MONTHLY PROGRESS REPORT #333
FOR DECEMBER 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 December 2024.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 27 December 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 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. The treatment facility continues to operate at a flow rate of 175 gallons per minute (gpm), with over 3.138 billion gallons of water treated and re-injected as of 27 December 2024. No Frank Perkins Road system shutdowns occurred in December.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 27 December 2024, over 420.9 million gallons of water were treated and re-injected. The following Base Boundary system shutdowns occurred in December:

- 2154 on 11 December 2024 due to a power interruption and was restarted at 0850 on 12 December 2024.

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 27 December 2024, over 436.1 million gallons of water were treated and re-injected. The following Leading Edge system shutdowns occurred in December:

- 0815 on 10 December 2024 due to a leaking hose on the GAC #3 influent line. A new line was installed, and the plant was restarted at 0850 on 10 December 2024.
- 2154 on 11 December 2024 due to a power interruption and was restarted at 0820 on 12 December 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 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 27 December 2024, over 2.276 billion gallons of water have been treated and re-injected. The following MTU E and F system shutdowns occurred in December:

- 1510 on 02 December 2024 at MTUs E and F due to a “Floor Sump High” alarm caused by a broken camlock on the IX effluent line. A new camlock, ball valve, and hose were installed and MTUs E and F were restarted at 0820 on 03 December 2024.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 27 December 2024, over 1.777 billion gallons of water have been treated and re-injected. No MTU G system shutdowns occurred in December.

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 27 December 2024, over 1.923 billion gallons of water have been treated and re-injected. No MTU H and I system shutdowns occurred in December.

MTU J continues to operate at a flow rate of 120 gpm. As of 27 December 2024, over 901.1 million gallons of water have been treated and re-injected. No MTU J shutdowns occurred in December.

MTU K continues to operate at a flow rate of 125 gpm. As of 27 December 2024, over 1.031 billion gallons of water have been treated and re-injected. No MTU K shutdowns occurred in December.

<u>J-3 Range Groundwater RA</u>

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 27 December 2024, over 1.909 billion gallons of water have been treated and re-injected. The following J-3 system shutdowns occurred in December:

- 1110 on 11 December 2024 due to FS-12 being turned off for an energy curtailment and was restarted at 1340 on 11 December 2024.

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 27 December 2024, over 837.8 million gallons of water have been treated and re-injected. No J-1 Range Southern MTU shutdowns occurred in December.

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 27 December 2024, over 1.435 billion gallons of water have been treated and re-injected. No J-1 Range Northern MTU shutdowns occurred in December.

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 27 December 2024, over 3.830 billion gallons of water have been treated and re-injected. No CIA system shutdowns occurred in December.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 27 December 2024:

CIA
- Source Area investigations
  - Conducted routine visual checks of Consolidated Shot Structure (CSS) soil cover and surface area around the perimeter of the CSS
- Groundwater sampling within the CIA SPM Program.

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 Range Northern SPM Program.
- Bag filters were changed at the J-1 Range Northern System on 18 DEC 2024.

J-2 Range
- Groundwater sampling within the J-2 Range Northern SPM Program.
- Bag filters changed at J-2 Range Eastern MTU J on 16 DEC 2024.

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 12 December 2024

Project and Fieldwork Update

Darrin Smith (USACE) stated that KGS sampling team completed the annual System Performance Monitoring (SPM) event at J-1 North (84 screens) and semi-annual SPM sampling at the CIA. Sampling at Demo 1 is underway. Upon completion of that, crews will conduct semi-annual SPM sampling at J-2 East (7 screens).

The November monthly treatment system results showed no exceedances so no carbon changeouts are needed at this time. The December was performed on December 5th. There were no significant system shutdowns since the last update.

Document and Project Tracking

Mr. Dvorak (USACE) reviewed the list of deliverables (provided in advance of the meeting).

Comprehensive PFAS Report Presentation

Jodi-Lyn Cutler (IAGWSP) provided an update on the Comprehensive PFAS Report. She noted that this is the third major report on PFAS at Camp Edwards (AFCEC in 2015 and NGB in 2020). The IAGWSP began groundwater sampling for PFAS in 2019. The ARNG conducted a Preliminary Assessment for Camp Edwards and six Areas of Interest (AOIs) were identified. IAGWSP focused on open burn/open detonation (OB/OD) sites and AFCEC investigated the other areas. There were no confirmed PFAS releases at the OB/OD sites, but anecdotal evidence surmised that if aqueous film-forming foam (AFFF) was used anywhere, it would be related to OB/OD activities.

Ms. Cutler (IAGWSP) explained that the third PFAS Report is a comprehensive summary of all investigations and testing from 2019–2013. AFFF was not found as a source in any of these investigations. There was no evidence to move the Preliminary Assessments to the Site Investigation phase.

Ms. Cutler (IAGWSP) noted that there is no documentation of the use of PFAS-containing materials by the former DoD contractors though it is possible that firefighting equipment with Class B foam containing PFAS was at OB/OD activities in case of an emergency and/or accidental ignition of brushfires. The Administrative Record at JBCC does not indicate that foams were used at permitted OB/OD areas, but references to the fire department conducting inspections of government contractors, as well as being present during destruction activities, is mentioned. It is also possible that the contractors might have used PFAS-containing materials during their munitions building and testing operations.
EPA had previously suggested that there could be PFAS in groundwater as a result of munitions use and, therefore, they required investigations to evaluate munitions as a possible PFAS

source. After extensive sampling, there have only been isolated and sporadic detections of PFAS; and not enough to outline a PFAS plume.

Ms. Cutler (IAGWSP) reviewed the report's contents, which includes geology/hydrogeology, historical use, source matrix table, PFAS Findings, Conceptual Site Models, Risk Evaluation, conclusions, and recommendations. She explained that while the IAGWSP does not fall under CERCLA, the Site Investigation and the subsequent report are "CERCLA-like." The intent is to identify potential sources, data gaps and areas of the base that warrant additional investigation based on the available data and multiple lines of evidence. The IAGWSP focused on groundwater because any PFAS released to the ground surface is anticipated to quickly disperse and partition to groundwater due to the geology of Cape Cod (primarily coarse to medium sand). Therefore, groundwater can be a predictor of anticipated concentration in the overlying soils.

Ms. Cutler (IAGWSP) displayed a figure showing the potential PFAS sources that were considered, which included: OB/OD Areas and Disposal/Burn Pits, Melt-Pour operations, Septic Systems, Drywells, Herbicides, X-ray Waste Fluids, Fire-fighting Foam, and other historical activities (i.e., former DoD Contractor activities, backfilled treated soils from other areas on base, etc.).

Several of the activities and areas are already included in IAGWSP Sites under Decision Documents (DD) for non-PFAS-related contamination. There were two "new" AOIs identified: the Eversource Staging Area and the 2016 Wildfire Area. As part of the analysis of munitions as a PFAS source, munitions areas were categorized into three groups based on dispositions: Munitions properly used and fully detonated (leading to full vaporization of fluoropolymers and fragmentation of the metallic parts); UXO, lying intact in their undisturbed state after firing, or moved to a burial pit; and munitions and munition constituents (including burn residue) improperly disposed either by direct release to the ground, dry wells, septic systems, or in burn pits.

Ms. Cutler (IAGWSP) reported that, based on scientific peer-reviewed literature and field data, fluoropolymers in munitions will vaporize if the munition is properly detonated and will not impact groundwater. Fluoropolymers in munitions, which are in undisturbed UXO, are 'stable' and will not breakdown and are not a threat to groundwater (evidenced by CIA). Improperly disposed munitions (i.e., incomplete explosions, partial burning, no vaporization, too low a heat) might degrade the stable fluoropolymers and might be a source of PFAS to be released to groundwater (evidenced by J-2). A fully intact UXO is not a contaminant source, as evidenced by CIA investigations. Ms. Cutler (IAGWSP) noted that PFAS/fluoropolymers might have been used by former DOD contractor operations (e.g., X-ray fluids at J-3).

All the PFAS investigations conducted by IAGWSP to the end of 2023 are included in the report. The PFAS report covers twelve areas of evaluation that were assessed for the potential presence of PFAS: CIA, Demolition Area 1, Demolition Area 2, J-1 North, J-1 South, J-2 North, J-2 East, J-3 Range, L Range, Northwest Corner, Eversource Staging Area and the 2016 Wildfire Area.

Ms. Cutler (IAGWSP) noted that the IAGWSP PFAS evaluation followed the Office of the Secretary of Defense (OSD) guidance using November 2023 EPA Regional Screening Levels

(RSLs). The OSD guidance indicates that DoD investigations of PFAS are to be based on the November 2023 EPA RSLs and include 10 PFAS compounds: PFOS, PFOA, PFBS, PFBA, PFNA, PFHxS, PFHxA, GenX (HFPO-DA), TFSI, and PFPrA.

In October 2020, MassDEP published its public drinking water standard or Massachusetts Maximum Contaminant Limit (MMCL) of 20 ng/L for a group of six PFAS including PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA (MassDEP PFAS6). The 20 ng/L value is also applicable to the six individual PFAS compounds.

Ms. Cutler (IAGWSP) displayed a sampling data table and noted that IAGWSP collected 589 samples in 394 locations; only 22 locations had exceedances. There were no exceedances in CIA, Demo 1, J-2 East, or the Eversource Staging Area. At J-1 North, one sample had a single PFAS exceedance (ND in subsequent samples). At L-Range, there was one sample with exceedances (no subsequent samples). There were multiple locations and exceedances at J-2 North and J-3, which had the highest PFAS concentrations associated with the former DoD contractor operations. This is likely the result of historical munitions development (building), testing and disposal (permitted OB/OD practices) conducted by the former DoD contractors. Known former contractor operations include: the use of melt/pour operations, ordnance assembly and testing, wastewater holding tanks, septic systems, dry wells, burial pits, burn pits, popper kettle, and X-ray imaging. PFAS is associated with X-ray fluids.

Ms. Cutler (IAGWSP) noted that USACE developed Conceptual Site Models for each of the areas and considered possible sources, fate and transport mechanisms based on the geology and hydrology, and potential receptors and exposure pathways. Six areas were retained for further investigation and proposed work. These were outlined as follows:

- Demo 1: No PFAS detected above regulatory criteria (one sample detected PFAS6 2.2 ng/L). No samples were collected within and immediately downgradient of Demo 1 bowl. Crews will collect data to determine if thermally-treated soils backfilled at the Demo 1 Bowl are a source of PFAS.
- Demo 2: PFAS sampling was conducted at five monitoring wells in May 2024 and there were no exceedances and no need for further investigation. A Project Note detailing the results is forthcoming.
- J-1 South: No new data to date. If PFAS were present in groundwater at J-1 South, it is assumed to be entrained by the RDX groundwater extraction system. Sampling of groundwater from the J-1 South treatment system, including extraction well J1SEW0002 and associated influent/effluent samples, to address this data gap.
- J-2 North: Continue annual groundwater monitoring for PFAS for wells that have consistently shown PFAS concentrations above regulatory standards and wells that provide early warning protection of water supply well WS-2. Conduct semi-annual monitoring of the groundwater extraction system to demonstrate capture and recovery of PFAS. Conduct additional sampling in monitoring well MW-05D to determine extent of groundwater impacts outside capture zone of ETR. Resample MW-05D.
- J-3 Range: Extent of groundwater impacts around the former Ordnance Assembly/X-Ray Building and associated septic system and former melt/pour building are not fully understood. Conduct sampling at select existing wells and install additional multi-level wells. Continue annual groundwater monitoring for PFAS in wells that have consistently

shown PFAS concentrations above regulatory criteria. Conduct annual monitoring of the groundwater extraction system for PFAS to demonstrate capture and recovery of PFAS.

- L Range: There were PFAS concentrations above regulatory criteria observed at one location (MW- 291M1), though lower concentrations below criteria in the shallower and surrounding samples. Conduct additional sampling of select existing wells (including MW-291M1) to determine if observed results are anomalous or related to alkaline hydrolysis treated soils backfilled in the area.
- Northwest Corner: EPA requested PFAS sampling before site closure, which has delayed finalization of the Demonstration of Compliance Report for Northwest Corner. There is no expectation of PFAS source in the area. There is no PFAS data in the Northwest Corner. Some existing monitoring wells located within the Northwest Corner base boundary will be sampled for PFAS in support of the site closure process. Wells related to the existing CIA RDX plume will be targeted to evaluate potential PFAS groundwater impacts from suspected PFAS release mechanisms.

Ms. Cutler (IAGWSP) reiterated that there are no PFAS groundwater plumes defined at Camp Edwards. Despite extensive sampling, only limited PFAS have been detected in Camp Edwards groundwater. Even with focusing on areas where PFAS impacts are anticipated (i.e., near all identified sources), PFAS was only detected in a small number of groundwater samples. Ms. Cutler (IAGWSP) displayed a figure showing the general trend of decreasing PFAS levels and noted that many locations have only sporadic detections. She noted that the IAGWSP will continue with the investigation/sampling that is noted in the report and what she just outlined.

Bob Lim (EPA) commented that he appreciated the review of the report and found it helpful. He also commented that the report seems to be comprehensive and thorough. Len Pinaud (MassDEP) concurred with Mr. Lim's (EPA) comments. Josh Fontaine (EPA) asked if a comparison had been done of the data to the new EPA MCL numbers (in contrast to the standards in the DoD 2023 guidance). Ms. Cutler (IAGWSP) replied that she would have to discuss that with the IAGWSP and USACE team.

Central Impact Area (CIA) Source Removal Review Comment Presentation

Bryan Hnetinka (IE-Weston) provided a presentation focused on the terminology used in CIA source work and reports. He noted that the EPA comments received for the 2022 and 2023 Source Removal Annual Reports have been highly similar regarding the terminology used to describe the objective to perform a source response that maximizes the removal of UXO containing high explosives in the CIA.

He noted that the purpose of this presentation is to review the source removal activities associated with the IAGWSP, review the similarity of certain comments provided by EPA for the 2022 and 2023 Source Removal Annual Reports, review the responses to comments that have been accepted by EPA, and minimize the recurrence of similar comments for 2024 and future Source Removal Annual Reports.

Mr. Hnetinka (IE-Weston) explained that IAGWSP source removal at the CIA is a Hazardous, Toxic and/or Radioactive Waste (HTRW) project executed under the auspices of the Safe Drinking Water Act (SDWA) with explosives and propellants (RDX and perchlorate) in groundwater as the primary COCs. He noted that this project does not fall under the Military

Munitions Response Program (MMRP) and is not a Military Munitions Response Action to remove explosive hazards, nor is it an operational range clearance.

The 2012 CIA DD describes the selected response actions to address the source areas contributing to groundwater contamination, including both soil contamination and UXO. Specifically, the DD addresses high explosive (HE)-containing UXO items that remain in the CIA that pose a long-term threat to the groundwater. The goal of the project is to remove 75% to 95% of the UXO within the removal areas to reduce potential contamination from UXO impacting the underlying groundwater and regional aquifer. The DD addresses only the risks from exposure to contaminated groundwater, and it does not address other potential UXO-related public safety, ecological, dermal contact, or soil ingestion risks.

Mr. Hnetinka (IE-Weston) stated that the Project Delivery Team has developed specific terminology that is similar to, but separate from, typical MMRP terms to support the goals of the IAGWSP, as aligned with the DD. The terminology is defined in the Source Removal Annual Reports and needs to remain consistent throughout the life of the project for results to be comparable from year to year.

He noted that some EPA comments on the 2022 Source Response Annual Report centered on terminology/programmatic issues and those were resolved during the comment resolution process at that time. Despite those resolutions, some of the EPA reviewers reiterated similar comments to those from 2022 during their review of the 2023 Source Removal Annual Report. Mr. Hnetinka (IE-Weston) reviewed some of the repeat comments and subsequent resolutions with the hope that further comments on some of the language could be avoided. He explained IAGWSP terminology such as, “Suspect UXO, UXO-like, HE-Containing UXO, Non-HE-Containing UXO Item,” etc. He clarified that some terms might differ from uses in other military programs. Gina Kaso (USACE) stated that it is important for the agency reviewers to understand how certain terminology is used at JBCC since those terms are specified as metrics in the CIA DD and in the annual reports. She further noted that the investigation findings are measured against the Density Estimation Model predictions using the defined DD terminology.

Mr. Hnetinka (IE-Weston) restated that the IAGWSP does not fall under the Military Munitions Response Program and is not a Military Munitions Response Action to remove explosive hazards, nor is it an operational range clearance. He noted that regardless of the terminology used, appropriate policies and procedures are followed for all military munitions recovered at the site.

Mr. Fontaine (EPA) suggested that the terminology should be defined in the reports to avoid confusion. Mr. Hnetinka (IE-Weston) replied that there is a “disclaimer” in every report to note the programmatic differences between IAGWSP and MMRP and provides vocabulary definitions. Ms. Kaso (USACE) suggested that the disclaimer could be highlighted for reviewers that are new to the program.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) has yet to be scheduled (previous meeting was 13 November 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 December 2024. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 December 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 December 2024. Table 3 PFAS results are compared to the Regional Screening Levels (RSLs) published by EPA in November 2023. No PFAS validation was completed during December 2024, therefore, Table 3 is not included.

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. 332 for November 2024	12 December 2024
• Responses to Additional Environmental Protection Agency Comments on the Draft Five-Year Review: 2017-2021	20 December 2024
• Final J-2 Range Eastern Environmental Monitoring Report for November 2022 through October 20223	27 December 2024

5. SCHEDULED ACTIONS

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

- Draft Central Impact Area Environmental Monitoring Report for July 2023 through June 2024
- Draft Demolition Area 1 Environmental Monitoring Report for July 2023 through June 2024
- Comment Resolution for the J-3 Range Environmental Monitoring Report for September 2022 through August 2023
- Comment Resolution for the J-2 Range Northern Environmental Monitoring Report for November 2022 through October 2023
- Response to Comments on the J-1 Range Southern Environmental Monitoring Report for January 2023 to December 2023
- Draft J-1 Range Northern Environmental Monitoring Report for January 2023 to December 2023
- Draft Small Arms Range Environmental Monitoring Report for July 2023 through June 2024
- Draft Demolition Area 2 PFAS Technical Memorandum

TABLE 1
Sampling Progress: 01 to 31 December 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	MW-19S	MW-19S_F24	N	12/18/2024	Ground Water	38	48
Demolition Area 1	MW-19S	MW-19S_F24D	FD	12/18/2024	Ground Water	38	48
Demolition Area 1	XX9514	XX9514_F24	N	12/18/2024	Ground Water	0	0
Demolition Area 1	MW-663D	MW-663D_F24	N	12/17/2024	Ground Water	240.6	250.6
Demolition Area 1	MW-77M2	MW-77M2_F24	N	12/17/2024	Ground Water	120	130
Demolition Area 1	EW-658	EW-658_F24	N	12/17/2024	Ground Water	96	136
Demolition Area 1	MW-431	MW-431_F24	N	12/17/2024	Ground Water	88	180
Demolition Area 1	MW-544M1	MW-544M1_F24	N	12/16/2024	Ground Water	162	172
Demolition Area 1	MW-545M3	MW-545M3_F24	N	12/16/2024	Ground Water	101.5	111.5
Demolition Area 1	MW-545M2	MW-545M2_F24	N	12/16/2024	Ground Water	142	152
Demolition Area 1	MW-545M2	MW-545M2_F24D	FD	12/16/2024	Ground Water	142	152
Demolition Area 1	MW-545M1	MW-545M1_F24	N	12/16/2024	Ground Water	162	172
Demolition Area 1	MW-533M1	MW-533M1_F24	N	12/12/2024	Ground Water	160	170
Demolition Area 1	MW-730M3	MW-730M3_F24	N	12/12/2024	Ground Water	115.46	125.46
Demolition Area 1	MW-730M2	MW-730M2_F24	N	12/12/2024	Ground Water	165.87	175.87
Demolition Area 1	MW-730M2	MW-730M2_F24D	FD	12/12/2024	Ground Water	165.87	175.87
Demolition Area 1	MW-730M1	MW-730M1_F24	N	12/12/2024	Ground Water	185.82	195.82
Demolition Area 1	MW-31S	MW-31S_F24	N	12/11/2024	Ground Water	98	103
Demolition Area 1	MW-31M	MW-31M_F24	N	12/11/2024	Ground Water	113	123
Demolition Area 1	MW-648M1	MW-648M1_F24	N	12/11/2024	Ground Water	112	122
Demolition Area 1	MW-732M2	MW-732M2_F24	N	12/10/2024	Ground Water	96.2	106.2
Demolition Area 1	MW-732M1	MW-732M1_F24	N	12/10/2024	Ground Water	156	166
Demolition Area 1	MW-731M3	MW-731M3_F24	N	12/10/2024	Ground Water	160.1	170.1
Demolition Area 1	MW-731M2	MW-731M2_F24	MS	12/10/2024	Ground Water	190.9	200.9
Demolition Area 1	MW-731M2	MW-731M2_F24	N	12/10/2024	Ground Water	190.9	200.9
Demolition Area 1	MW-731M2	MW-731M2_F24	SD	12/10/2024	Ground Water	190.9	200.9
Demolition Area 1	MW-731M1	MW-731M1_F24	N	12/10/2024	Ground Water	220.8	230.8
Central Impact Area	MW-625M1	MW-625M1_F24	N	12/09/2024	Ground Water	260	270
Central Impact Area	MW-616M1	MW-616M1_F24	N	12/09/2024	Ground Water	217.1	227.1
Central Impact Area	MW-617M1	MW-617M1_F24	N	12/09/2024	Ground Water	175.8	185.8
J3 Range	J3-EFF	J3-EFF-219A	N	12/05/2024	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-219A	N	12/05/2024	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-219A	N	12/05/2024	Process Water	0	0
J3 Range	J3-INF	J3-INF-219A	N	12/05/2024	Process Water	0	0
J1 Range Northern	MW-479M1	MW-479M1_F24	N	12/05/2024	Ground Water	239.59	249.59
Demolition Area 1	D1LE-EFF	D1LE-EFF-101A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-101A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-101A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-101A	N	12/05/2024	Process Water	0	0
J1 Range Northern	MW-590M2	MW-590M2_F24	N	12/05/2024	Ground Water	238	248
J1 Range Northern	MW-590M2	MW-590M2_F24D	FD	12/05/2024	Ground Water	238	248
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-225A	N	12/05/2024	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-225A	N	12/05/2024	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-225A	N	12/05/2024	Process Water	0	0
J1 Range Northern	MW-590M1	MW-590M1_F24	N	12/05/2024	Ground Water	258	268
Demolition Area 1	FPR-2-INF	FPR-2-INF-225A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1-EFF	D1-EFF-173A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-173A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-173A	N	12/05/2024	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-173A	N	12/05/2024	Process Water	0	0
J1 Range Northern	MW-584M2	MW-584M2_F24	N	12/04/2024	Ground Water	228	238
J1 Range Northern	MW-541M1	MW-541M1_F24	N	12/04/2024	Ground Water	210	220
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-195A	N	12/04/2024	Process Water	0	0
J1 Range Northern	MW-430M2	MW-430M2_F24	N	12/04/2024	Ground Water	188.41	198.41
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-195A	N	12/04/2024	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 December 2024

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-195A	N	12/04/2024	Process Water	0	0
J1 Range Northern	MW-430M1	MW-430M1_F24	N	12/04/2024	Ground Water	245.23	255.23
Central Impact Area	MW-695S	MW-695S_F24	N	12/04/2024	Ground Water	130	140
Central Impact Area	MW-695S	MW-695S_F24D	FD	12/04/2024	Ground Water	130	140
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-195A	N	12/04/2024	Process Water	0	0
J1 Range Southern	J1S-EFF	J1S-EFF-205A	N	12/04/2024	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-205A	N	12/04/2024	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-205A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-195A	N	12/04/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-195A	N	12/04/2024	Process Water	0	0
J1 Range Northern	MW-584M1	MW-584M1_F24	N	12/03/2024	Ground Water	248	258
Central Impact Area	CIA2-EFF	CIA2-EFF-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-131A	N	12/03/2024	Process Water	0	0
J1 Range Northern	MW-540M1	MW-540M1_F24	N	12/03/2024	Ground Water	258	268
Central Impact Area	CIA1-MID2	CIA1-MID2-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-131A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA3-EFF	CIA3-EFF-102A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-102A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-102A	N	12/03/2024	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-102A	N	12/03/2024	Process Water	0	0
J1 Range Northern	J1N-INF1B	J1N-INF1B_F24	N	12/03/2024	Process Water	0	0
J1 Range Northern	J1N-INF1A	J1N-INF1A_F24	N	12/03/2024	Process Water	0	0
J1 Range Northern	MW-566M1	MW-566M1_F24	N	12/02/2024	Ground Water	232	242
J1 Range Northern	MW-401M3	MW-401M3_F24	N	12/02/2024	Ground Water	228.5	238.5
J1 Range Northern	MW-401M1	MW-401M1_F24	N	12/02/2024	Ground Water	256.1	266.1
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-219A	N	12/02/2024	Process Water	0	0
J1 Range Northern	MW-606M2	MW-606M2_F24	MS	12/02/2024	Ground Water	193.2	203.2
J1 Range Northern	MW-606M2	MW-606M2_F24	N	12/02/2024	Ground Water	193.2	203.2
J1 Range Northern	MW-606M2	MW-606M2_F24	SD	12/02/2024	Ground Water	193.2	203.2
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-219A	N	12/02/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-219A	N	12/02/2024	Process Water	0	0
J1 Range Northern	MW-606M1	MW-606M1_F24	N	12/02/2024	Ground Water	233.3	243.3
J1 Range Northern	J1N-EFF	J1N-EFF-134A	N	12/02/2024	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-134A	N	12/02/2024	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-134A	N	12/02/2024	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-134A	N	12/02/2024	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received December 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
J1 Range Northern	MW-369M1	MW-369M1_F24	254.07	264.07	11/14/2024	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.047	0.20
J1 Range Northern	MW-369M1	MW-369M1_F24	254.07	264.07	11/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.043	0.20
J1 Range Northern	MW-265M3	MW-265M3_F24	200	210	11/14/2024	SW6850	Perchlorate	0.056	J	µg/L	2.0		0.047	0.20
J1 Range Northern	MW-265M2	MW-265M2_F24	225	235	11/14/2024	SW6850	Perchlorate	2.3		µg/L	2.0	X	0.047	0.20
J1 Range Northern	MW-265M2	MW-265M2_F24	225	235	11/14/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.7	J	µg/L	0.60	X	0.043	0.20
J1 Range Northern	MW-265M2	MW-265M2_F24	225	235	11/14/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.22	J	µg/L	400		0.091	0.20
J1 Range Northern	MW-265M1	MW-265M1_F24	265	275	11/14/2024	SW6850	Perchlorate	9.4		µg/L	2.0	X	0.047	0.20
J1 Range Northern	MW-306M2	MW-306M2_F24	164.69	174.69	11/13/2024	SW6850	Perchlorate	0.051	J	µg/L	2.0		0.047	0.20
J1 Range Northern	MW-689M2	MW-689M2_F24	231.4	241.4	11/12/2024	SW6850	Perchlorate	0.051	J	µg/L	2.0		0.047	0.20
J1 Range Northern	MW-689M1	MW-689M1_F24	253.5	263.5	11/12/2024	SW6850	Perchlorate	1.0		µg/L	2.0		0.047	0.20
J1 Range Northern	MW-567M1	MW-567M1_F24	215.5	225.5	11/07/2024	SW6850	Perchlorate	0.58		µg/L	2.0		0.047	0.20
J1 Range Northern	MW-370M1	MW-370M1_F24	245.62	255.62	11/06/2024	SW6850	Perchlorate	2.3		µg/L	2.0	X	0.047	0.20
J1 Range Northern	MW-370M1	MW-370M1_F24	245.62	255.62	11/06/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.10	J	µg/L	0.60		0.043	0.20
J1 Range Northern	MW-164M2	MW-164M2_F24	157	167	11/05/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.043	0.20
J1 Range Northern	MW-164M2	MW-164M2_F24	157	167	11/05/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	13.0		µg/L	400		0.091	0.20
J1 Range Northern	MW-303M3	MW-303M3_F24	139.74	149.69	11/05/2024	SW8330	4-Amino-2,6-dinitrotoluene	1.6		µg/L	7.3		0.075	0.20
J1 Range Northern	MW-303M2	MW-303M2_F24	235.09	245.1	11/05/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.043	0.20
J1 Range Northern	MW-303M2	MW-303M2_F24	235.09	245.1	11/05/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.1		µg/L	400		0.091	0.20
J1 Range Northern	MW-303M2	MW-303M2_F24D	235.09	245.1	11/05/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.043	0.20
J1 Range Northern	MW-303M2	MW-303M2_F24D	235.09	245.1	11/05/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.0		µg/L	400		0.091	0.20
J1 Range Northern	MW-303M1	MW-303M1_F24	299.07	309.07	11/05/2024	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.047	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24	125	135	11/04/2024	SW8330	4-Amino-2,6-dinitrotoluene	0.76		µg/L	7.3		0.075	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24	125	135	11/04/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.077	J	µg/L	0.60		0.043	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24	125	135	11/04/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.17	J	µg/L	400		0.091	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24D	125	135	11/04/2024	SW8330	4-Amino-2,6-dinitrotoluene	0.73		µg/L	7.3		0.075	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24D	125	135	11/04/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.074	J	µg/L	0.60		0.043	0.20
J1 Range Northern	MW-166M3	MW-166M3_F24D	125	135	11/04/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.14	J	µg/L	400		0.091	0.20
J1 Range Southern	MW-360M2	MW-360M2_F24	102	112	10/31/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.41		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-360M2	MW-360M2_F24	102	112	10/31/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.27		µg/L	400		0.091	0.20
J1 Range Southern	MW-360M2	MW-360M2_F24D	102	112	10/31/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.41		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-360M2	MW-360M2_F24D	102	112	10/31/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.24		µg/L	400		0.091	0.20
J1 Range Southern	MW-721M1	MW-721M1_F24	168.1	178.1	10/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-721M1	MW-721M1_F24	168.1	178.1	10/29/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.16	J	µg/L	400		0.091	0.20
J1 Range Southern	MW-647M1	MW-647M1_F24	211.3	221.3	10/28/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.062	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-669M1	MW-669M1_F24	223.7	233.7	10/24/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.72		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-669M1	MW-669M1_F24D	223.7	233.7	10/24/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.71		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-591M1	MW-591M1_F24	200	210	10/22/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-592M1	MW-592M1_F24	201	211	10/21/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.067	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-481M2	MW-481M2_F24	146.28	156.28	10/21/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.061	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-645M1	MW-645M1_F24	183.5	193.5	10/16/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-521M1	MW-521M1_F24	158	168	10/15/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.093	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-733M2	MW-733M2_F24	190	200	10/15/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.063	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-733M1	MW-733M1_F24	212	222	10/15/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.91		µg/L	0.60	X	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
January 07, 2025

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received December 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
J1 Range Southern	MW-524M1	MW-524M1_F24	148	158	10/09/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.0		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-524M1	MW-524M1_F24	148	158	10/09/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.39		µg/L	400		0.091	0.20
J1 Range Southern	MW-524M1	MW-524M1_F24D	148	158	10/09/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.1		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-524M1	MW-524M1_F24D	148	158	10/09/2024	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.48		µg/L	400		0.091	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
January 07, 2025