | N              | 07/26/2018        | Ground Water  | 107                    | 112                          |
| J2 Range Northern    | BH-702    | BH-702-GW-251-256  | N              | 07/26/2018        | Water         | 251                    | 256                          |
| J3 Range             | MW-143M2  | MW-143M2_F18       | N              | 07/26/2018        | Ground Water  | 117                    | 122                          |
| J3 Range             | MW-143M1  | MW-143M1_F18       | N              | 07/26/2018        | Ground Water  | 144                    | 154                          |
| J2 Range Northern    | BH-702    | BH-702-GW-241-246  | N              | 07/26/2018        | Water         | 241                    | 246                          |
| J2 Range Northern    | BH-702    | BH-702-GW-231-236  | N              | 07/26/2018        | Water         | 231                    | 236                          |
| J2 Range Northern    | BH-702    | BH-702-GW-221-226  | N              | 07/26/2018        | Water         | 221                    | 226                          |
| J2 Range Northern    | BH-702    | BH-702-GW-211-216  | N              | 07/25/2018        | Water         | 211                    | 216                          |
| J2 Range Northern    | BH-702    | BH-702-GW-201-206  | N              | 07/25/2018        | Water         | 201                    | 206                          |
| J3 Range             | MW-144M2  | MW-144M2_F18       | N              | 07/25/2018        | Ground Water  | 130                    | 140                          |
| J3 Range             | MW-636M2  | MW-636M2_F18       | N              | 07/25/2018        | Ground Water  | 110.5                  | 120.5                        |
| J3 Range             | MW-636M1  | MW-636M1_F18       | N              | 07/25/2018        | Ground Water  | 141.6                  | 151.6                        |
| J3 Range             | MW-343M2  | MW-343M2_F18       | N              | 07/25/2018        | Ground Water  | 166.82                 | 171.82                       |
| J3 Range             | MW-343M1  | MW-343M1_F18       | N              | 07/25/2018        | Ground Water  | 214.83                 | 224.83                       |
| J3 Range             | MW-218M3  | MW-218M3_F18       | N              | 07/24/2018        | Ground Water  | 78                     | 83                           |
| J3 Range             | J3EWIP1   | J3EWIP1_F18        | N              | 07/24/2018        | Ground Water  | 153                    | 193                          |
| J3 Range             | J3EWIP1   | J3EWIP1_F18D       | FD             | 07/24/2018        | Ground Water  | 153                    | 193                          |
| J3 Range             | MW-637M3  | MW-637M3_F18       | N              | 07/24/2018        | Ground Water  | 174.1                  | 184.1                        |
| J3 Range             | MW-637M2  | MW-637M2_F18       | N              | 07/24/2018        | Ground Water  | 214.1                  | 224.1                        |
| J3 Range             | MW-637M2  | MW-637M2_F18D      | FD             | 07/24/2018        | Ground Water  | 214.1                  | 224.1                        |
| J3 Range             | MW-637M1  | MW-637M1_F18       | N              | 07/24/2018        | Ground Water  | 236.1                  | 246.1                        |
| J3 Range             | J3EWIP2   | J3EWIP2_F18        | N              | 07/23/2018        | Ground Water  | 149.5                  | 169.5                        |
| J3 Range             | J3EWIP2   | J3EWIP2_F18D       | FD             | 07/23/2018        | Ground Water  | 149.5                  | 169.5                        |
| J3 Range             | MW-653M2  | MW-653M2_F18       | N              | 07/23/2018        | Ground Water  | 59.3                   | 69.3                         |
| J3 Range             | MW-653M1  | MW-653M1_F18       | N              | 07/23/2018        | Ground Water  | 147.5                  | 157.5                        |
| J2 Range Northern    | BH-703    | BH-703-GW-256-261  | N              | 07/20/2018        | Water         | 256                    | 261                          |
| J2 Range Northern    | BH-703    | BH-703-GW-246-251  | N              | 07/20/2018        | Water         | 246                    | 251                          |
| J2 Range Northern    | BH-703    | BH-703-GW-236-241  | N              | 07/19/2018        | Water         | 236                    | 241                          |
| J2 Range Northern    | BH-703    | BH-703-GW-226-231D | FD             | 07/19/2018        | Water         | 226                    | 231                          |
| J2 Range Northern    | BH-703    | BH-703-GW-226-231  | N              | 07/19/2018        | Water         | 226                    | 231                          |
| J2 Range Northern    | BH-703    | BH-703-GW-206-211  | N              | 07/18/2018        | Water         | 206                    | 211                          |
| J3 Range             | 90EW0001  | 90EW0001_F18       | N              | 07/18/2018        | Ground Water  | 83.1                   | 143.83                       |
| J3 Range             | J3EW0032  | J3EW0032_F18       | N              | 07/18/2018        | Ground Water  | 102                    | 152                          |
| J3 Range             | J3EW0032  | J3EW0032_F18D      | FD             | 07/18/2018        | Ground Water  | 102                    | 152                          |
| J3 Range             | 90MP0059B | 90MP0059B_F18      | N              | 07/18/2018        | Ground Water  | 116.39                 | 118.89                       |
| J2 Range Northern    | BH-703    | BH-703-GW-216-221  | N              | 07/18/2018        | Water         | 216                    | 221                          |
| J3 Range             | MW-163S   | MW-163S_F18        | N              | 07/17/2018        | Ground Water  | 38                     | 48                           |
| J3 Range             | MW-163S   | MW-163S_F18D       | FD             | 07/17/2018        | Ground Water  | 38                     | 48                           |
| J3 Range             | MW-359M2  | MW-359M2_F18       | N              | 07/17/2018        | Ground Water  | 148.62                 | 158.62                       |
| J3 Range             | MW-198M4  | MW-198M4_F18       | N              | 07/17/2018        | Ground Water  | 70                     | 75                           |
| J3 Range             | MW-198M4  | MW-198M4_F18D      | FD             | 07/17/2018        | Ground Water  | 70                     | 75                           |
| J3 Range             | MW-198M3  | MW-198M3_F18       | N              | 07/17/2018        | Ground Water  | 100                    | 105                          |
| J3 Range             | MW-198M2  | MW-198M2_F18       | N              | 07/17/2018        | Ground Water  | 120                    | 125                          |
| J3 Range             | MW-198M1  | MW-198M1_F18       | N              | 07/17/2018        | Ground Water  | 150                    | 155                          |
| J3 Range             | MW-243M2  | MW-243M2_F18       | N              | 07/16/2018        | Ground Water  | 84.5                   | 94.5                         |
| J3 Range             | MW-243M1  | MW-243M1_F18       | N              | 07/16/2018        | Ground Water  | 114.5                  | 124.5                        |
| J2 Range Eastern     | BH-705    | BH-705-GW-266-271  | N              | 07/16/2018        | Water         | 266                    | 271                          |
| J3 Range             | MW-295M2  | MW-295M2_F18       | N              | 07/16/2018        | Ground Water  | 117                    | 127                          |
| <u> </u>             |           | MW-295M1 F18       | N              | 07/16/2018        | Ground Water  | 145                    | 155                          |
| J3 Range             | MW-295M1  | IVIVV-293IVII F IO | IIN .          | 0111012010        |               |                        |                              |
| J3 Range<br>J3 Range | MW-197M3  | MW-197M3_F18       | N              | 07/16/2018        | Ground Water  | 60.2                   | 65.2                         |

TABLE 1
Sampling Progress: 1 July to 31 July 2018

|                                     |                     | Sampling Pr                 | ogress: 1.     | July to 31 July 2 | 018           |                        |                              |
|-------------------------------------|---------------------|-----------------------------|----------------|-------------------|---------------|------------------------|------------------------------|
| Area Of Concern                     | Location            | Field Sample ID             | Sample<br>Type | Date Sampled      | Matrix        | Top of Screen (ft bgs) | Bottom<br>of Screen (ft bgs) |
| J3 Range                            | MW-197M2            | MW-197M2_F18                | N              | 07/16/2018        | Ground Water  | 80.2                   | 85.2                         |
| J2 Range Eastern BH-705 BH-705-0    |                     | BH-705-GW-256-261           | N              | 07/13/2018        | Water         | 256                    | 261                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-246-251           | N              | 07/13/2018        | Water         | 246                    | 251                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-236-241D          | FD             | 07/13/2018        | Water         | 236                    | 241                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-236-241           | N              | 07/13/2018        | Water         | 236                    | 241                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-226-231           | N              | 07/12/2018        | Water         | 226                    | 231                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-216-221           | N              | 07/12/2018        | Water         | 216                    | 221                          |
| J3 Range                            | MW-232M2            | MW-232M2 F18                | N              | 07/12/2018        | Ground Water  | 61                     | 66                           |
| J3 Range                            | MW-232M1            | MW-232M1 F18                | N              | 07/12/2018        | Ground Water  | 77.5                   | 82.5                         |
| J2 Range Eastern                    | BH-705              | BH-705-GW-206-211           | N              | 07/12/2018        | Water         | 206                    | 211                          |
|                                     | MW-155M1            | MW-155M1 F18                | N              | 07/12/2018        | Ground Water  | 124                    | 134                          |
| J3 Range                            |                     | _                           | N              |                   | Water         | 196                    | 201                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-196-201           |                | 07/12/2018        |               | ļ                      |                              |
| J3 Range                            | MW-576M3            | MW-576M3_F18                | N              | 07/12/2018        | Ground Water  | 98.9                   | 108.9                        |
| J2 Range Eastern                    | BH-705              | BH-705-GW-186-191           | N              | 07/12/2018        | Water         | 186                    | 191                          |
| J3 Range                            | MW-576M2            | MW-576M2_F18                | N              | 07/12/2018        | Ground Water  | 133.9                  | 143.9                        |
| J3 Range                            | MW-576M2            | MW-576M2_F18D               | FD             | 07/12/2018        | Ground Water  | 133.9                  | 143.9                        |
| J2 Range Eastern                    | BH-705              | BH-705-GW-176-181D          | FD             | 07/12/2018        | Water         | 176                    | 181                          |
| J2 Range Eastern                    | BH-705              | BH-705-GW-176-181           | N              | 07/12/2018        | Water         | 176                    | 181                          |
| J3 Range                            | MW-576M1            | MW-576M1_F18                | N              | 07/12/2018        | Ground Water  | 173.9                  | 183.9                        |
| J2 Range Eastern                    | BH-705              | BH-705-GW-166-171           | N              | 07/12/2018        | Water         | 166                    | 171                          |
| J2 Range Eastern                    | J2E-EFF-K           | J2E-EFF-K-118A              | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-MID-2K          | J2E-MID-2K-118A             | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-MID-1K          | J2E-MID-1K-118A             | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-INF-K           | J2E-INF-K-118A              | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-EFF-J           | J2E-EFF-J-118A              | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-MID-2J          | J2E-MID-2J-118A             | N              | 07/11/2018        | Process Water | 0                      | 0                            |
| J2 Range Eastern                    | J2E-MID-1J          | J2E-MID-1J-118A             | N              | 07/11/2018        | Process Water | 0                      | 0                            |
|                                     |                     | J2E-INF-J-118A              | N              |                   | +             | 0                      | 0                            |
| J2 Range Eastern                    | J2E-INF-J           |                             |                | 07/11/2018        | Process Water | -                      |                              |
| Demolition Area 1                   | PR-EFF              | PR-EFF-148A                 | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | PR-MID-2            | PR-MID-2-148A               | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | PR-MID-1            | PR-MID-1-148A               | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | PR-INF              | PR-INF-148A                 | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | FPR-2-EFF-A         | FPR-2-EFF-A-148A            | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | FPR-2-GAC-MID1A     | FPR-2-GAC-MID1A-148A        | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | FPR2-POST-IX-A      | FPR2-POST-IX-A-148A         | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | FPR-2-INF           | FPR-2-INF-148A              | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1LE-EFF            | D1LE-EFF-24A                | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1LE-MID2           | D1LE-MID2-24A               | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1LE-MID1           | D1LE-MID1-24A               | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1LE-INF            | D1LE-INF-24A                | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Training Area B-9                   | B-9 214B            | MISB-9 214B-A R2            | FR             | 07/10/2018        | Soil          | 0                      | 0.25                         |
| Training Area B-9                   | B-9 214B            | MISB-9 214B-A R1            | FR             | 07/10/2018        | Soil          | 0                      | 0.25                         |
| Demolition Area 1                   | D1-EFF              | D1-EFF-96A                  | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1-MID-2            | D1-MID-2-96A                | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1-MID-1            | D1-MID-1-96A                | N              | 07/10/2018        | Process Water | 0                      | 0                            |
| Demolition Area 1                   | D1-INF              | D1-INF-96A                  | N              | 07/10/2018        | Process Water | 0                      | 0                            |
|                                     | -                   |                             | N              | 07/10/2018        | Soil          | 0                      |                              |
| Training Area B-9                   | B-9_214B            | MISB-9_214B-A               |                |                   | +             |                        | 0.25                         |
| J2 Range Northern                   | J2N-EFF-G           | J2N-EFF-G-142A              | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-2G          | J2N-MID-2G-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-1G          | J2N-MID-1G-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-INF-G           | J2N-INF-G-142A              | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-EFF-EF          | J2N-EFF-EF-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-2F          | J2N-MID-2F-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-1F          | J2N-MID-1F-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-INF-EF          | J2N-INF-EF-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-2E          | J2N-MID-2E-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| J2 Range Northern                   | J2N-MID-1E          | J2N-MID-1E-142A             | N              | 07/09/2018        | Process Water | 0                      | 0                            |
| . ~                                 | +                   |                             |                | 07/09/2018        | Process Water | 0                      | 0                            |
| J1 Range Northern                   | J1N-EFF             | J1N-EFF-5/A                 | N              | 107/09/2010       | FIOCESS Water | 10                     |                              |
| J1 Range Northern J1 Range Northern | J1N-EFF<br>J1N-MID2 | J1N-EFF-57A<br>J1N-MID2-57A | N              | 07/09/2018        | Process Water | 0                      | 0                            |

TABLE 1
Sampling Progress: 1 July to 31 July 2018

| Sampling Progress: 1 July to 31 July 2018 |                                     |                  |                |              |               |                        |                              |  |  |  |  |
|---|-------------------------------------|------------------|----------------|--------------|---------------|------------------------|------------------------------|--|--|--|--|
| Area Of Concern                           | Location                            | Field Sample ID  | Sample<br>Type | Date Sampled | Matrix        | Top of Screen (ft bgs) | Bottom<br>of Screen (ft bgs) |  |  |  |  |
| J1 Range Northern                         | ange Northern J1N-INF2 J1N-INF2-57A |                  | N              | 07/09/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Training Area C-15                        | C-15_213                            | MISC-15_213-A_R2 | FR             | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| Training Area C-15                        | C-15_213                            | MISC-15_213-A_R1 | FR             | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| Training Area C-15                        | C-15_213                            | MISC-15_213-A    | N              | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| J2 Range Eastern                          | J2E-EFF-IH                          | J2E-EFF-IH-118A  | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J2 Range Eastern                          | J2E-MID-2H                          | J2E-MID-2H-118A  | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J2 Range Eastern                          | J2E-MID-1H                          | J2E-MID-1H-118A  | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J2 Range Eastern                          | J2E-MID-2I                          | J2E-MID-2I-118A  | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J2 Range Eastern                          | J2E-MID-1I                          | J2E-MID-1I-118A  | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J2 Range Eastern                          | J2E-INF-I                           | J2E-INF-I-118A   | N              | 07/06/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Training Area B-9                         | B-9_214A                            | MISB-9_214A-A_R2 | FR             | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| Training Area B-9                         | B-9_214A                            | MISB-9_214A-A_R1 | FR             | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| Training Area B-9                         | B-9_214A                            | MISB-9_214A-A    | N              | 07/06/2018   | Soil          | 0                      | 0.25                         |  |  |  |  |
| J1 Range Southern                         | J1S-EFF                             | J1S-EFF-128A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J1 Range Southern                         | J1S-MID                             | J1S-MID-128A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J1 Range Southern                         | J1S-INF-2                           | J1S-INF-2-128A   | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J3 Range                                  | J3-EFF                              | J3-EFF-142A      | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J3 Range                                  | J3-MID-2                            | J3-MID-2-142A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J3 Range                                  | J3-MID-1                            | J3-MID-1-142A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| J3 Range                                  | J3-INF                              | J3-INF-142A      | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA2-EFF                            | CIA2-EFF-54A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA2-MID2                           | CIA2-MID2-54A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA2-MID1                           | CIA2-MID1-54A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA2-INF                            | CIA2-INF-54A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA1-EFF                            | CIA1-EFF-54A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA1-MID2                           | CIA1-MID2-54A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA1-MID1                           | CIA1-MID1-54A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA1-INF                            | CIA1-INF-54A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA3-EFF                            | CIA3-EFF-25A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA3-MID2                           | CIA3-MID2-25A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA3-MID1                           | CIA3-MID1-25A    | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |
| Central Impact Area                       | CIA3-INF                            | CIA3-INF-25A     | N              | 07/05/2018   | Process Water | 0                      | 0                            |  |  |  |  |

# TABLE 2 VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS Data Received July 2018

|                   | 1           |                 | Тор      |              |              |        | ı   | 1      | ı         | 1     |        | Ι      | 1     | $\overline{}$ |
|-------------------|-------------|-----------------|----------|--------------|--------------|--------|---|--------|-----------|-------|--------|--------|-------|---------------|
|                   |             |                 | Depth    | Bottom Depth |              | Test   |   | Result |           |       |        | >      |       |               |
| Area of Concern   | Location ID | Field Sample ID | (ft bgs) | (ft bgs)     | Date Sampled | Method | Analyte                                       | Value  | Qualifier | Units | MCL/HA | MCL/HA | MDL   | RL            |
| Demolition Area 1 | MW-211M2    | MW-211M2_S18    | 175      | 185          | 06/27/2018   | SW6850 | Perchlorate                                   | 0.054  | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-211M1    | MW-211M1_S18    | 200      | 210          | 06/27/2018   | SW6850 | Perchlorate                                   | 0.089  | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-696M1    | MW-696M1_R2     | 175.2    | 185.2        | 06/22/2018   | SW6850 | Perchlorate                                   | 0.30   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-173M2    | MW-173M2_S18    | 208      | 218          | 06/20/2018   | SW6850 | Perchlorate                                   | 0.26   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-341M2    | MW-341M2_S18    | 264.5    | 269.5        | 06/20/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 0.70   |           | ug/L  | 0.60   | Х      | 0.036 | 0.20          |
| Demolition Area 1 | MW-341M2    | MW-341M2_S18    | 264.5    | 269.5        | 06/20/2018   | SW6850 | Perchlorate                                   | 2.1    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-341M2    | MW-341M2_S18D   | 264.5    | 269.5        | 06/20/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 0.73   |           | ug/L  | 0.60   | Х      | 0.036 | 0.20          |
| Demolition Area 1 | MW-341M2    | MW-341M2_S18D   | 264.5    | 269.5        | 06/20/2018   | SW6850 | Perchlorate                                   | 2.1    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-533M1    | MW-533M1_S18    | 160      | 170          | 06/19/2018   | SW6850 | Perchlorate                                   | 8.6    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-533M1    | MW-533M1_S18D   | 160      | 170          | 06/19/2018   | SW6850 | Perchlorate                                   | 8.8    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-642M2    | MW-642M2_S18    | 77.3     | 87.3         | 06/19/2018   | SW6850 | Perchlorate                                   | 0.21   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-642M1    | MW-642M1_S18    | 104.3    | 114.3        | 06/19/2018   | SW6850 | Perchlorate                                   | 0.25   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-610M2    | MW-610M2_S18    | 85       | 95           | 06/18/2018   | SW6850 | Perchlorate                                   | 0.40   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-610M1    | MW-610M1_S18    | 110      | 120          | 06/18/2018   | SW6850 | Perchlorate                                   | 1.4    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-611M2    | MW-611M2_S18    | 91       | 101          | 06/18/2018   | SW6850 | Perchlorate                                   | 2.2    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-611M1    | MW-611M1_S18    | 141      | 151          | 06/18/2018   | SW6850 | Perchlorate                                   | 2.5    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-598M2    | MW-598M2_S18    | 88       | 98           | 06/18/2018   | SW6850 | Perchlorate                                   | 0.72   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-598M1    | MW-598M1_S18    | 122      | 132          | 06/18/2018   | SW6850 | Perchlorate                                   | 2.5    |           | ug/L  | 2.0    | х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-641M2    | MW-641M2_S18    | 86.2     | 96.2         | 06/15/2018   | SW6850 | Perchlorate                                   | 0.63   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-641M1    | MW-641M1_S18    | 113.2    | 123.2        | 06/15/2018   | SW6850 | Perchlorate                                   | 1.9    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-559M2    | MW-559M2_S18    | 87       | 97           | 06/15/2018   | SW6850 | Perchlorate                                   | 0.12   | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-559M1    | MW-559M1_S18    | 135.6    | 145.6        | 06/15/2018   | SW6850 | Perchlorate                                   | 0.43   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-542M1    | MW-542M1_S18    | 144      | 154          | 06/14/2018   | SW6850 | Perchlorate                                   | 0.13   | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-532M2    | MW-532M2_S18    | 138      | 148          | 06/14/2018   | SW6850 | Perchlorate                                   | 1.5    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-532M2    | MW-532M2_S18D   | 138      | 148          | 06/14/2018   | SW6850 | Perchlorate                                   | 1.6    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-532M1    | MW-532M1_S18    | 168      | 178          | 06/14/2018   | SW6850 | Perchlorate                                   | 0.31   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-248M3    | MW-248M3_S18    | 143      | 153          | 06/14/2018   | SW6850 | Perchlorate                                   | 0.062  | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-248M2    | MW-248M2_S18    | 178      | 188          | 06/14/2018   | SW6850 | Perchlorate                                   | 0.026  | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-248M1    | MW-248M1_S18    | 216.3    | 226.3        | 06/14/2018   | SW6850 | Perchlorate                                   | 0.14   | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-531M1    | MW-531M1_S18    | 138      | 148          | 06/13/2018   | SW6850 | Perchlorate                                   | 2.9    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-258M2    | MW-258M2_S18    | 87       | 92           | 06/13/2018   | SW6850 | Perchlorate                                   | 0.14   | J         | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-258M1    | MW-258M1_S18    | 109      | 119          | 06/13/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 1.5    |           | ug/L  | 0.60   | Х      | 0.036 | 0.20          |
| Demolition Area 1 | MW-258M1    | MW-258M1_S18    | 109      | 119          | 06/13/2018   | SW6850 | Perchlorate                                   | 8.3    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-258M1    | MW-258M1_S18D   | 109      | 119          | 06/13/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 1.5    |           | ug/L  | 0.60   | Х      | 0.036 | 0.20          |
| Demolition Area 1 | MW-258M1    | MW-258M1_S18D   | 109      | 119          | 06/13/2018   | SW6850 | Perchlorate                                   | 8.4    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20          |
| Demolition Area 1 | MW-231M2    | MW-231M2_S18    | 165.5    | 175.5        | 06/12/2018   | SW6850 | Perchlorate                                   | 0.64   |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-231M1    | MW-231M1_S18    | 210.5    | 220.5        | 06/12/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 0.30   |           | ug/L  | 0.60   |        | 0.036 | 0.20          |
| Demolition Area 1 | MW-231M1    | MW-231M1_S18    | 210.5    | 220.5        | 06/12/2018   | SW6850 | Perchlorate                                   | 1.6    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-231M1    | MW-231M1_S18D   | 210.5    | 220.5        | 06/12/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 0.31   |           | ug/L  | 0.60   |        | 0.036 | 0.20          |
| Demolition Area 1 | MW-231M1    | MW-231M1_S18D   | 210.5    | 220.5        | 06/12/2018   | SW6850 | Perchlorate                                   | 1.6    |           | ug/L  | 2.0    |        | 0.012 | 0.20          |
| Demolition Area 1 | MW-663D     | MW-663D_S18     | 240.6    | 250.6        | 06/07/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 1.2    |           | ug/L  | 0.60   | х      | 0.036 | 0.20          |
| Demolition Area 1 | MW-663D     | MW-663D_S18     | 240.6    | 250.6        | 06/07/2018   | SW6850 | Perchlorate                                   | 20.9   | J         | ug/L  | 2.0    | х      | 0.12  | 2.0           |
| Demolition Area 1 | MW-663D     | MW-663D_S18D    | 240.6    | 250.6        | 06/07/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 1.3    |           | ug/L  | 0.60   | х      | 0.036 | 0.20          |

# TABLE 2 VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS Data Received July 2018

|                   |             |                 | Тор      |              |              | 1      |  | 1      | 1         |       |        |        |       | T    |
|-------------------|-------------|-----------------|----------|--------------|--------------|--------|--|--------|-----------|-------|--------|--------|-------|------|
|                   |             |                 | Depth    | Bottom Depth | L            | Test   |  | Result | L         |       |        | >      |       |      |
| Area of Concern   | Location ID | Field Sample ID | (ft bgs) | (ft bgs)     | Date Sampled | Method | Analyte  | Value  | Qualifier | Units | MCL/HA | MCL/HA | MDL   | RL   |
| Demolition Area 1 | MW-663D     | MW-663D_S18D    | 240.6    | 250.6        | 06/07/2018   | SW6850 | Perchlorate  | 21.3   | J         | ug/L  | 2.0    | Х      | 0.12  | 2.0  |
| Demolition Area 1 | MW-240M2    | MW-240M2_S18    | 125      | 135          | 06/07/2018   | SW6850 | Perchlorate  | 0.35   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-240M1    | MW-240M1_S18    | 198      | 208          | 06/07/2018   | SW6850 | Perchlorate  | 0.067  | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-225M3    | MW-225M3_S18    | 125      | 135          | 06/07/2018   | SW6850 | Perchlorate  | 0.72   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-225M2    | MW-225M2_S18    | 145      | 155          | 06/07/2018   | SW6850 | Perchlorate  | 0.088  | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-225M1    | MW-225M1_S18    | 175      | 185          | 06/07/2018   | SW6850 | Perchlorate  | 0.23   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-662D     | MW-662D_S18     | 202.3    | 212.3        | 06/07/2018   | SW6850 | Perchlorate  | 1.2    |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-546M2    | MW-546M2_S18    | 100      | 110          | 06/06/2018   | SW6850 | Perchlorate  | 0.11   | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-546M1    | MW-546M1_S18    | 140      | 150          | 06/06/2018   | SW6850 | Perchlorate  | 0.32   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-544M3    | MW-544M3_S18    | 77.5     | 87.5         | 06/06/2018   | SW6850 | Perchlorate  | 0.096  | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-544M2    | MW-544M2_S18    | 112      | 122          | 06/06/2018   | SW6850 | Perchlorate  | 0.88   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-544M1    | MW-544M1_S18    | 162      | 172          | 06/06/2018   | SW6850 | Perchlorate  | 3.4    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | XX9514      | XX9514_S18      | 102      | 112          | 06/06/2018   | SW6850 | Perchlorate  | 4.7    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | XX9514      | XX9514_S18D     | 102      | 112          | 06/06/2018   | SW6850 | Perchlorate  | 4.7    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | MW-558M2    | MW-558M2_S18    | 98       | 108          | 06/05/2018   | SW6850 | Perchlorate  | 0.16   | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-597M1    | MW-597M1_S18    | 148      | 158          | 06/05/2018   | SW6850 | Perchlorate  | 0.13   | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-353M1    | MW-353M1_S18    | 107      | 117          | 06/05/2018   | SW6850 | Perchlorate  | 0.13   | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-545M4    | MW-545M4_S18    | 72       | 82           | 06/04/2018   | SW6850 | Perchlorate  | 0.48   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-545M3    | MW-545M3_S18    | 101.5    | 111.5        | 06/04/2018   | SW6850 | Perchlorate  | 0.28   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-545M2    | MW-545M2_S18    | 142      | 152          | 06/04/2018   | SW6850 | Perchlorate  | 2.8    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | MW-545M1    | MW-545M1_S18    | 162      | 172          | 06/04/2018   | SW6850 | Perchlorate  | 2.4    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | MW-582M2    | MW-582M2_S18    | 84       | 94           | 06/04/2018   | SW6850 | Perchlorate  | 0.85   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-582M1    | MW-582M1_S18    | 134      | 144          | 06/04/2018   | SW6850 | Perchlorate  | 2.7    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | MW-582M1    | MW-582M1_S18D   | 134      | 144          | 06/04/2018   | SW6850 | Perchlorate  | 2.7    |           | ug/L  | 2.0    | Х      | 0.012 | 0.20 |
| Demolition Area 1 | MW-571M2    | MW-571M2_S18    | 74       | 84           | 06/01/2018   | SW6850 | Perchlorate  | 0.34   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-571M1    | MW-571M1_S18    | 114      | 124          | 06/01/2018   | SW6850 | Perchlorate  | 1.3    |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-569M2    | MW-569M2_S18    | 84       | 94           | 06/01/2018   | SW6850 | Perchlorate  | 0.46   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-569M1    | MW-569M1_S18    | 114      | 124          | 06/01/2018   | SW6850 | Perchlorate  | 0.41   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-659M1    | MW-659M1_S18    | 120      | 130          | 06/01/2018   | SW6850 | Perchlorate  | 0.98   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-554M2    | MW-554M2_S18    | 89.1     | 99.1         | 05/31/2018   | SW6850 | Perchlorate  | 0.21   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-554M1    | MW-554M1_S18    | 120      | 130          | 05/31/2018   | SW6850 | Perchlorate  | 0.26   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-556M1    | MW-556M1_S18    | 153      | 163          | 05/31/2018   | SW6850 | Perchlorate  | 1.1    |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-210M2    | MW-210M2_S18    | 156      | 166          | 05/30/2018   | SW6850 | Perchlorate  | 0.40   |           | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-274      | MW-274_S18      | 109      | 199          | 05/30/2018   | SW6850 | Perchlorate  | 0.066  | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-431      | MW-431_S18      | 88       | 188          | 05/29/2018   | SW6850 | Perchlorate  | 0.12   | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-431      | MW-431_S18      | 88       | 188          | 05/29/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.23   |           | ug/L  | 0.60   |        | 0.036 | 0.20 |
| Demolition Area 1 | MW-431      | MW-431_S18D     | 88       | 188          | 05/29/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.24   |           | ug/L  | 0.60   |        | 0.036 | 0.20 |
| Demolition Area 1 | EW-658      | EW-658_S18      | 96       | 136          | 05/29/2018   | SW6850 | Perchlorate  | 0.080  | J         | ug/L  | 2.0    |        | 0.012 | 0.20 |
| Demolition Area 1 | MW-19S      | MW-19S_S18      | 52.7     | 62.7         | 05/29/2018   | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 0.42   |           | ug/L  | 400    |        | 0.025 | 0.20 |
| Demolition Area 1 | MW-19S      | MW-19S_S18      | 52.7     | 62.7         | 05/29/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 1.4    |           | ug/L  | 0.60   | х      | 0.036 | 0.20 |
| Demolition Area 1 | MW-19S      | MW-19S_S18D     | 52.7     | 62.7         | 05/29/2018   | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 0.43   |           | ug/L  | 400    |        | 0.025 | 0.20 |
| Demolition Area 1 | MW-19S      | MW-19S_S18D     | 52.7     | 62.7         | 05/29/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 1.4    |           | ug/L  | 0.60   | х      | 0.036 | 0.20 |
| Demolition Area 1 | MW-76M2     | MW-76M2_S18     | 105      | 115          | 05/29/2018   | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.20   |           | ug/L  | 0.60   |        | 0.036 | 0.20 |

# TABLE 2 VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS Data Received July 2018

| Area of Concern   | Location ID | Field Sample ID | Top<br>Depth | Bottom Depth | Data Sampled               | Test   | Applies  | Result        | Qualifier | Unito | MCL/HA | ><br>MCI /HA | MDL   |            |
|-------------------|-------------|-----------------|--------------|--------------|----------------------------|--------|--|---------------|-----------|-------|--------|--------------|-------|------------|
| Demolition Area 1 | MW-31S      | MW-31S S18      | (ft bgs)     | (ft bgs)     | Date Sampled<br>05/22/2018 | SW8330 | Analyte Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)  | Value<br>0.20 | Qualifier | Units | 0.60   | IVICL/HA     | 0.036 | RL<br>0.20 |
|                   | MW-31S      | _               | 98           |              |                            |        |  |               |           | ug/L  | -      |              | 1     |            |
| Demolition Area 1 | <del></del> | MW-31S_S18      | +            | 103          | 05/22/2018                 | SW8330 | 2-Amino-4,6-dinitrotoluene                             | 0.23          | <u> </u>  | ug/L  | 7.3    |              | 0.016 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18      | 98           | 103          | 05/22/2018                 | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 0.41          |           | ug/L  | 400    |              | 0.025 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18      | 98           | 103          | 05/22/2018                 | SW8330 | 2,4,6-Trinitrotoluene                                  | 1.0           |           | ug/L  | 2.0    |              | 0.027 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18D     | 98           | 103          | 05/22/2018                 | SW8330 | 2-Amino-4,6-dinitrotoluene                             | 0.21          |           | ug/L  | 7.3    |              | 0.016 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18D     | 98           | 103          | 05/22/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.21          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18D     | 98           | 103          | 05/22/2018                 | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 0.39          |           | ug/L  | 400    |              | 0.025 | 0.20       |
| Demolition Area 1 | MW-31S      | MW-31S_S18D     | 98           | 103          | 05/22/2018                 | SW8330 | 2,4,6-Trinitrotoluene                                  | 0.96          |           | ug/L  | 2.0    |              | 0.027 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18     | 120          | 130          | 05/22/2018                 | SW8330 | 4-Amino-2,6-dinitrotoluene                             | 0.26          |           | ug/L  | 7.3    |              | 0.015 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18     | 120          | 130          | 05/22/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 1.9           |           | ug/L  | 0.60   | Х            | 0.036 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18     | 120          | 130          | 05/22/2018                 | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 2.7           |           | ug/L  | 400    |              | 0.025 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18D    | 120          | 130          | 05/22/2018                 | SW8330 | 4-Amino-2,6-dinitrotoluene                             | 0.26          |           | ug/L  | 7.3    |              | 0.015 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18D    | 120          | 130          | 05/22/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 1.9           |           | ug/L  | 0.60   | Х            | 0.036 | 0.20       |
| Demolition Area 1 | MW-77M2     | MW-77M2_S18D    | 120          | 130          | 05/22/2018                 | SW8330 | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) | 2.7           |           | ug/L  | 400    |              | 0.025 | 0.20       |
| Demolition Area 1 | MW-139M2    | MW-139M2_S18    | 154          | 164          | 05/17/2018                 | SW6850 | Perchlorate  | 0.071         | J         | ug/L  | 2.0    |              | 0.012 | 0.20       |
| Demolition Area 1 | MW-165M2    | MW-165M2_S18    | 124.5        | 134.5        | 05/17/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.28          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 1 | MW-165M2    | MW-165M2_S18    | 124.5        | 134.5        | 05/17/2018                 | SW6850 | Perchlorate  | 0.30          |           | ug/L  | 2.0    |              | 0.012 | 0.20       |
| Demolition Area 1 | MW-165M1    | MW-165M1_S18    | 184.5        | 194.5        | 05/17/2018                 | SW6850 | Perchlorate  | 0.051         | J         | ug/L  | 2.0    |              | 0.012 | 0.20       |
| Demolition Area 2 | MW-259M1    | MW-259M1_S18    | 189          | 199          | 05/16/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.34          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 2 | MW-262M1    | MW-262M1_S18    | 226          | 236          | 05/16/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.27          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 2 | MW-161S     | MW-161S_S18     | 145.5        | 155.5        | 05/15/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.39          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 2 | MW-161S     | MW-161S_S18D    | 145.5        | 155.5        | 05/15/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.39          |           | ug/L  | 0.60   |              | 0.036 | 0.20       |
| Demolition Area 2 | MW-404M2    | MW-404M2_S18    | 200.04       | 210.04       | 05/15/2018                 | SW8330 | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)          | 0.96          |           | ug/L  | 0.60   | Х            | 0.036 | 0.20       |