

**MONTHLY PROGRESS REPORT #338
FOR MAY 2025**

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 30 May 2025.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 30 May 2025:

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, 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 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. On 31 March 2025, the flow rate at the Frank Perkins Treatment Facility was reduced from 175 gallons per minute (gpm) to 100 gpm as a result of shutting down extraction well D1-EW-501, leaving only D1-EW-4 pumping as part of the Frank Perkins Road system. As of 30 May 2025, over 3.169 billion gallons of water were treated and re-injected. The following Frank Perkins Road Treatment Facility shutdowns occurred in the reporting period:

- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter. Upon attempting to restart, no flow was noticed and the PLC displayed EW-4 running. Upon further inspection, a significant amount of water and sand were in the vault. BETCO and Satuit Automation were on site the week of 27 May to diagnose. Frank Perkins remains offline until further diagnostics can be performed.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 30 May 2025, over 435.2 million gallons of water were treated and re-injected. The following Base Boundary system shutdowns occurred in the reporting period:

- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter and was restarted at 0851 on 23 May 2025.

The flow rate at the Leading-Edge system was increased from 100 gpm to 125 gpm on 26 September 2024 based on regulatory agency concurrence with the 26 September 2024 Demolition Area 1 Extraction Well 5 (EW-5) Optimization presentation. As of 30 May 2025, over 458.1 million gallons of water were treated and re-injected. The following Leading-Edge system shutdowns occurred in the reporting period:

- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter and was restarted at 0821 on 23 May 2025.

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 an infiltration basin 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 30 May 2025, over 2.331 billion gallons of water have been treated and re-injected. No MTU E and F system shutdowns occurred in the reporting period:

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 30 May 2025, over 1.805 billion gallons of water have been treated and re-injected. The following MTU G system shutdowns occurred in May:

- 0912 on 28 March 2025 due to the unit only pumping at 170 GPM. Based on follow-up inspections it was determined that the pump was beginning to fail. Unit G was turned off to prevent further damage to the pump or extraction well. The existing pump/motor from EW0003 was removed on 13 May 2025. A modified well development was performed on 14 May 2025, and 4,300 gallons were purged from EW0003 and transported to Frank Perkins Treatment Plant for treatment. The system will remain off until a new pump/motor is installed.

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 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 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 30 May 2025, over 1.976 billion gallons of water have been treated and re-injected. The following MTU H and I system shutdowns occurred in the reporting period:

- 0700 on 19 May 2025 it was observed that Units H and I were not operational, but the PLC displayed normal operations. It was determined that the program had been lost resulting in previous data being displayed. Satuit automation was onsite to reprogram the PLC and Units H&I were restarted at 1114 on 19 May 2025.

MTU J continues to operate at a flow rate of 120 gpm. As of 30 May 2025, over 925.1 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in the reporting period:

- On 12 May 2025 it was observed that Unit J was not operational, but the PLC displayed normal operations. It was determined that the program had been lost resulting in previous data being displayed. Satuit automation was onsite to reprogram the PLC and Unit J was restarted at 0835 on 19 May 2025.
- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter. Upon attempting to restart, the VFD showed operational status, but the pump did not produce water. BETCO was onsite on 27 May 2025 and determined that the motor starter had been damaged during the storm. The coil was replaced and Unit J was restarted at 0845 on 27 May 2025.
- 0150 on 28 May 2025 due to a power interruption and was restarted at 0903 on 29 May 2025.

MTU K continues to operate at a flow rate of 125 gpm. As of 30 May 2025, over 1.059 billion gallons of water have been treated and re-injected. The following MTU K shutdowns occurred in the reporting period:

- 0150 on 28 May 2025 due to a power interruption and was restarted at 0825 on 29 May 2025.

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) infiltration gallery to return treated water to the aquifer.

The J-3 system is currently operating at a flow rate of 255 gpm. As of 30 May 2025, over 1.964 billion gallons of water have been treated and re-injected. The following J-3 system shutdowns occurred in the reporting period:

- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter and was restarted at 1044 on 23 May 2025.
- 0150 on 28 May 2025 due to a power interruption and was restarted at 0800 on 29 May 2025.

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 28 February 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 30 May 2025, over 864.4 million gallons of water have been treated and re-injected. The following J-1 Range Southern MTU shutdowns occurred in the reporting period:

- 2021 on 22 May 2025 due to a power interruption caused by a Nor' Easter. Upon power restoration, the PLC lost its program. BETCO was onsite and J-1 South was restarted at 0824 on 27 May 2025.

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. The flow rates at for the two extraction wells at J-1 Northern were modified on 28 October 2024 based on regulatory agency concurrence with the J-1 Range Northern Data Presentation for January 2023 to December 2023. The flow rate at J1NEW0001 was reduced from 125 gpm to 85 gpm and the flow rate at J1NEW0002 was increased from 125 gpm to 165 gpm. As of 30 May 2025, over 1.491 billion gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shutdowns occurred in the reporting period:

- 0947 on 27 May 2025 due to a VFD Fault alarm. The alarm was reset and EW0002 was restarted at 1141 on 27 May 2025.

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 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 30 May 2025, over 3.998 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in the reporting period:

- 0146 on 08 May 2025 due to a Floor Sump alarm caused by a leak on the dehumidifier hose. The system was restarted at 0742 on 08 May 2025.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 30 May 2025:

CIA

- Source Area investigations
 - No field activities
 - Conducted routine visual checks of CSS soil cover and surface area around the perimeter of the CSS.

Demolition Area 1

- Groundwater sampling within the Demolition Area 1 SPM Program.

Demolition Area 2

- No activity.

J-1 Range

- Groundwater sampling within the J-1 South and J-1 North SPM Programs.

J-2 Range

- Vertical profiling at BH-743 (J2-PFAS-1)
- Vertical profiling at J2-PFAS-2 (BH-742)

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 08 May 2025Project and Fieldwork Update

Darrin Smith (USACE) provided the project and fieldwork update. Groundwater sampling crews are currently conducting the semi-annual system performance monitoring (SPM) sampling in the Demolition Area 1 (Demo 1) area (69 screens). They are conducting sampling efforts around the prescribed burn work. Crews will then conduct semi-annual SPM sampling at J-1 South (28 screens) and J-1 North (28 screens).

Mr. Smith (USACE) reported that the results of the April monthly treatment system sampling were all below the changeout criteria. He noted the May monthly treatment system sampling began on 5/1/25 and should be completed by 5/8/25. He added that the J-2 North System G is still awaiting the pump and motor replacement, which is scheduled for 5/13 and it is expected to take two days.

Mr. Smith (USACE) stated that drilling and profiling sampling at J-2 PFAS 2 (BH742) began on 4/30/25. The water table was encountered at 130 feet below ground surface and 15 groundwater samples have been collected to date.

Gina Kaso (USACE) provided an update on work in the Central Impact Area (CIA). The contractor has completed the fieldwork for Phase IV at a total of 50 acres. The crews will return in July to dispose of the soil from the 5'x5'x1' excavations and complete closeout. Ms. Kaso (USACE) noted that the responses to EPA comments on the CIA Draft Final 2024 Source Removal Annual Report were sent on 5/2/25. She added that the 2025 report will be submitted in July and will need to be completed by the end of the fiscal year. A follow-on contract is funds-dependent.

Document and Project Tracking

Jeff Dvorak (USACE) reviewed the tracking list for documents and upcoming presentations.

J-2 East Annual Groundwater Report Presentation

Ryan Hupfer (USACE) began a presentation on the J-2 Range East (J-2E). He stated that J2EW0004 (EW-4) was redeveloped with a new pump installation and a packer was developed at J2EW0004 (EW-5) to restrict extraction of groundwater to the deep screen of the well to target deep portions of perchlorate and RDX plumes. He noted that a detailed presentation regarding this work was provided in November 2024. Josh Fontaine (EPA) inquired about the age of the pump and suggested that other pumps of similar age might need to be inspected. Mr. Hupfer (USACE) replied that the well had been previously installed in 2008 and explained that work has begun to consider redevelopment at other wells, as needed.

Mr. Hupfer (USACE) continued with an overview of the J-2E Annual 2024 Environmental Monitoring Report for the reporting period November 1, 2023 through October 31, 2024 with a review of the extraction, treatment, and reinjection system performance. The uptimes for the mobile treatment units (MTU) were: 90.67% (MTU J), 96.06% (MTU H&I), and 95.93% (MTU K).

Mr. Hupfer (USACE) reviewed the mass removal amounts for perchlorate, RDX, and HMX at each MTU. A combined total of 1.41 pounds of RDX, 0.23 pounds of perchlorate, and 0.2 pounds of HMX were removed. There was no breakthrough or media changeout during the reporting period for MTUs J and K. There were changeouts at MTU H&I in June, July, August, and September. Mr. Hupfer (USACE) also reviewed the influent trends for perchlorate, RDX, and HMX at the three MTUs.

The groundwater monitoring results for the reporting period were discussed. The results for perchlorate ranged from ND to 25 µg/L (MW-368M1). There were six well locations above 2 µg/L and one well location above 15 µg/L. The results during the reporting period for RDX ranged from ND to 4.7 µg/L (MW-368M1). There were four well locations above 0.6 µg/L, three screens at or above 0.97 µg/L, and three screens above 2 µg/L.

Elliott Jacobs (MassDEP) commented that the results show the effectiveness of the packering, drawing higher levels of RDX contamination into the system. Mr. Hupfer (USACE) agreed that the packering was implemented to target the higher levels at MW-368M1 and it has been successful. In the past, perchlorate concentrations at the well had ranged from 60-100 µg/L for several years and have now been reduced significantly and the deeper zone is now being captured. He also noted that MW-368M2 is in the same well cluster but at a higher elevation and also has had a significant decrease of perchlorate contamination levels. He added that also in Zone 1, MW-668M1 is the only well with an exceedance of the Health Advisory for perchlorate.

Longitudinal cross-sections were displayed for the J-2E perchlorate plumes capture zones. Mr. Hupfer (USACE) explained that the Zone 1 perchlorate plume is well within the capture zone of EW-4, and Zone 2 perchlorate plume is well within the capture zone of EW-5.

Longitudinal cross-sections were displayed for the J-2E RDX plumes capture zones. Mr. Hupfer (USACE) explained that the bulk of the RDX plume in Zone 1 has migrated downgradient of MW-368M1 and is heading towards EW-4. It is expected that the RDX contamination in Zone 1 will be considered “cleaned up” in the near future. RDX contamination still exists in Zone 2, within the capture zone of EW-5. The remaining RDX plume mass in Zone 3 is attributed to the exceedances at MW-667M1.

Mr. Hupfer (USACE) also provided a summary of the aquifer hydraulic analysis. For the synoptic water level round in January 2024, water levels ranged from 68.82' mean sea level (msl) at MW-128M1 to 65.08 at MW-436M1 70.59' msl. The horizontal gradient was approximately 0.00046 ft/ft. For the synoptic water level round in August 2024, water levels ranged from 71.35' msl at MW-128M1 to 67.76 at MW-436M1 70.59' msl. The horizontal gradient was approximately 0.00045 ft/ft. Mr. Hupfer (USACE) explained that he performed 3PE analyses for select groups

of wells using January 2024 results (pre-packer at EW-5) and August 2024 results (post-packer) to assess changes in groundwater flow in the stagnation zone. He displayed figures showing the 3PE analyses. Groundwater flow vectors rotated towards EW5 after installation of the packer August 2024 and the flow in the stagnation zone has changed due to the change in hydraulic stress at EW-5.

Figures showing the observed and the model-predicted mass removal and concentrations were shown for perchlorate and RDX. The measured and predicted perchlorate and RDX plumes were summarized. The Decision Document (DD) cleanup timelines were discussed. The DD predicted perchlorate would be below 2.0 µg/L by 2027 and RDX below 0.6 µg/L by 2022. The new model predicted cleanup times are below 2.0 µg/L by 2031 for perchlorate and below 0.6 µg/L by 2031 for RDX. Mr. Hupfer (USACE) noted that the perchlorate and RDX cleanup times predicted by the 2024 models are two years sooner than the cleanup times predicted by the 2023 models due to the simulation of the packer in EW-5.

Mr. Hupfer (USACE) continued with recommendations. IAGWSP is recommending a reduced flow rate at EW-4 to 90 gallons per minute (gpm) and to shut down EW-6 (MTU K). IAGWSP also recommends reduced sampling frequency by three screens for the perchlorate and explosives monitoring programs. There are no suggested changes to the hydraulic monitoring program.

Mr. Hupfer (USACE) summarized the predicted changes associated with the flow rate reduction stating that the vertical and lateral extents of the EW-4 capture zone would be reduced. The capture zone of EW-5 would "fill in" around the reduced capture zone of EW-4. As the EW4 capture zone shrinks, EW-5 would have more influence in the stagnation zone, causing the plume in this area to migrate downgradient of MW-668M1 in Zone 1 (upgradient of EW-4) to remain in the capture zone with the reduced flow rate. Perchlorate cleanup time is predicted to decrease by one year (2030) and RDX cleanup time is predicted to remain the same (2031). Mr. Hupfer (USACE) displayed figures showing the direction of flow rates and captures zones at the reduced rate of 90 gpm.

Mr. Hupfer (USACE) explained that the rationale for shutting down EW-6 is due to MW-667M1 being the only well screen with RDX exceedances remaining in Zone 3 between EW-5 and EW-6. He noted that MW-667M1 is deep within the aquifer, below the capture zone of EW-6, which is interpreted to be non-productive (deep, low hydraulic conductivity). He stated that EW-6 has removed minimal amounts of perchlorate and RDX mass since 2022 (mass removals of 0.04 lbs. for perchlorate and 0.02 lbs. for RDX during the reporting period). Mr. Hupfer (USACE) displayed graphs showing the model-predicted RDX plume extents after a potential shut down of EW-6, which are predicted to naturally attenuate by 2033. He added that the plume is not predicted to migrate further downgradient.

Mr. Hupfer (USACE) also showed a comparison figure of the plume outline since system startup vs. the 2025 plume depictions. Mr. Fontaine (EPA) asked if PFAS detections were considered as part of the recommendations for lowering the flow at EW-4 and ceasing operations at EW-6. JodiLyn Culter (IAGWSP) replied that PFAS was not considered and that there are separate and ongoing conversations about how to handle PFAS going forward.

Upcoming tech meetings: June 26, 2025

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) is tentatively scheduled for 20 August 2025. 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 2025. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 May 2025. 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 2025. 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 2025. 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:

• Response to Comments on the Draft Demo 2 2024 PFAS Memo	01 May 2025
• Response to Comments on the CIA Draft Final 2024 Source Removal Annual Report	02 May 2025
• Draft CIA EMR for July 2023 through June 2024	14 May 2025
• Final Small Arms Range 2024 Biennial EMR	16 May 2025
• Final Demo 1 EMR for July 2023 through June 2024	27 May 2025
• Final Demo 2 2024 PFAS Memo	27 May 2025

5. SCHEDULED ACTIONS

The following actions and/or documents are being prepared in June 2025.

- Response to Comments on the Impact Area Groundwater Study Program Draft Comprehensive PFAS Report
- Final 2024 Source Removal Annual Report
- Draft 2025 Source Removal Annual Report
- Draft J-3 Range EMR for September 2023 through August 2024
- Draft J-2 Range East EMR for November 2023 through October 2024
- Draft J-2 Range North EMR for November 2023 through October 2024
- Draft L Range EMR for March 2024 through February 2025
- Response to Comments for Draft J-1 Range North EMR for January 2023 through December 2023
- Memorandum of Resolution for J-1 Range South EMR for January 2023 through December 2023

TABLE 1
Sampling Progress: 01 to 31 May 2025

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J2 Range Northern	BH-743	BH-743-141-146	N	05/29/2025	Water	141	146
J1 Range Northern	MW-606M2	MW-606M2_S25	MS	05/29/2025	Ground Water	193.2	203.2
J1 Range Northern	MW-606M2	MW-606M2_S25	N	05/29/2025	Ground Water	193.2	203.2
J1 Range Northern	MW-606M2	MW-606M2_S25	SD	05/29/2025	Ground Water	193.2	203.2
J2 Range Northern	BH-743	BH-743-131-136D	FD	05/29/2025	Water	131	136
J2 Range Northern	BH-743	BH-743-131-136	N	05/29/2025	Water	131	136
J2 Range Northern	BH-743	BH-743-121-126	N	05/29/2025	Water	121	126
J1 Range Northern	MW-606M1	MW-606M1_S25	N	05/29/2025	Ground Water	233.3	243.3
J2 Range Northern	BH-743	BH-743-111-116	N	05/29/2025	Water	111	116
J2 Range Northern	BH-743	BH-743-108	N	05/29/2025	Water	108	108
J1 Range Northern	J1NEW0002	J1N-INF1B_S25	N	05/29/2025	Process Water	200	250
J1 Range Northern	J1NEW0001	J1N-INF1A_S25	N	05/29/2025	Process Water	217	257
J1 Range Northern	MW-541M1	MW-541M1_S25	N	05/28/2025	Ground Water	210	220
J1 Range Northern	MW-689M2	MW-689M2_S25	N	05/28/2025	Ground Water	231.4	241.4
J1 Range Northern	MW-689M1	MW-689M1_S25	N	05/28/2025	Ground Water	253.5	263.5
J1 Range Northern	MW-688M2	MW-688M2_S25	N	05/28/2025	Ground Water	227.8	237.8
J1 Range Northern	MW-688M1	MW-688M1_S25	N	05/28/2025	Ground Water	255.2	265.2
J1 Range Northern	MW-567M1	MW-567M1_S25	N	05/27/2025	Ground Water	215.5	225.5
J1 Range Northern	MW-566M1	MW-566M1_S25	N	05/27/2025	Ground Water	232	242
J1 Range Northern	MW-547M2	MW-547M2_S25	N	05/27/2025	Ground Water	178	188
J1 Range Northern	MW-547M1	MW-547M1_S25	N	05/27/2025	Ground Water	237	247
J1 Range Northern	MW-549M2	MW-549M2_S25	MS	05/22/2025	Ground Water	187.3	197.3
J1 Range Northern	MW-549M2	MW-549M2_S25	N	05/22/2025	Ground Water	187.3	197.3
J1 Range Northern	MW-549M2	MW-549M2_S25	SD	05/22/2025	Ground Water	187.3	197.3
J1 Range Northern	MW-549M1	MW-549M1_S25	N	05/22/2025	Ground Water	227.4	237.4
J1 Range Northern	MW-605M2	MW-605M2_S25	N	05/22/2025	Ground Water	182.2	192.2
J1 Range Northern	MW-605M1	MW-605M1_S25	N	05/22/2025	Ground Water	220.2	230.2
J1 Range Southern	MW-721M2	MW-721M2_S25	N	05/21/2025	Ground Water	138.5	148.5
J1 Range Southern	MW-721M1	MW-721M1_S25	N	05/21/2025	Ground Water	168.1	178.1
J1 Range Southern	J1S-EW1-INF	J1S-EW1-INF_S25	N	05/21/2025	Process Water	0	0
J1 Range Southern	J1S-EW2-INF	J1S-EW2-INF_S25	N	05/21/2025	Process Water	0	0
J1 Range Southern	J1S-EFF	J1S-EFF_MAY25	N	05/21/2025	Process Water	0	0
J1 Range Southern	J1S-INF	J1S-INF_MAY25	N	05/21/2025	Process Water	0	0
J1 Range Southern	MW-402M2	MW-402M2_S25	N	05/20/2025	Ground Water	155.24	165.27
J1 Range Southern	MW-402M1	MW-402M1_S25	N	05/20/2025	Ground Water	190.14	200.13
J1 Range Southern	MW-400M2	MW-400M2_S25	MS	05/20/2025	Ground Water	138.9	148.9
J1 Range Southern	MW-400M2	MW-400M2_S25	N	05/20/2025	Ground Water	138.9	148.9
J1 Range Southern	MW-400M2	MW-400M2_S25	SD	05/20/2025	Ground Water	138.9	148.9
J1 Range Southern	MW-400M1	MW-400M1_S25	N	05/20/2025	Ground Water	192.76	202.75
J1 Range Southern	MW-647M2	MW-647M2_S25	N	05/15/2025	Ground Water	189.3	199.3
J1 Range Southern	MW-647M1	MW-647M1_S25	N	05/15/2025	Ground Water	211.3	221.3
J1 Range Southern	MW-591M2	MW-591M2_S25	N	05/15/2025	Ground Water	165	175
J1 Range Southern	MW-591M1	MW-591M1_S25	N	05/15/2025	Ground Water	200	210
J2 Range Northern	BH-742	BH-742-361-366	N	05/14/2025	Water	361	366
J1 Range Southern	MW-524M1	MW-524M1_S25	N	05/14/2025	Ground Water	148	158
J1 Range Southern	MW-524M1	MW-524M1_S25D	FD	05/14/2025	Ground Water	148	158
J1 Range Southern	MW-646M2	MW-646M2_S25	N	05/14/2025	Ground Water	168	178
J2 Range Northern	BH-742	BH-742-351-356	N	05/14/2025	Water	351	356
J1 Range Southern	MW-646M1	MW-646M1_S25	MS	05/14/2025	Ground Water	198	208
J1 Range Southern	MW-646M1	MW-646M1_S25	N	05/14/2025	Ground Water	198	208
J1 Range Southern	MW-646M1	MW-646M1_S25	SD	05/14/2025	Ground Water	198	208
J1 Range Southern	MW-592M2	MW-592M2_S25	N	05/14/2025	Ground Water	158	168
J1 Range Southern	MW-592M1	MW-592M1_S25	N	05/14/2025	Ground Water	201	211
J2 Range Northern	BH-742	BH-742-341-346	N	05/14/2025	Water	341	346
J2 Range Northern	BH-742	BH-742-331-336	N	05/13/2025	Water	331	336
J2 Range Northern	BH-742	BH-742-321-326	N	05/13/2025	Water	321	326
J2 Range Northern	BH-742	BH-742-311-316	N	05/13/2025	Water	311	316
J2 Range Northern	BH-742	BH-742-301-306	N	05/13/2025	Water	301	306
J2 Range Northern	BH-742	BH-742-291-296-D	FD	05/12/2025	Water	291	296
J2 Range Northern	BH-742	BH-742-291-296	N	05/12/2025	Water	291	296

N = Normal Sample

FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received May 2025

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
Demolition Area 1	MW-611M2	MW-611M2_S25	91	101	04/29/2025	SW6850	Perchlorate	1.0		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-611M1	MW-611M1_S25	141	151	04/29/2025	SW6850	Perchlorate	1.6		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-611M1	MW-611M1_S25D	141	151	04/29/2025	SW6850	Perchlorate	1.7		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-610M1	MW-610M1_S25	110	120	04/29/2025	SW6850	Perchlorate	0.086	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-641M2	MW-641M2_S25	86.2	96.2	04/28/2025	SW6850	Perchlorate	0.16	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-641M1	MW-641M1_S25	113.2	123.2	04/28/2025	SW6850	Perchlorate	0.76		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-642M2	MW-642M2_S25	77.3	87.3	04/28/2025	SW6850	Perchlorate	0.097	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-642M1	MW-642M1_S25	104.3	114.3	04/28/2025	SW6850	Perchlorate	0.33		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-533M1	MW-533M1_S25	160	170	04/22/2025	SW6850	Perchlorate	3.5		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-533M1	MW-533M1_S25	160	170	04/22/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.2		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-533M1	MW-533M1_S25D	160	170	04/22/2025	SW6850	Perchlorate	3.6		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-533M1	MW-533M1_S25D	160	170	04/22/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.3		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-696M1	MW-696M1_S25	175.2	185.2	04/22/2025	SW6850	Perchlorate	2.9		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-663D	MW-663D_S25	240.6	250.6	04/22/2025	SW6850	Perchlorate	1.2		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-663D	MW-663D_S25	240.6	250.6	04/22/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.35		µg/L	0.60		0.092	0.20
Demolition Area 1	MW-663D	MW-663D_S25D	240.6	250.6	04/22/2025	SW6850	Perchlorate	1.2		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-663D	MW-663D_S25D	240.6	250.6	04/22/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26		µg/L	0.60		0.092	0.20
Demolition Area 1	MW-544M2	MW-544M2_S25	112	122	04/16/2025	SW6850	Perchlorate	0.18	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-544M1	MW-544M1_S25	162	172	04/16/2025	SW6850	Perchlorate	5.3		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-544M1	MW-544M1_S25	162	172	04/16/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.99		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-544M1	MW-544M1_S25D	162	172	04/16/2025	SW6850	Perchlorate	5.5		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-544M1	MW-544M1_S25D	162	172	04/16/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.92		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-597M2	MW-597M2_S25	118	128	04/16/2025	SW6850	Perchlorate	0.092	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-597M1	MW-597M1_S25	148	158	04/16/2025	SW6850	Perchlorate	0.084	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-545M4	MW-545M4_S25	72	82	04/15/2025	SW6850	Perchlorate	0.096	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-545M3	MW-545M3_S25	101.5	111.5	04/15/2025	SW6850	Perchlorate	0.27		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-545M2	MW-545M2_S25	142	152	04/15/2025	SW6850	Perchlorate	2.0		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-545M2	MW-545M2_S25	142	152	04/15/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.092	0.20
Demolition Area 1	MW-545M1	MW-545M1_S25	162	172	04/15/2025	SW6850	Perchlorate	0.72		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-664M1	MW-664M1_S25	248.5	258.5	04/14/2025	SW6850	Perchlorate	0.049	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-231M2	MW-231M2_S25	165.5	175.5	04/14/2025	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-231M1	MW-231M1_S25	210.5	220.5	04/14/2025	SW6850	Perchlorate	0.21		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-730M3	MW-730M3_S25	115.46	125.46	04/10/2025	SW6850	Perchlorate	1.7		µg/L	2.0		0.047	0.20
Demolition Area 1	MW-730M2	MW-730M2_S25	165.87	175.87	04/10/2025	SW6850	Perchlorate	4.3		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-730M2	MW-730M2_S25	165.87	175.87	04/10/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.0		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-730M2	MW-730M2_S25D	165.87	175.87	04/10/2025	SW6850	Perchlorate	4.0		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-730M2	MW-730M2_S25D	165.87	175.87	04/10/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.9		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-730M1	MW-730M1_S25	185.82	195.82	04/10/2025	SW6850	Perchlorate	4.9		µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-730M1	MW-730M1_S25	185.82	195.82	04/10/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.42		µg/L	0.60		0.092	0.20
Demolition Area 1	MW-697M1	MW-697M1_S25	243	253	04/09/2025	SW6850	Perchlorate	2.0	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-248M2	MW-248M2_S25	178	188	04/09/2025	SW6850	Perchlorate	0.091	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-248M1	MW-248M1_S25	216.3	226.3	04/09/2025	SW6850	Perchlorate	2.0	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-531M1	MW-531M1_S25	138	148	04/09/2025	SW6850	Perchlorate	6.7	J	µg/L	2.0	X	0.047	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 04, 2025

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received May 2025

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	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	11.0		ng/L			0.84	3.4
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluoroheptanesulfonic acid (PFHpS)	0.92	J	ng/L			0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluoroheptanoic acid (PFHpA)	0.57	J	ng/L	20.0		0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluorohexanesulfonic acid (PFHxS)	5.2		ng/L	20.0		0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluorohexanoic acid (PFHxA)	0.70	J	ng/L	990		0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluoroctanesulfonamide (PFOSA)	0.61	J	ng/L			0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluoroctanesulfonic acid (PFOS)	13.0		ng/L	4.0	X	0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluorooctanoic acid (PFOA)	2.6		ng/L	6.0		0.42	1.7
J2 Range Northern	J2EW0002	J2EW0002_SPR25	198	233	04/02/2025	E1633	Perfluoropentanoic acid (PFPeA)	0.82	J	ng/L			0.42	1.7
J2 Range Northern	MW-345M2	MW-345M2_SPR25	236.62	246.62	04/02/2025	E1633	Perfluorodecanoic acid (PFDA)	0.86	J	ng/L	20.0		0.40	1.6
J2 Range Northern	MW-345M2	MW-345M2_SPR25	236.62	246.62	04/02/2025	E1633	Perfluorononanoic acid (PFNA)	1.2	J	ng/L	5.9		0.40	1.6
J2 Range Northern	MW-345M2	MW-345M2_SPR25	236.62	246.62	04/02/2025	E1633	Perfluoroundecanoic acid (PFUnA)	2.3		ng/L	600		0.40	1.6
J2 Range Northern	MW-345M1	MW-345M1_SPR25	311.5	321.5	04/02/2025	E1633	Perfluorodecanoic acid (PFDA)	1.4	J	ng/L	20.0		0.39	1.6
J2 Range Northern	MW-345M1	MW-345M1_SPR25	311.5	321.5	04/02/2025	E1633	Perfluorododecanoic acid (PFDoA)	0.47	J	ng/L	100		0.43	1.6
J2 Range Northern	MW-345M1	MW-345M1_SPR25	311.5	321.5	04/02/2025	E1633	Perfluorononanoic acid (PFNA)	3.1		ng/L	5.9		0.39	1.6
J2 Range Northern	MW-345M1	MW-345M1_SPR25	311.5	321.5	04/02/2025	E1633	Perfluoroundecanoic acid (PFUnA)	5.6		ng/L	600		0.39	1.6
J2 Range Northern	MW-293M1	MW-293M1_SPR25	296.26	306.27	04/01/2025	E1633	Perfluorodecanoic acid (PFDA)	2.9		ng/L	20.0		0.43	1.7
J2 Range Northern	MW-293M1	MW-293M1_SPR25	296.26	306.27	04/01/2025	E1633	Perfluorododecanoic acid (PFDoA)	0.85	J	ng/L	100		0.48	1.7
J2 Range Northern	MW-293M1	MW-293M1_SPR25	296.26	306.27	04/01/2025	E1633	Perfluorononanoic acid (PFNA)	1.1	J	ng/L	5.9		0.43	1.7
J2 Range Northern	MW-293M1	MW-293M1_SPR25	296.26	306.27	04/01/2025	E1633	Perfluoroundecanoic acid (PFUnA)	11.0		ng/L	600		0.43	1.7
J2 Range Northern	MW-05D	MW-05D_SPR25	335	340	04/01/2025	E1633	N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.48	J	ng/L			0.39	1.6
J2 Range Northern	MW-05D	MW-05D_SPR25	335	340	04/01/2025	E1633	Perfluorooctanesulfonamide (PFOSA)	0.86	J	ng/L			0.39	1.6
J2 Range Northern	MW-05D	MW-05D_SPR25	335	340	04/01/2025	E1633	Perfluorooctanesulfonic acid (PFOS)	7.6		ng/L	4.0	X	0.39	1.6
J2 Range Northern	MW-05D	MW-05D_SPR25	335	340	04/01/2025	E1633	Perfluorooctanoic acid (PFOA)	3.0		ng/L	6.0		0.39	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.95	J	ng/L			0.79	3.2
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.3	J	ng/L			0.79	3.2
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.55	J	ng/L			0.40	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluorodecanoic acid (PFDA)	8.4		ng/L	20.0		0.40	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluorododecanoic acid (PFDoA)	11.0		ng/L	100		0.44	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluorononanoic acid (PFNA)	3.1		ng/L	5.9		0.40	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluorotetradecanoic acid (PFTeDA)	2.9		ng/L	2000		0.64	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluorotridecanoic acid (PFTrDA)	17.0		ng/L			0.46	1.6
J2 Range Northern	MW-337D	MW-337D_SPR25	310	320	04/01/2025	E1633	Perfluoroundecanoic acid (PFUnA)	52.0		ng/L	600		0.40	1.6
J3 Range	J3-INF	J3-INF_AP25	0	0	04/01/2025	E1633	Perfluorohexanesulfonic acid (PFHxS)	1.0	J	ng/L	20.0		0.38	1.5
J3 Range	J3-INF	J3-INF_AP25	0	0	04/01/2025	E1633	Perfluorooctanesulfonic acid (PFOS)	0.65	J	ng/L	4.0		0.38	1.5
J2 Range Northern	MW-340D	MW-340D_SPR25	329.6	339.6	04/01/2025	E1633	Perfluorodecanoic acid (PFDA)	2.6		ng/L	20.0		0.42	1.7
J2 Range Northern	MW-340D	MW-340D_SPR25	329.6	339.6	04/01/2025	E1633	Perfluorododecanoic acid (PFDoA)	1.2	J	ng/L	100		0.46	1.7
J2 Range Northern	MW-340D	MW-340D_SPR25	329.6	339.6	04/01/2025	E1633	Perfluorononanoic acid (PFNA)	2.0		ng/L	5.9		0.42	1.7
J2 Range Northern	MW-340D	MW-340D_SPR25	329.6	339.6	04/01/2025	E1633	Perfluoroundecanoic acid (PFUnA)	8.3		ng/L	600		0.42	1.7
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AP25	0	0	04/01/2025	E1633	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	14.0		ng/L			0.73	2.9
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AP25	0	0	04/01/2025	E1633	Perfluoroheptanoic acid (PFHpA)	0.72	J	ng/L	20.0		0.36	1.5
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AP25	0	0	04/01/2025	E1633	Perfluorohexanoic acid (PFHxA)	1.0	J	ng/L	990		0.36	1.5
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AP25	0	0	04/01/2025	E1633	Perfluorooctanoic acid (PFOA)	2.6		ng/L	6.0		0.36	1.5
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AP25	0	0	04/01/2025	E1633	Perfluoropentanoic acid (PFPeA)	0.84	J	ng/L			0.36	1.5

J = Estimated Result

MDL = Method Detection Limit

RL = Reporting Limit

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

June 04, 2025

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received May 2025

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_AP25D	0	0	04/01/2025	E1633	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8.2		ng/L			0.75	3.0
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluoroheptanesulfonic acid (PFHpS)	0.80	J	ng/L			0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluoroheptanoic acid (PFHpA)	0.46	J	ng/L	20.0		0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluorohexanesulfonic acid (PFHxS)	5.4		ng/L	20.0		0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluorohexanoic acid (PFHxA)	0.83	J	ng/L	990		0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluorooctanesulfonamide (PFOSA)	0.46	J	ng/L			0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluorooctanesulfonic acid (PFOS)	11.0		ng/L	4.0	X	0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluorooctanoic acid (PFOA)	3.0		ng/L	6.0		0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25D	0	0	04/01/2025	E1633	Perfluoropentanoic acid (PFPeA)	0.72	J	ng/L			0.37	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8.5		ng/L			0.77	3.1
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluoroheptanesulfonic acid (PFHpS)	0.82	J	ng/L			0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluoroheptanoic acid (PFHpA)	0.54	J	ng/L	20.0		0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluorohexanesulfonic acid (PFHxS)	5.1		ng/L	20.0		0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluorohexanoic acid (PFHxA)	0.75	J	ng/L	990		0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluorooctanesulfonamide (PFOSA)	0.40	J	ng/L			0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluorooctanesulfonic acid (PFOS)	11.0		ng/L	4.0	X	0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluorooctanoic acid (PFOA)	2.7		ng/L	6.0		0.38	1.5
J2 Range Northern	J2N-INF-F	J2N-INF-F_AP25	0	0	04/01/2025	E1633	Perfluoropentanoic acid (PFPeA)	0.89	J	ng/L			0.38	1.5
J2 Range Northern	MW-330M3	MW-330M3_SPR25	154.97	164.99	03/31/2025	E1633	Perfluorodecanoic acid (PFDA)	5.4		ng/L	20.0		0.44	1.7
J2 Range Northern	MW-330M3	MW-330M3_SPR25	154.97	164.99	03/31/2025	E1633	Perfluorododecanoic acid (PFDoA)	2.0		ng/L	100		0.48	1.7
J2 Range Northern	MW-330M3	MW-330M3_SPR25	154.97	164.99	03/31/2025	E1633	Perfluorononanoic acid (PFNA)	1.3	J	ng/L	5.9		0.44	1.7
J2 Range Northern	MW-330M3	MW-330M3_SPR25	154.97	164.99	03/31/2025	E1633	Perfluorotridecanoic acid (PFTrDA)	1.6	J	ng/L			0.51	1.7
J2 Range Northern	MW-330M3	MW-330M3_SPR25	154.97	164.99	03/31/2025	E1633	Perfluoroundecanoic acid (PFUnA)	12.0		ng/L	600		0.44	1.7
J2 Range Northern	MW-330M2	MW-330M2_SPR25	238.01	248.04	03/31/2025	E1633	Perfluorodecanoic acid (PFDA)	2.5		ng/L	20.0		0.37	1.5
J2 Range Northern	MW-330M2	MW-330M2_SPR25	238.01	248.04	03/31/2025	E1633	Perfluorononanoic acid (PFNA)	3.4		ng/L	5.9		0.37	1.5
J2 Range Northern	MW-330M2	MW-330M2_SPR25	238.01	248.04	03/31/2025	E1633	Perfluoroundecanoic acid (PFUnA)	2.1		ng/L	600		0.37	1.5
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluorodecanoic acid (PFDA)	0.59	J	ng/L	20.0		0.39	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluorododecanoic acid (PFDoA)	2.4	J	ng/L	100		0.43	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluorononanoic acid (PFNA)	0.61	J	ng/L	5.9		0.39	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluorotetradecanoic acid (PFTeDA)	1.2	J	ng/L	2000		0.64	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluorotridecanoic acid (PFTrDA)	2.6	J	ng/L			0.45	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25	313.1	323.13	03/31/2025	E1633	Perfluoroundecanoic acid (PFUnA)	6.9	J	ng/L	600		0.39	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluorodecanoic acid (PFDA)	0.90	J	ng/L	20.0		0.39	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluorododecanoic acid (PFDoA)	3.7	J	ng/L	100		0.43	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluorononanoic acid (PFNA)	0.89	J	ng/L	5.9		0.39	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluorotetradecanoic acid (PFTeDA)	2.0	J	ng/L	2000		0.64	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluorotridecanoic acid (PFTrDA)	4.5	J	ng/L			0.46	1.6
J2 Range Northern	MW-330M1	MW-330M1_SPR25D	313.1	323.13	03/31/2025	E1633	Perfluoroundecanoic acid (PFUnA)	11.0	J	ng/L	600		0.39	1.6

J = Estimated Result

MDL = Method Detection Limit

RL = Reporting Limit

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received May 2025

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
Demolition Area 1	MW-531M1	MW-531M1_S25	138	148	04/09/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-531M1	MW-531M1_S25D	138	148	04/09/2025	SW6850	Perchlorate	7.1	J	µg/L	2.0	X	0.047	0.20
Demolition Area 1	MW-531M1	MW-531M1_S25D	138	148	04/09/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-258M1	MW-258M1_S25	109	119	04/08/2025	SW6850	Perchlorate	0.43	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-532M2	MW-532M2_S25	138	148	04/08/2025	SW6850	Perchlorate	0.40	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-532M1	MW-532M1_S25	168	178	04/07/2025	SW6850	Perchlorate	0.56	J	µg/L	2.0		0.047	0.20
Demolition Area 1	MW-73S	MW-73S_S25	38.5	48	04/07/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.46		µg/L	0.60		0.092	0.20
Demolition Area 1	MW-19S	MW-19S_S25	38	48	04/07/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.0		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-19S	MW-19S_S25	38	48	04/07/2025	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.47		µg/L	400		0.013	0.20
Demolition Area 1	MW-19S	MW-19S_S25D	38	48	04/07/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.0		µg/L	0.60	X	0.092	0.20
Demolition Area 1	MW-19S	MW-19S_S25D	38	48	04/07/2025	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.46		µg/L	400		0.013	0.20
Demolition Area 1	MW-31S	MW-31S_S25	98	103	04/03/2025	SW8330	2,4,6-Trinitrotoluene	0.33		µg/L	2.0		0.13	0.20
Demolition Area 1	MW-31S	MW-31S_S25	98	103	04/03/2025	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.42		µg/L	0.60		0.092	0.20
Demolition Area 1	MW-31S	MW-31S_S25	98	103	04/03/2025	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.077	J	µg/L	400		0.013	0.20

J = Estimated Result

MDL = Method Detection Limit

RL = Reporting Limit

ND = Non-Detect

TABLE 1
Sampling Progress: 01 to 31 May 2025

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J2 Range Northern	BH-742	BH-742-281-286	N	05/12/2025	Water	281	286
Demolition Area 1	MW-556M2	MW-556M2_S25	N	05/08/2025	Ground Water	111	121
Demolition Area 1	MW-556M1	MW-556M1_S25	N	05/08/2025	Ground Water	153	163
J2 Range Northern	BH-742	BH-742-271-276	N	05/07/2025	Water	271	276
J2 Range Northern	BH-742	BH-742-261-266	N	05/07/2025	Water	261	266
Demolition Area 1	MW-558M2	MW-558M2_S25	N	05/07/2025	Ground Water	98	108
Demolition Area 1	MW-558M1	MW-558M1_S25	N	05/07/2025	Ground Water	134	144
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-230A	N	05/07/2025	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-230A	N	05/07/2025	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-230A	N	05/07/2025	Process Water	0	0
Demolition Area 1	MW-559M2	MW-559M2_S25	N	05/07/2025	Ground Water	87	97
J1 Range Southern	J1S-EFF	J1S-EFF-210A	N	05/07/2025	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-210A	N	05/07/2025	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-210A	N	05/07/2025	Process Water	0	0
Demolition Area 1	MW-559M1	MW-559M1_S25	N	05/07/2025	Ground Water	135.6	145.6
Demolition Area 1	D1LE-EFF	D1LE-EFF-106A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-106A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-106A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-106A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1-EFF	D1-EFF-178A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-178A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-178A	N	05/07/2025	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-178A	N	05/07/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-251-256	N	05/06/2025	Water	251	256
Demolition Area 1	MW-604M2	MW-604M2_S25	N	05/06/2025	Ground Water	29	39
Demolition Area 1	MW-604M1	MW-604M1_S25	N	05/06/2025	Ground Water	111	121
Demolition Area 1	MW-602M2	MW-602M2_S25	N	05/06/2025	Ground Water	27	37
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-200A	N	05/06/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-241-246	N	05/06/2025	Water	241	246
J2 Range Eastern	J2E-INF-J	J2E-INF-J-200A	N	05/06/2025	Process Water	0	0
Demolition Area 1	MW-602M1	MW-602M1_S25	N	05/06/2025	Ground Water	109	119
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-200A	N	05/06/2025	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-200A	N	05/06/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-231-236	N	05/05/2025	Water	231	236
J2 Range Northern	BH-742	BH-742-221-226	N	05/05/2025	Water	221	226
J2 Range Northern	BH-742	BH-742-211-216	N	05/05/2025	Water	211	216
J2 Range Northern	BH-742	BH-742-201-206	N	05/05/2025	Water	201	206
J3 Range	J3-EFF	J3-EFF-224A	N	05/05/2025	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-224A	N	05/05/2025	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-224A	N	05/05/2025	Process Water	0	0
J3 Range	J3-INF	J3-INF-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-191-196-D	FD	05/05/2025	Water	191	196
J2 Range Northern	BH-742	BH-742-191-196	N	05/05/2025	Water	191	196
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-224A	N	05/05/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-181-186	N	05/05/2025	Water	181	186

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 May 2025

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Northern	J1N-EFF	J1N-EFF-139A	N	05/05/2025	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-139A	N	05/05/2025	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-139A	N	05/05/2025	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-139A	N	05/05/2025	Process Water	0	0
J2 Range Northern	BH-742	BH-742-171-176	N	05/02/2025	Water	171	176
J2 Range Northern	BH-742	BH-742-161-166	N	05/02/2025	Water	161	166
J2 Range Northern	BH-742	BH-742-151-156	N	05/02/2025	Water	151	156
J2 Range Northern	BH-742	BH-742-140-146	N	05/02/2025	Water	140	146
J2 Range Northern	BH-742	BH-742-136	N	05/02/2025	Water	136	136
Demolition Area 1	MW-659M2	MW-659M2_S25	N	05/01/2025	Ground Water	85	95
Demolition Area 1	MW-659M1	MW-659M1_S25	MS	05/01/2025	Ground Water	120	130
Demolition Area 1	MW-659M1	MW-659M1_S25	N	05/01/2025	Ground Water	120	130
Demolition Area 1	MW-659M1	MW-659M1_S25	SD	05/01/2025	Ground Water	120	130
Central Impact Area	CIA2-EFF	CIA2-EFF-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-136A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-136A	N	05/01/2025	Process Water	0	0
Demolition Area 1	MW-582M2	MW-582M2_S25	N	05/01/2025	Ground Water	84	94
Central Impact Area	CIA3-EFF	CIA3-EFF-107A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-107A	N	05/01/2025	Process Water	0	0
Demolition Area 1	MW-582M1	MW-582M1_S25	N	05/01/2025	Ground Water	134	144
Central Impact Area	CIA3-MID1	CIA3-MID1-107A	N	05/01/2025	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-107A	N	05/01/2025	Process Water	0	0