MONTHLY PROGRESS REPORT #326
FOR MAY 2024

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 01 to 31 May 2024.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 31 May 2024:

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 reinfiltration (ETR) systems at Frank Perkins Road, Base Boundary, and the Leading Edge include extraction wells, an ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater, and injection wells and an infiltration basin 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 gallons per minute (gpm), with over 3.094 billion gallons of water treated and re-injected as of 31 May 2024. The following Frank Perkins Road system shutdowns occurred in May:

- 0920 on 23 May 2024 due to a power outage caused by a lightning storm and was restarted at 1000 on 23 May 2024.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 31 May 2024, over 401.4 million gallons of water were treated and re-injected. The following Base Boundary system shutdowns occurred in May:

- 1515 on 14 May 2024 due to a power interruption and was restarted at 0757 on 15 May 2024.
- 0920 on 23 May 2024 due to a power outage caused by a lightning storm and was restarted at 1104 on 24 May 2024.

The Leading-Edge system continues to operate at a flow rate of 100 gpm. As of 31 May 2024, over 406.5 million gallons of water were treated and re-injected. The following Leading Edge system shutdowns occurred in May:

- 1515 on 14 May 2024 due to a power interruption and was restarted at 0735 on 14 May 2024.
- 0922 on 23 May 2024 due to a power outage caused by a lightning strike and was restarted at 1027 on 23 May 2024.

The Pew Road MTU was turned off with regulatory approval on 08 March 2021 (formerly operated at a flow rate of 65 gpm). Over 672.9 million gallons of water were treated and re-injected during the RA.

J-2 Range Groundwater RA

Northern

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, an ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater, and four infiltration basins to return treated water to the aquifer.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 31 May 2024, over 2.213 billion gallons of water have been treated and re-injected. The following MTU E and F system shutdowns occurred in May:

- MTU E at 1958 on 01 May 2024 due to a power interruption and was restarted at 0825 on 02 May 2024.
- MTU F at 1958 on 01 May 2024 due to a power interruption and was restarted at 0748 on 02 May 2024.
- MTU E at 1512 on 14 May 2024 due to a power interruption and was restarted at 0805 on 15 May 2024.
- MTU F at 1512 on 14 May 2024 due to a power interruption and was restarted at 0805 on 15 May 2024.
- MTU E at 0955 on 29 May 2024 due to a leak on the influent sample port and was restarted at 1105 on 29 May 2024.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 31 May 2024, over 1.709 billion gallons of water have been treated and re-injected. The following MTU G system shutdowns occurred in May:

- MTU G shutdown at 1958 on 01 May 2024 due to a power interruption and was restarted on 0840 on 02 May 2024.
- MTU G shutdown at 1512 on 14 May 2024 due to a power interruption and was restarted at 0825 on 15 May 2024.

Eastern

The J-2 Range Eastern Treatment system 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 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 enters the vadose zone and infiltrates 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 31 May 2024, over 1.851 billion gallons of water have been treated and re-injected. The following MTU H and I system shutdowns occurred in May:

- 0750 on 01 May 2024 for MTUs H and I for installation of a packer in J2EW0005 and were restarted at 1036 on 03 May 2024.

- 1817 on 23 May 2024 for MTUs H and I due to power interruption. The shutdown of the system caused loss of programming. The system was reprogrammed and restarted at 1140 on 24 May 2024.

MTU J typically operates at a flow rate of 120 gpm. As of 31 May 2024, over 865.6 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in May:

- 0845 on 22 April 2024 to redevelop extraction well J2EW0004 during which the pump and motor were found to require replacement. A new pump and motor were installed on 07 May 2024. A synoptic event was performed on 10 May 2024. Unit J was restarted at 1246 on 10 May 2024.
- 1748 on 10 May 2024 due to a "High Influent Pressure" alarm. The bag filters were replaced and the system was restarted at 0800 on 13 May 2024.

MTU K continues to operate at a flow rate of 125 gpm. As of 31 May 2024, over 995.3 million gallons of water have been treated and re-injected. No MTU K shutdowns occurred in May.

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, an ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater and utilizes the existing Fuel Spill-12 (FS-12) reinjection wells to return treated water to the aquifer.

The J-3 system is currently operating at a flow rate of 255 gpm. As of 31 May 2024, over 1.834 billion gallons of water have been treated and re-injected. No J-3 system shutdowns occurred in May.

J-1 Range Groundwater RA

Southern

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, an 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 has been optimized as part of the ESPM program at J-1 Range Southern. The on-base extraction well J1SEW0001 was turned off with regulatory approval on 31 January 2017 (formerly operated at a flow of 35 gpm), and flow was increased from 90 gpm to 125 gpm at the Leading-Edge extraction well J1SEW0002. The Leading-Edge extraction well continues to operate at a flow rate of 125 gpm. As of 31 May 2024, over 801.2 million gallons of water have been treated and re-injected. The following J-1 Range Southern MTU shutdowns occurred in May:

- 0918 on 23 May 2024 due to a power outage caused by a lightning storm and was restarted at 1000 on 23 May 2024.

- 0845 on 29 May 2024 to run J1SEW0001 for semi-annual extraction well sampling and was restarted at 0930 on 29 May 2024.

Northern

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, an 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 31 May 2024, over 1.360 billion gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shutdowns occurred in May:

- 0949 on 24 May 2024 due to a broken hose on the GAC #2 effluent line that caused an alarm for “Sump Flood”. A new hose, flange, and camlock fitting were installed and the system was restarted at 1318 on 24 May 2024.

Central Impact Area RA

The Central Impact Area (CIA) Groundwater treatment system 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 resin and granular activated carbon media to treat explosives compounds, and an infiltration basin and two 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 31 May 2024, over 3.600 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in May:

- 1248 on 01 May 2024 at CIA-1 due to the power being disconnected to replace poles on Burgoyne Road and was restarted at 1600 on 01 May 2024.
- 1248 on 01 May 2024 at CIA-2 due to the power being disconnected to replace poles on Burgoyne Road and was restarted at 0749 on 02 May 2024.
- 0930 on 07 May 2024 at CIA-1 and CIA-2 due to the power being disconnected for powerline maintenance on Burgoyne Road and was restarted at 1100 on 07 May 2024.
- 1000 on 15 May 2024 at CIA-1 to drain GAC #2 and GAC #5 for a carbon exchange performed on 16 May 2024. CIA-1 was restarted at 0742 on 17 May 2024.
- 0232 on 30 May 2024 at CIA-1 due to an alarm for “VFD Fault” that was found to be damaged upon inspection on 31 May 2024. A replacement VFD is being procured.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 31 May 2024:

CIA
- Source Area investigations
  - Conducted MetalMapper (MM) cued surveys in P4A4 grids
  - Conducted intrusive investigation in P4A3 grids
  - Routine visual check of CSS soil cover and surface area around the perimeter of the CSS
  - Carbon changeout for GAC #2 and GAC #5 for CIA-1

Demolition Area 1
- Groundwater sampling within the Demo 1 SPM Program
- Hydraulic monitoring within the Demo 1 SPM Program.
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- Variable Frequency Drive (VFD) replaced at Base Boundary system.

Demolition Area 2
- Groundwater sampling within the Demo 2 PFAS program.

J-1 Range
- Bag filters changed
- Groundwater sampling within the J1 South SPM Program.
- New fittings installed on GAC #2 of J1N.

J-2 Range
- Influent sample port repaired at MTU E for J2N.
- Redevelopment of extraction well J2EW0004 at MTU J of J2E.
- New well pump and motor installed at extraction well J2EW0004 at MTU J for J2E.
- Packer installed in well screen of J2EW0005 at MTUs H and I for J2E.
- Bag filters changed twice at Unit J of J2E.

J-3 Range
- No activity

L Range
- No activity

Small Arms Ranges
- No activity

Northwest Corner
- No activity

Training Areas
- No activity

Impact Area Roads

- No activity

Other

- Collected process water samples from Central Impact Area, Demolition Area 1, J-1 Range Northern, J-1 Range Southern, J-2 Range Eastern, J-2 Range Northern, and J-3 Range treatment systems

JBCC Impact Area Groundwater Study Program (IAGWSP) Tech Update Meeting Minutes for 23 May 2024

Project and Fieldwork Update

Darrin Smith (USACE) stated that KGS completed the Demolition Area 1 annual sampling event at 86 well screens. They also started the one-time PFAS sampling at five Demolition Area 2 well screens. Crews are currently conducting semi-annual sampling at J-1 South (29 well screens) and will then do semi-annual sampling at the J-1 North (28 well screens).

Mr. Smith (USACE) continued with an update on operations and maintenance activities. IAGWSP is awaiting results from the May monthly process water sampling event that occurred from 5/1/24 through 5/14/24. A granular activated carbon (GAC) changeout was performed at the Central Impact Area (CIA) Treatment System One based on the April monthly treatment plant sampling results where RDX was detected at 0.32 ug/L. The only notable system shutdown was due to the GAC changeout from 5/15/24-5/17/24.

Gina Kaso (USACE) moved on to the CIA update and explained that UXO crews are continuing investigation of discrete digs in Phase IV Area 3 grids. Two metal mappers are also collecting data in the same area. Ms. Kaso thanked Len Pinaud for providing the selection of the 100% grids, which was shared with the contractors. There was a brief discussion about whether Mr. Pinaud's selection also included EPA's input. Bob Lim said he will consult with Mr. Pinaud after the meeting and Mr. Lim will provide further direction to USACE by the end of the day. Jane Dolan asked for clarification on a figure showing completion statistics. Ms. Kaso will discuss with KGS and provide an update.

Document and Project Tracking

Mr. Dvorak (USACE) reviewed the list of deliverables (provided in advance of the meeting). At EPA's request, Remedial Project Managers' names will be added to the document tracking list.

J-2 Range Northern Environmental Monitoring Report (EMR) Presentation

Mike Kulbersh introduced the J-2 Range Northern (J-2N) environmental monitoring presentation. He noted that the reporting period covered data from November 2022 through October 2023. He showed pictures of the J-2N treatment facilities.
Mr. Kulbersh noted that the J-2N system has reduced the size of the perchlorate and RDX plumes over the years. Crews installed 14 new wells (MW-734M1/2, MW-735M1/2, MW-736M1/2, MW-737M1/2, MW-738M1/2, MW-739M1/2, MW-740M1/2) along and north of Gibbs Road in accordance with the J-2 N PFAS Workplan. These wells were sampled for perchlorate

in 2023 and 2024. Following the 2024 reporting period, there will be a determination on whether these wells need to be included in the chemical monitoring program in the future.

The Wood Road extraction, treatment, and reinjection (ETR) system, EW-1 and EW-2, are pumping at combined rates of 200 gallons per minute (gpm) and were online about 90.5% during the reporting period. The Jefferson Road ETR facility, EW-3, is pumping at 245 gpm and was online approximately 97.8% during the reporting period.

At the Wood Road ETR system, perchlorate was detected in the influent at concentrations ranging from 0.34 – 1.70 ug/L. RDX was non-detect (ND), or less than the reporting limit (RL). HMX was ND. For mass removal, 1.44 lbs of perchlorate were removed by this system and 0.03 lbs of RDX were removed. There were no changeouts during this reporting period.

At the Jefferson Road ETR system, perchlorate was detected in the influent at 0.21 ug/L – less than the reporting limit. RDX and HMX were ND. For mass removal, 0.2 lbs of perchlorate were removed by this system and no RDX or HMX were removed. There were no changeouts during this reporting period.

Mr. Kulbersh showed graphs with the monitoring results summaries and trends. For perchlorate, there were 99 wells screens sampled, which included the seven new well clusters. Perchlorate ranged from ND to a maximum of 11 ug/L (at MW-586M1). There were 4 screens that had exceedances of the MCL of 2.0 ug/L. No detections were above the health advisory of 15.0 ug/L. For RDX, there were 29 wells screens sampled. Concentrations ranged from ND to 0.89 ug/L. Two screens exceeded the Risk-based Concentration (RBC) of 0.6 ug/L. No screens exceeded the Regional Screening Level or the Health Advisory.

Water levels ranged from 58.23 ft mean sea level (msl) at MW-55D in the north to 69.68 ft msl at MW-164M1 in the south. The water levels were lower in Fall of 2022 with an average of 0.73 ft. The horizontal gradient was approximately 0.00118 ft/ft.

Mr. Kulbersh continued by showing a figure with the modeled capture zone. He noted that the numerical model indicates the perchlorate and RDX plumes are being captured within the lateral capture zones. He explained that segmented plumes were created at the extraction wells as a result of pumping stresses. The measured and predicted perchlorate plumes were created using the January 2022 perchlorate plume shell and measured groundwater concentrations from the 2023 reporting period.

Elliot Jacobs referred to a slight perchlorate lobe shown in Zone 3 on the figure and asked if it was a model artifact. Mr. Kulbersh stated that it was most likely because historically, looking at MW-313, there were very low level concentrations during the reporting period. Mr. Kulbersh showed the general breakthrough curves for MW-313 and noted that there could be a remnant. Currently the model shows some concentration, but not above 2.0 ug/L. The figure conservatively shows a perchlorate plumelet because of the potential travel distance between MW-313 and the extraction well. It is estimated that by next year that plumelet will likely not be shown. Mr. Jacobs said it might be worth considering optimization and possibly turn off the third well because there would no longer be a need to operate that well.

Decision Document (DD) cleanup timelines were discussed. Mr. Kulbersh explained that the

perchlorate measurements indicate that the plume is reasonably well predicted but the expected overall cleanup time is seven years longer than the DD timeline, which is likely the result of the statistical mapping of contamination to lower K units that might not be realistic. The DD predicted that perchlorate concentrations would be below 2.0 µg/L by 2027. The current model-predicted time to cleanup is 2034.

The DD predicted that RDX concentrations would be below 0.6 µg/L by 2022. There was no model simulation because RDX is confined to Zone 1 and previously enveloped by the perchlorate plume and relatively small comparatively. Mr. Kulbersh stated that is it reasonable to infer that the RDX concentrations will decrease below the 0.6 ug/L RBC within a timespan similar to perchlorate.

Mr. Kulbersh noted that the IAGWSP recommends discontinuing explosives analysis at EW-3. There are no recommended changes to the current plume shells, which will be updated in 2027. There are no recommended changes to the wellfield extraction rates or the hydraulic monitoring program. The recommended chemical monitoring changes are based on chemical trend plot reviews of measured concentrations. IAGWSP recommends reducing the perchlorate sampling frequency to 14 screens, removing 41 screens; and reducing explosives sampling frequency to 3 screens, removing 20 screens. Mr. Kulbersh explained that wells screens would be recommended for removal based on trends such as, if perchlorate at a particular screen has been below the RL since 2019 and RDX has been below the RL or ND since 2008.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) has yet to be scheduled (previous meeting was 10 April 2024). Meeting details and presentation materials from previous meetings can be found on the IAGWSP web site at http://jbcc-iagwsp.org/community/impact/presentations/. 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.

3. SUMMARY OF DATA RECEIVED

Table 1 summarizes sampling for all media from 01 to 31 May 2024. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 May 2024. 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. Table 3 summarizes the validated detections of per- and polyfluoroalkyl substances (PFAS) for influent and groundwater results analyzed by EPA draft Method 1633 and received from 01 to 31 May 2024. Table 3 PFAS results are compared to the Regional Screening Levels (RSLs) published by EPA in November 2023.

The operable units (OUs) under investigation and cleanup at Camp Edwards are the Central Impact Area, Demolition Area 1, Demolition Area 2, J-1 Range, J-2 Range, J-3 Range, L Range, Northwest Corner, Small Arms Ranges, and Training Areas. 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).

4. SUBMITTED DELIVERABLES

Deliverables submitted during the reporting period include the following:

• Monthly Progress Report No. 325 for April 2024	15 May 2024
• Response to EPA response on RTCs for EMR July 2022 – June 2023 via email	14 May 2024
• Final IAGWSP Demolition Area 1 EMR for July 2022 through June 2023	9 May 2024

5. SCHEDULED ACTIONS

The following actions and/or documents are being prepared in June 2024.

• Response to Comments on the Five-Year Review
• Response to Comments on J-1 Range North Environmental Monitoring Report for January 2021 – December 2022 with Plume Shell Technical Memorandum
• Response to Comments on J-3 Range Environmental Monitoring Report for September 2022 – August 2023 with Plume Shell Technical Memorandum
• IAGWSP Comprehensive PFAS Report
• Sitewide Plume Booklet
• Central Impact Area 2021 Source Removal Report Addendum
• Central Impact Area 2023 Source Removal Report
• Responses to Comments on Draft J-2 Range Northern Environmental Monitoring Report for November 2022 – October 2023
• Final J-2 Range Eastern Optimization at J2EW0005 Project Note

TABLE 1
Sampling Progress: 01 to 31 May 2024

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Demolition Area 2	MW-16S	MW-16S_S24	N	05/28/2024	Ground Water	125	135
Demolition Area 2	MW-161S	MW-161S_S24	N	05/23/2024	Ground Water	145.5	155.5
Demolition Area 2	MW-161S	MW-161S_S24D	FD	05/23/2024	Ground Water	145.5	155.5
Demolition Area 2	MW-259M1	MW-259M1_S24	N	05/23/2024	Ground Water	189	199
Demolition Area 2	MW-404M2	MW-404M2_S24	N	05/23/2024	Ground Water	200.04	210.04
Demolition Area 2	MW-573M2	MW-573M2_S24	N	05/23/2024	Ground Water	155.4	165.4
Demolition Area 1	MW-556M2	MW-556M2_S24	N	05/20/2024	Ground Water	111	121
Demolition Area 1	MW-556M1	MW-556M1_S24	N	05/20/2024	Ground Water	153	163
Demolition Area 1	MW-558M2	MW-558M2_S24	N	05/20/2024	Ground Water	98	108
Demolition Area 1	MW-558M1	MW-558M1_S24	N	05/20/2024	Ground Water	134	144
Demolition Area 1	MW-602M1	MW-602M1_S24	N	05/20/2024	Ground Water	109	119
Demolition Area 1	MW-559M2	MW-559M2_S24	N	05/16/2024	Ground Water	87	97
Demolition Area 1	MW-559M1	MW-559M1_S24	N	05/16/2024	Ground Water	135.6	145.6
Demolition Area 1	MW-582M2	MW-582M2_S24	N	05/16/2024	Ground Water	84	94
Demolition Area 1	MW-582M1	MW-582M1_S24	N	05/16/2024	Ground Water	134	144
Demolition Area 1	MW-571M2	MW-571M2_S24	N	05/15/2024	Ground Water	74	84
Demolition Area 1	MW-571M1	MW-571M1_S24	N	05/15/2024	Ground Water	114	124
Demolition Area 1	MW-569M2	MW-569M2_S24	N	05/15/2024	Ground Water	84	94
Demolition Area 1	MW-569M1	MW-569M1_S24	N	05/15/2024	Ground Water	114	124
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-188A	N	05/14/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-188A	N	05/14/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-188A	N	05/14/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-188A	N	05/14/2024	Process Water	0	0
Demolition Area 1	MW-611M2	MW-611M2_S24	N	05/13/2024	Ground Water	91	101
Demolition Area 1	MW-611M1	MW-611M1_S24	N	05/13/2024	Ground Water	141	151
Demolition Area 1	MW-611M1	MW-611M1_S24D	FD	05/13/2024	Ground Water	141	151
Demolition Area 1	MW-610M2	MW-610M2_S24	N	05/13/2024	Ground Water	85	95
Demolition Area 1	MW-610M1	MW-610M1_S24	N	05/13/2024	Ground Water	110	120
Demolition Area 1	XX9514	XX9514_S24	N	05/13/2024	Ground Water	0	0
Demolition Area 1	XX9514	XX9514_S24D	FD	05/13/2024	Ground Water	0	0
Demolition Area 1	MW-641M2	MW-641M2_S24	N	05/09/2024	Ground Water	86.2	96.2
Demolition Area 1	MW-641M1	MW-641M1_S24	N	05/09/2024	Ground Water	113.2	123.2
Demolition Area 1	MW-642M2	MW-642M2_S24	N	05/09/2024	Ground Water	77.3	87.3
Demolition Area 1	MW-642M1	MW-642M1_S24	N	05/09/2024	Ground Water	104.3	114.3
Demolition Area 1	MW-659M2	MW-659M2_S24	N	05/08/2024	Ground Water	85	95
Demolition Area 1	MW-659M1	MW-659M1_S24	MS	05/08/2024	Ground Water	120	130
Demolition Area 1	MW-659M1	MW-659M1_S24	N	05/08/2024	Ground Water	120	130
Demolition Area 1	MW-659M1	MW-659M1_S24	SD	05/08/2024	Ground Water	120	130
Central Impact Area	CIA2-EFF	CIA2-EFF-124A	N	05/08/2024	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-124A	N	05/08/2024	Process Water	0	0
Demolition Area 1	MW-597M2	MW-597M2_S24	N	05/08/2024	Ground Water	118	128
Central Impact Area	CIA2-MID1	CIA2-MID1-124A	N	05/08/2024	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-124A	N	05/08/2024	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-124A	N	05/08/2024	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 May 2024

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Central Impact Area	CIA1-MID2	CIA1-MID2-124A	N	05/08/2024	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-124A	N	05/08/2024	Process Water	0	0
Demolition Area 1	MW-597M1	MW-597M1_S24	N	05/08/2024	Ground Water	148	158
Central Impact Area	CIA1-INF	CIA1-INF-124A	N	05/08/2024	Process Water	0	0
Demolition Area 1	MW-352M1	MW-352M1_S24	N	05/07/2024	Ground Water	115	125
Demolition Area 1	MW-543M2	MW-543M2_S24	N	05/07/2024	Ground Water	91.8	101.8
Demolition Area 1	MW-543M1	MW-543M1_S24	N	05/07/2024	Ground Water	127	137
Demolition Area 1	MW-546M2	MW-546M2_S24	N	05/07/2024	Ground Water	100	110
Central Impact Area	CIA3-EFF	CIA3-EFF-95A	N	05/07/2024	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-95A	N	05/07/2024	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-95A	N	05/07/2024	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-95A	N	05/07/2024	Process Water	0	0
Demolition Area 1	MW-546M1	MW-546M1_S24	N	05/07/2024	Ground Water	140	150
J3 Range	J3-EFF	J3-EFF-212A	N	05/06/2024	Process Water	0	0
Demolition Area 1	MW-544M2	MW-544M2_S24	N	05/06/2024	Ground Water	112	122
J3 Range	J3-MID-2	J3-MID-2-212A	N	05/06/2024	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-212A	N	05/06/2024	Process Water	0	0
J3 Range	J3-INF	J3-INF-212A	N	05/06/2024	Process Water	0	0
Demolition Area 1	MW-544M1	MW-544M1_S24	N	05/06/2024	Ground Water	162	172
Demolition Area 1	MW-544M1	MW-544M1_S24D	FD	05/06/2024	Ground Water	162	172
Demolition Area 1	MW-545M4	MW-545M4_S24	N	05/06/2024	Ground Water	72	82
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-188A	N	05/06/2024	Process Water	0	0
Demolition Area 1	MW-545M3	MW-545M3_S24	N	05/06/2024	Ground Water	101.5	111.5
Demolition Area 1	MW-545M2	MW-545M2_S24	N	05/06/2024	Ground Water	142	152
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-188A	N	05/06/2024	Process Water	0	0
Demolition Area 1	MW-545M1	MW-545M1_S24	N	05/06/2024	Ground Water	162	172
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-188A	N	05/06/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-188A	N	05/06/2024	Process Water	0	0
Demolition Area 1	D1LE-EFF	D1LE-EFF-94A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-94A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-94A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-94A	N	05/02/2024	Process Water	0	0
Demolition Area 1	MW-353M2	MW-353M2_S24	N	05/02/2024	Ground Water	57	67
Demolition Area 1	MW-353M1	MW-353M1_S24	N	05/02/2024	Ground Water	107	117
J1 Range Southern	J1S-EFF	J1S-EFF-198A	N	05/02/2024	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-198A	N	05/02/2024	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-198A	N	05/02/2024	Process Water	0	0
Demolition Area 1	MW-532M2	MW-532M2_S24	N	05/02/2024	Ground Water	138	148

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 May 2024

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	FPR-2-EFF-A	FPR-2-EFF-A-218A	N	05/02/2024	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-218A	N	05/02/2024	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-218A	N	05/02/2024	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-218A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1-EFF	D1-EFF-166A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-166A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-166A	N	05/02/2024	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-166A	N	05/02/2024	Process Water	0	0
Demolition Area 1	MW-532M1	MW-532M1_S24	N	05/02/2024	Ground Water	168	178
Demolition Area 1	MW-732M2	MW-732M2_S24	N	05/01/2024	Ground Water	96.2	106.2
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-212A	N	05/01/2024	Process Water	0	0
Demolition Area 1	MW-732M1	MW-732M1_S24	N	05/01/2024	Ground Water	156	166
J2 Range Northern	J2N-INF-G	J2N-INF-G-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-212A	N	05/01/2024	Process Water	0	0
Demolition Area 1	MW-731M3	MW-731M3_S24	N	05/01/2024	Ground Water	160.1	170.1
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-212A	N	05/01/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-212A	N	05/01/2024	Process Water	0	0
Demolition Area 1	MW-731M2	MW-731M2_S24	N	05/01/2024	Ground Water	190.9	200.9
J1 Range Northern	J1N-EFF	J1N-EFF-127A	N	05/01/2024	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-127A	N	05/01/2024	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-127A	N	05/01/2024	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-127A	N	05/01/2024	Process Water	0	0
Demolition Area 1	MW-731M1	MW-731M1_S24	MS	05/01/2024	Ground Water	220.8	230.8
Demolition Area 1	MW-731M1	MW-731M1_S24	N	05/01/2024	Ground Water	220.8	230.8
Demolition Area 1	MW-731M1	MW-731M1_S24	SD	05/01/2024	Ground Water	220.8	230.8

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received May 2024

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
Central Impact Area	CIA2-EFF	CIA2-EFF-124A	0	0	05/08/2024	SW6850	Perchlorate	0.052	J	µg/L	2.0		0.039	0.20
Central Impact Area	CIA2-MID2	CIA2-MID2-124A	0	0	05/08/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.043	0.20
Central Impact Area	CIA2-MID1	CIA2-MID1-124A	0	0	05/08/2024	SW6850	Perchlorate	0.26		µg/L	2.0		0.039	0.20
Central Impact Area	CIA2-INF	CIA2-INF-124A	0	0	05/08/2024	SW6850	Perchlorate	0.30		µg/L	2.0		0.039	0.20
Central Impact Area	CIA2-INF	CIA2-INF-124A	0	0	05/08/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.86		µg/L	0.60	X	0.043	0.20
Central Impact Area	CIA2-INF	CIA2-INF-124A	0	0	05/08/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.12	J	µg/L	400		0.091	0.20
Central Impact Area	CIA1-MID2	CIA1-MID2-124A	0	0	05/08/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.35		µg/L	0.60		0.043	0.20
Central Impact Area	CIA1-MID1	CIA1-MID1-124A	0	0	05/08/2024	SW6850	Perchlorate	0.053	J	µg/L	2.0		0.039	0.20
Central Impact Area	CIA1-INF	CIA1-INF-124A	0	0	05/08/2024	SW6850	Perchlorate	0.37		µg/L	2.0		0.039	0.20
Central Impact Area	CIA1-INF	CIA1-INF-124A	0	0	05/08/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.66		µg/L	0.60	X	0.043	0.20
Central Impact Area	CIA3-EFF	CIA3-EFF-95A	0	0	05/07/2024	SW6850	Perchlorate	0.061	J	µg/L	2.0		0.039	0.20
Central Impact Area	CIA3-MID2	CIA3-MID2-95A	0	0	05/07/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.043	0.20
Central Impact Area	CIA3-MID1	CIA3-MID1-95A	0	0	05/07/2024	SW6850	Perchlorate	0.073	J	µg/L	2.0		0.039	0.20
Central Impact Area	CIA3-INF	CIA3-INF-95A	0	0	05/07/2024	SW6850	Perchlorate	0.17	J	µg/L	2.0		0.039	0.20
Central Impact Area	CIA3-INF	CIA3-INF-95A	0	0	05/07/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.51		µg/L	0.60		0.043	0.20
J3 Range	J3-EFF	J3-EFF-212A	0	0	05/06/2024	SW6850	Perchlorate	0.22		µg/L	2.0		0.039	0.20
J3 Range	J3-EFF	J3-EFF-212A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.043	0.20
J3 Range	J3-EFF	J3-EFF-212A	0	0	05/06/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.10	J	µg/L	400		0.091	0.20
J3 Range	J3-MID-2	J3-MID-2-212A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.043	0.20
J3 Range	J3-MID-1	J3-MID-1-212A	0	0	05/06/2024	SW6850	Perchlorate	0.19	J	µg/L	2.0		0.039	0.20
J3 Range	J3-INF	J3-INF-212A	0	0	05/06/2024	SW6850	Perchlorate	0.41		µg/L	2.0		0.039	0.20
J3 Range	J3-INF	J3-INF-212A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.16	J	µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-188A	0	0	05/06/2024	SW6850	Perchlorate	0.045	J	µg/L	2.0		0.039	0.20
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.085	J	µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-188A	0	0	05/06/2024	SW6850	Perchlorate	0.080	J	µg/L	2.0		0.039	0.20
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-188A	0	0	05/06/2024	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.039	0.20
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.19	J	µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-188A	0	0	05/06/2024	SW6850	Perchlorate	0.25		µg/L	2.0		0.039	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-188A	0	0	05/06/2024	SW6850	Perchlorate	1.5		µg/L	2.0		0.039	0.20

J = Estimated Result
MDL = Method Detection Limit
RL = Reporting Limit
ND = Non-Detect

MCL/HA= Either the MCL or Lowest Health Advisory Limit
June 07, 2024

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received May 2024

Area of Concern	Location ID	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Sampled	Test Method	Analyte	Result Value	Qualifier	Units	MCL/HA	> MCL/HA	MDL	RL
J2 Range Eastern	J2E-INF-I	J2E-INF-I-188A	0	0	05/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.29		µg/L	0.60		0.043	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-188A	0	0	05/06/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.15	J	µg/L	400		0.091	0.20
J1 Range Southern	J1S-MID	J1S-MID-198A	0	0	05/02/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.088	J	µg/L	0.60		0.043	0.20
J1 Range Southern	J1S-INF-2	J1S-INF-2-198A	0	0	05/02/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.076	J	µg/L	0.60		0.043	0.20
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-212A	0	0	05/01/2024	SW6850	Perchlorate	0.090	J	µg/L	2.0		0.039	0.20
J2 Range Northern	J2N-INF-G	J2N-INF-G-212A	0	0	05/01/2024	SW6850	Perchlorate	0.17	J	µg/L	2.0		0.039	0.20
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-212A	0	0	05/01/2024	SW6850	Perchlorate	0.052	J	µg/L	2.0		0.039	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-212A	0	0	05/01/2024	SW6850	Perchlorate	1.1		µg/L	2.0		0.039	0.20
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-212A	0	0	05/01/2024	SW6850	Perchlorate	0.045	J	µg/L	2.0		0.039	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-127A	0	0	05/01/2024	SW6850	Perchlorate	0.055	J	µg/L	2.0		0.039	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-127A	0	0	05/01/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.066	J	µg/L	0.60		0.043	0.20
J1 Range Northern	J1N-MID2	J1N-MID2-127A	0	0	05/01/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.076	J	µg/L	0.60		0.043	0.20
J1 Range Northern	J1N-INF2	J1N-INF2-127A	0	0	05/01/2024	SW6850	Perchlorate	0.59		µg/L	2.0		0.039	0.20
J1 Range Northern	J1N-INF2	J1N-INF2-127A	0	0	05/01/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.043	0.20
J2 Range Northern	MW-736M2	MW-736M2_S24	240	250	04/10/2024	SW6850	Perchlorate	0.052	J	µg/L	2.0		0.039	0.20
J2 Range Northern	MW-736M2	MW-736M2_S24D	240	250	04/10/2024	SW6850	Perchlorate	0.051	J	µg/L	2.0		0.039	0.20
J2 Range Northern	MW-738M2	MW-738M2_S24	197	207	04/09/2024	SW6850	Perchlorate	0.039	J	µg/L	2.0		0.039	0.20
J2 Range Northern	MW-740M2	MW-740M2_S24	197	207	04/09/2024	SW6850	Perchlorate	0.047	J	µg/L	2.0		0.039	0.20
J2 Range Northern	MW-740M1	MW-740M1_S24	247	257	04/09/2024	SW6850	Perchlorate	0.042	J	µg/L	2.0		0.039	0.20
J2 Range Northern	MW-734M1	MW-734M1_S24	265.5	275.5	04/04/2024	SW6850	Perchlorate	0.051	J	µg/L	2.0		0.039	0.20
Western Boundary	MW-267M1	MW-267M1_S24	248	258	03/28/2024	SW6850	Perchlorate	0.057	J	µg/L	2.0		0.039	0.20
Central Impact Area	MW-270D	MW-270D_S24	132	137	03/27/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.076	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-284M1	MW-284M1_S24	115	125	03/27/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.068	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-123M2	MW-123M2_S24	236	246	03/25/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.24		µg/L	0.60		0.043	0.20
Central Impact Area	MW-123M1	MW-123M1_S24	291	301	03/25/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-625M1	MW-625M1_S24	260	270	03/25/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.30		µg/L	0.60		0.043	0.20
Western Boundary	MW-282M2	MW-282M2_S24	206	216	03/21/2024	SW6850	Perchlorate	0.044	J	µg/L	2.0		0.039	0.20
Central Impact Area	MW-629M1	MW-629M1_S24	216.9	226.9	03/21/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.077	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-638M2	MW-638M2_S24	204.2	214.2	03/21/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.84		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-638M2	MW-638M2_S24	204.2	214.2	03/21/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.36		µg/L	400		0.091	0.20
Central Impact Area	MW-638M1	MW-638M1_S24	261.2	271.2	03/21/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.081	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-623M2	MW-623M2_S24	291.8	301.8	03/20/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.094	J	µg/L	0.60		0.043	0.20

J = Estimated Result
MDL = Method Detection Limit
RL = Reporting Limit
ND = Non-Detect

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received May 2024

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
Central Impact Area	MW-615M2	MW-615M2_S24	200	210	03/19/2024	SW6850	Perchlorate	0.039	J	µg/L	2.0		0.039	0.20
Central Impact Area	MW-615M1	MW-615M1_S24	260	270	03/19/2024	SW6850	Perchlorate	1.1		µg/L	2.0		0.039	0.20
Central Impact Area	MW-615M1	MW-615M1_S24	260	270	03/19/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.1		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-615M1	MW-615M1_S24	260	270	03/19/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.27		µg/L	400		0.091	0.20
Central Impact Area	MW-615M1	MW-615M1_S24D	260	270	03/19/2024	SW6850	Perchlorate	1.2		µg/L	2.0		0.039	0.20
Central Impact Area	MW-615M1	MW-615M1_S24D	260	270	03/19/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.3		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-615M1	MW-615M1_S24D	260	270	03/19/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.32		µg/L	400		0.091	0.20
Central Impact Area	MW-609M2	MW-609M2_S24	182.4	192.4	03/19/2024	SW8330	2,6-Dinitrotoluene	0.072	J	µg/L	5.0		0.063	0.20
Central Impact Area	MW-609M1	MW-609M1_S24	210.4	220.4	03/19/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.50	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-223M1	MW-223M1_S24	211	221	03/19/2024	SW8330	2,6-Dinitrotoluene	0.073	J	µg/L	5.0		0.063	0.20
Central Impact Area	MW-614M1	MW-614M1_S24	275	285	03/18/2024	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.039	0.20
Central Impact Area	MW-614M1	MW-614M1_S24	275	285	03/18/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.60		µg/L	0.60		0.043	0.20
Central Impact Area	MW-616M1	MW-616M1_S24	217.1	227.1	03/18/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-617M1	MW-617M1_S24	175.8	185.8	03/18/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-644M2	MW-644M2_S24	230.9	240.9	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.27		µg/L	0.60		0.043	0.20
Central Impact Area	MW-644M1	MW-644M1_S24	275.9	285.9	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-644M1	MW-644M1_S24D	275.9	285.9	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.043	0.20
Central Impact Area	MW-607M2	MW-607M2_S24	177.4	187.4	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.043	0.20
Central Impact Area	MW-607M2	MW-607M2_S24D	177.4	187.4	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.043	0.20
Central Impact Area	MW-607M1	MW-607M1_S24	207.4	217.4	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.9		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-607M1	MW-607M1_S24D	207.4	217.4	03/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.9		µg/L	0.60	X	0.043	0.20
Central Impact Area	MW-108M4	MW-108M4_S24	240	250	03/13/2024	SW6850	Perchlorate	0.22		µg/L	2.0		0.039	0.20
Central Impact Area	MW-108M1	MW-108M1_S24	297	307	03/13/2024	SW6850	Perchlorate	0.17	J	µg/L	2.0		0.039	0.20

J = Estimated Result
MDL = Method Detection Limit
RL = Reporting Limit
ND = Non-Detect

MCL/HA= Either the MCL or Lowest Health Advisory Limit
June 07, 2024

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received May 2024

Area of Concern	Location ID	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Sampled	Test Method	Analyte	Result Value	Qualifier	Units	MCL/HA	> MCL/HA	MDL	RL
J2 Range Northern	MW-293M1	MW-293M1_SPR24	296.26	306.27	04/16/2024	E1633DR	Perfluorodecanoic acid (PFDA)	2.2	J	ng/L			0.52	3.4
J2 Range Northern	MW-293M1	MW-293M1_SPR24	296.26	306.27	04/16/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	0.77	J	ng/L			0.52	2.1
J2 Range Northern	MW-293M1	MW-293M1_SPR24	296.26	306.27	04/16/2024	E1633DR	Perfluorononanoic acid (PFNA)	0.85	J	ng/L	5.9		0.52	2.1
J2 Range Northern	MW-293M1	MW-293M1_SPR24	296.26	306.27	04/16/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	11.0		ng/L			0.52	2.1
J2 Range Northern	MW-337D	MW-337D_SPR24	310	320	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	5.0		ng/L			0.52	3.3
J2 Range Northern	MW-337D	MW-337D_SPR24	310	320	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	3.3		ng/L	5.9		0.52	2.1
J2 Range Northern	MW-337D	MW-337D_SPR24	310	320	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	10.0		ng/L			0.52	2.1
J2 Range Northern	MW-330M3	MW-330M3_SPR24	154.97	164.99	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	9.1		ng/L			0.55	3.5
J2 Range Northern	MW-330M3	MW-330M3_SPR24	154.97	164.99	04/15/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	0.59	J	ng/L			0.55	2.2
J2 Range Northern	MW-330M3	MW-330M3_SPR24	154.97	164.99	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	4.3		ng/L	5.9		0.55	2.2
J2 Range Northern	MW-330M3	MW-330M3_SPR24	154.97	164.99	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	9.3		ng/L			0.55	2.2
J2 Range Northern	MW-330M2	MW-330M2_SPR24	238.01	248.04	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	1.5	J	ng/L			0.52	3.4
J2 Range Northern	MW-330M2	MW-330M2_SPR24	238.01	248.04	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	4.9		ng/L	5.9		0.56	2.3
J2 Range Northern	MW-330M2	MW-330M2_SPR24	238.01	248.04	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	1.8	J	ng/L			0.56	2.3
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	3.9		ng/L			0.51	3.3
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	7.6		ng/L			0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	1.1	J	ng/L			0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorohexanoic acid (PFHxA)	0.55	J	ng/L	990		0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	6.0		ng/L	5.9	X	0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluoropentanoic acid (PFPeA)	1.9	J	ng/L			1.1	4.2
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorotetradecanoic acid (PFTeDA)	4.7		ng/L			0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluorotridecanoic acid (PFTrDA)	12.0		ng/L			0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24	313.1	323.13	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	23.0		ng/L			0.53	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	4.5		ng/L			0.49	3.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	10.0		ng/L			0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.98	J	ng/L			0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorohexanoic acid (PFHxA)	0.61	J	ng/L	990		0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	5.4		ng/L	5.9		0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorotetradecanoic acid (PFTeDA)	5.5		ng/L			0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluorotridecanoic acid (PFTrDA)	15.0		ng/L			0.52	2.1
J2 Range Northern	MW-330M1	MW-330M1_SPR24D	313.1	323.13	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	31.0		ng/L			0.52	2.1
J2 Range Northern	MW-340D	MW-340D_SPR24	329.6	339.6	04/15/2024	E1633DR	Perfluorodecanoic acid (PFDA)	1.9	J	ng/L			0.52	3.4

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

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

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received May 2024

Area of Concern	Location ID	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Sampled	Test Method	Analyte	Result Value	Qualifier	Units	MCL/HA	> MCL/HA	MDL	RL
J2 Range Northern	MW-340D	MW-340D_SPR24	329.6	339.6	04/15/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	0.99	J	ng/L			0.52	2.1
J2 Range Northern	MW-340D	MW-340D_SPR24	329.6	339.6	04/15/2024	E1633DR	Perfluorononanoic acid (PFNA)	1.3	J	ng/L	5.9		0.52	2.1
J2 Range Northern	MW-340D	MW-340D_SPR24	329.6	339.6	04/15/2024	E1633DR	Perfluorotridecanoic acid (PFTrDA)	0.53	J	ng/L			0.52	2.1
J2 Range Northern	MW-340D	MW-340D_SPR24	329.6	339.6	04/15/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	6.9		ng/L			0.52	2.1
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	13.0		ng/L			2.0	8.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluoroheptanesulfonic acid (PFHpS)	1.4	J	ng/L			0.50	2.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.70	J	ng/L			0.50	2.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	8.3		ng/L	39.0		0.50	2.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluorohexanoic acid (PFHxA)	0.80	J	ng/L	990		0.50	2.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluorooctanesulfonic acid (PFOS)	16.0	J	ng/L	4.0	X	0.50	2.0
J2 Range Northern	J2EW0002	J2EW0002_SPR24	198	233	04/11/2024	E1633DR	Perfluorooctanoic acid (PFOA)	4.3		ng/L	6.0		0.50	2.0
J2 Range Northern	MW-345M2	MW-345M2_SPR24	236.62	246.62	04/11/2024	E1633DR	Perfluorodecanoic acid (PFDA)	1.1	J	ng/L			0.49	3.2
J2 Range Northern	MW-345M2	MW-345M2_SPR24	236.62	246.62	04/11/2024	E1633DR	Perfluorononanoic acid (PFNA)	2.5		ng/L	5.9		0.49	2.0
J2 Range Northern	MW-345M2	MW-345M2_SPR24	236.62	246.62	04/11/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	2.1		ng/L			0.49	2.0
J2 Range Northern	MW-345M1	MW-345M1_SPR24	311.5	321.5	04/11/2024	E1633DR	Perfluorodecanoic acid (PFDA)	1.4	J	ng/L			0.49	3.1
J2 Range Northern	MW-345M1	MW-345M1_SPR24	311.5	321.5	04/11/2024	E1633DR	Perfluorododecanoic acid (PFDoA)	0.57	J	ng/L			0.49	2.0
J2 Range Northern	MW-345M1	MW-345M1_SPR24	311.5	321.5	04/11/2024	E1633DR	Perfluorononanoic acid (PFNA)	3.5		ng/L	5.9		0.49	2.0
J2 Range Northern	MW-345M1	MW-345M1_SPR24	311.5	321.5	04/11/2024	E1633DR	Perfluoroundecanoic acid (PFUnA)	5.9		ng/L			0.49	2.0
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_APR24	0	0	04/11/2024	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	15.0		ng/L			1.8	7.3
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_APR24	0	0	04/11/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.54	J	ng/L			0.46	1.8
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorohexanoic acid (PFHxA)	1.0	J	ng/L	990		0.46	1.8
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorooctanoic acid (PFOA)	1.3	J	ng/L	6.0		0.46	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	12.0		ng/L			1.8	7.2
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	Perfluoroheptanesulfonic acid (PFHpS)	0.91	J	ng/L			0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.52	J	ng/L			0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	6.0		ng/L	39.0		0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	Perfluorooctanesulfonic acid (PFOS)	13.0	J	ng/L	4.0	X	0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24-D	0	0	04/11/2024	E1633DR	Perfluorooctanoic acid (PFOA)	3.3		ng/L	6.0		0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	12.0		ng/L			1.9	7.7
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluoroheptanesulfonic acid (PFHpS)	0.94	J	ng/L			0.48	1.9
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.61	J	ng/L			0.48	1.9
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	6.3		ng/L	39.0		0.48	1.9

J = Estimated Result
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MCL/HA= Either the MCL or Lowest Health Advisory Limit

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received May 2024

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	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorohexanoic acid (PFHxA)	0.66	J	ng/L	990		0.48	1.9
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorooctanesulfonic acid (PFOS)	13.0	J	ng/L	4.0	X	0.48	1.9
J2 Range Northern	J2N-INF-F	J2N-INF-F_APR24	0	0	04/11/2024	E1633DR	Perfluorooctanoic acid (PFOA)	3.3		ng/L	6.0		0.48	1.9
J3 Range	J3-INF	J3-INF_APR24	0	0	04/11/2024	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	0.91	J	ng/L	39.0		0.48	1.9
J2 Range Northern	MW-734M2	MW-734M2_S24	205	215	04/04/2024	E1633DR	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	20.0		ng/L			1.9	7.6
J2 Range Northern	MW-734M1	MW-734M1_S24	265.5	275.5	04/04/2024	E1633DR	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	17.0		ng/L			1.9	7.5
J2 Range Northern	MW-734M1	MW-734M1_S24	265.5	275.5	04/04/2024	E1633DR	Perfluorononanoic acid (PFNA)	0.58	J	ng/L	5.9		0.47	1.9

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MCL/HA= Either the MCL or Lowest Health Advisory Limit
June 07, 2024