

**MONTHLY PROGRESS REPORT #329
FOR AUGUST 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 August 2024.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 30 August 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 3.114 billion gallons of water treated and re-injected as of 30 August 2024. The following Frank Perkins Road system shutdowns occurred in August:

- 1230 on 26 August 2024 due to a power interruption caused by thunderstorms. Power was restored on 28 August 2024, but the VFD panel in the well vault at EW-4 would not power up. BETCO was onsite on 29 August 2024 and determined that the VFD had been damaged beyond repair, possibly from a lightning strike. Frank Perkins remains off until the VFD can be replaced.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 30 August 2024, over 409.9 million gallons of water were treated and re-injected. The following Base Boundary system shutdowns occurred in August:

- 0804 on 21 August 2024 due to a power interruption and was restarted at 1009 on 21 August 2024.
- 0249 on 22 August 2024 due to a power interruption and was restarted at 0930 on 22 August 2024.

The Leading-Edge system continues to operate at a flow rate of 100 gpm. As of 30 August 2024, over 419.4 million gallons of water were treated and re-injected. The following Leading Edge system shutdowns occurred in August:

- 1502 on 15 August 2024 due to a power outage caused by thunderstorms and was restarted at 0900 on 16 August 2024.
- 0808 on 21 August 2024 due to a power interruption and was restarted at 1147 on 21 August 2024.
- 0254 on 22 August 2024 due to a power interruption and was restarted at 0900 on 22 August 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 30 August 2024, over 2.235 billion gallons of water have been treated and re-injected. The following MTU E and F system shutdowns occurred in August:

- MTUs E and F at 0804 on 21 August 2024 due to a power interruption and were restarted at 0948 on 21 August 2024.
- MTUs E and F at 1230 on 26 August 2024 due to a power interruption caused by thunderstorms. When attempting to restart MTU F, the pressure relief valve would not reseal. A new pressure relief valve has been ordered, but both systems are off until the part arrives.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 30 August 2024, over 1.739 billion gallons of water have been treated and re-injected. The following MTU G system shutdowns occurred in August:

- 0813 on 21 August 2024 due to a power interruption and was restarted at 1020 on 21 August 2024.

Eastern

The J-2 Range Eastern Treatment system consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The 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 August 2024, over 1.881 billion gallons of water have been treated and re-injected. No MTU H and I system shutdowns occurred in August.

MTU J typically operates at a flow rate of 120 gpm. As of 30 August 2024, over 881.2 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in August:

- 1230 on 26 August 2024 due to a power interruption caused by thunderstorms and was restarted at 1350 on 26 August 2024.

MTU K continues to operate at a flow rate of 125 gpm. As of 30 August 2024, over 1.011 billion gallons of water have been treated and re-injected. No MTU K shutdowns occurred in August.

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 August 2024, over 1.866 billion gallons of water have been treated and re-injected. The following J-3 system shutdowns occurred in August:

- 0810 on 21 August 2024 to drain GAC #5 and #6 for a carbon exchange, which was performed by CFS on 22 August 2024 and was restarted at 0820 on 23 August 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 30 August 2024, over 817.1 million gallons of water have been treated and re-injected. The following J-1 Range Southern MTU shutdowns occurred in August:

- 1010 on 30 August 2023 the system was turned off due to a leak on the MID GAC sample port. A new sample port was installed and the system was restarted at 1028 on 30 August 2024.

Northern

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

The Northern MTU continues to operate at a total system flow rate of 250 gpm. As of 30 August 2024, over 1.392 billion gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shutdowns occurred in August:

- 0920 on 13 August 2024 due to a leak on the effluent line. A new flange and camlock fitting were installed on the GAC #3 effluent line and J1 North was restarted at 0955 on 13 August 2024.

Central Impact Area RA

The Central Impact Area (CIA) Groundwater treatment system consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The ETR system includes the following components: three extraction wells, an ex-situ treatment process consisting of an ion exchange resin and granular activated carbon media to treat explosives compounds, and 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 August 2024, over 3.701 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in August:

- 0750 on 13 August 2024 at CIA-3 to drain GAC #2 and #5 for a carbon exchange, which was performed by CFS on 15 August 2024 and was restarted at 0758 on 16 August 2024
- 0949 on 20 August 2024 at CIA-3 due to a leak on the train B effluent line. A new camlock fitting and a new hose were installed, and CIA-3 was restarted at 0949 on 20 August 2024.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 30 August 2024:

CIA

- Source Area investigations
 - UXO team remobilized to the site
 - Conducted intrusive investigation in P4A4 grids
 - BIP demolition operations
 - Conducted routine visual checks of Consolidated Shot Structure (CSS) soil cover and surface area around the perimeter of the CSS
- Carbon exchange at GAC vessels #2 and #5 at CIA-3 on 15 August 2024

Demolition Area 1

- No activity

Demolition Area 2

- No activity.

J-1 Range

- No activity

J-2 Range

- Groundwater sampling within the J2 Eastern SPM Program.

- Groundwater hydraulic monitoring within the J2 Eastern SPM Program.
- Bag filters were changed at J2 North Unit F on 29 August 2024.

J-3 Range

- Carbon exchange at GAC Vessels #5 and #6 on 22 August 2024

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
- Collected quarterly influent and effluent samples at J-2 Range Northern MTU F

JBCC Impact Area Groundwater Study Program (IAGWSP) Tech Update Meeting Minutes for 29 August 2024

Project and Fieldwork Update

Mr. Darrin Smith (USACE) stated that KGS has completed sampling at J-2 East for the annual System Performance Monitoring (SPM) event. They also completed a one-time PFAS sampling event at Range Control and the Ammunition Supply Point. The next scheduled SPM sampling event will be conducted at J-2 North.

Mr. Smith (USACE) reported that, based on the July results, carbon was changed out at CIA-3 on 8/15/24 and at J-3 on 8/22/24. Based on the August sampling results, carbon change outs are being scheduled at J-2 East H and I.

Mr. Smith (USACE) reported that the Demolition Area 1 Frank Perkins Road system had a power trip on 7/26/24 due to the thunderstorms and when the power was restored, the VFD associated with EW-4 would not start. Another VFD has been ordered and will be installed soon.

The J-2 North system (E and F) also tripped in the thunderstorm. In that case, the pressure relief valve wouldn't reset. Parts had been ordered but have not yet arrived.

Document and Project Tracking

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

Site Visit

There was a discussion of the demolition observation site visit scheduled for 9/10/24. It was decided that EPA and DEP would arrive in time for the safety briefing and to see the shot set-up. Then the group will observe the white phosphorus shot and the post shot clearance operations at the CSS.

Central Impact Area (CIA) 100% Verification Grids Presentation

Mr. Brian Hnetinka (IE-Weston) from IE-Weston introduced the project team and then introduced Ms. Rachel Woolf (IE-Weston), the IE-Weston Project Geophysicist. Ms. Woolf (IE-Weston) stated that 3,535 verification grids were completed in Survey Unit (SU) 16 and 3,940 verification grids were completed in SU 17. Both of these areas are located on the west side of the CIA.

Ms. Woolf (IE-Weston) reminded the group of the goal set in the CIA Decision Document to remove 75-95% of unexploded ordnance (UXO), maximizing removal of net explosive weight. There is also a classification goal to correctly classify 95% of the targets of interest (TOI), while reducing clutter digs by more than 70%. Ms. Woolf (IE-Weston) noted that TOI includes UXO and UXO-like items, which include inert rounds and Quality Assurance (QA) and Quality Control (QC) seeds.

Ms. Woolf (IE-Weston) displayed images of the geophysics for the two grids and a picture of the MetalMapper technology. She noted that the MetalMapper has a big fiberglass boom, which makes it easier to get in and out of the craters and reduces the wear and tear on the operators. A figure was displayed showing the MetalMapper data that was collected for Grid 35-35. There were 642 EM-61 anomalies investigated resulting in 311 cued measurements and 312 TOI digs (one cued measurement resulted in two digs). The recommended dig rate was 49.6%. The remaining 331 EM-61 targets were dug for QA and 26 of those TOI digs had UXO, UXO-like items. Two of these were recovered QA and QC seeds. Gina Kaso (USACE) noted that the 100% verification grids are selected by the regulatory agencies.

Ms. Woolf (IE-Weston) said it was determined that 46.4% of the clutter was incorrectly classified as likely-TOI (286 digs that could have been safely left in the ground). Therefore, the effort did not meet the goal of reduction of clutter digs by 70%. She added that some large pieces/quantities of frag were classified as digs in some cases due to limitations of inversion algorithms. An average of 5.97lbs of frag were recovered from each TOI dig that resulted in "clutter." An average of 1.26lbs of frag was recovered from each verification dig. All intrusive results were reviewed by QC and QA geophysicists and determined to be acceptable. A table showing the categories of the different items was displayed.

Ms. Woolf (IE-Weston) then displayed a figure with the Grid 39-40 results. There were 645 EM-61 anomalies investigated resulting in 309 cued measurements and 316 TOI digs. Seven of these cued measurements resulted in two digs each. The recommended dig rate was 48.99%.

There were 336 EM-61 targets dug for QA. The TOI digs produced 40 UXO/UXO-like items. Two QA and QC seeds were detected.

Ms. Woolf (IE-Weston) reported that 44.7% of the clutter was incorrectly classified as likely-TOI (277 digs that could have been safely left in the ground). Similar to the previous grid, the effort did not meet the goal of reduction of clutter digs by 70%. Large pieces of frag/quantities of frag were classified as digs in some cases due to limitations of inversion algorithms. An average of 10.53lbs of frag were recovered from each TOI dig that resulted in "clutter." An average of 2.02lbs of frag was recovered from each verification dig. All intrusive results were reviewed by QC and QA geophysicists and determined to be acceptable. A table showing the categories of the different items was displayed.

Ms. Woolf (IE-Weston) displayed a figure showing four years of verification grid results. Within those four years, only eight pieces of TOI were incorrectly classified (mostly due to depth). Therefore, efforts met the classification goal for of 95% for eight verification grids over four field seasons. She added that the project reached 69.3% for the reduction of clutter, which is just shy of the 70% goal.

Mr. Hnetinka (IE-Weston) provided an update on the project status and reported that surface clearance, vegetation removal, dynamic (EM-61) surveys, and cued MetalMapper surveys are complete for all of Phase IV Area 4 Survey Units (10 acres). The intrusive investigations completed in 2024 were: Phase IV Area 3 TOIs – 6,184 TOIs carried over from 2023 (100% complete), Phase IV Area 3 polygons – 27 of 36 polygons (0.240 of 0.592 acres), Phase IV Area 4 TOIs – 4,637 TOIs completed (43% complete), Phase IV Area 4 Verification Digs – 667 Verification Digs completed (100% complete). The 2024 demolition operations included disposal of 20 items via blow-in-place (BIP) operations in the CIA as of this briefing date.

Mr. Hnetinka (IE-Weston) noted that 2024 intrusive investigations were completed in Phase IV Area 3 – 7.40 acres and in Phase IV Area 4 – 2.98 acres. An additional three acres in Phase IV Area 4 are projected to be completed before the end of the 2024 field season. He explained that there is an anticipated demobilization date of 10/4/24. The team is projecting a total of ~13.66 acres total will be completed in 2024. For disposal operations, 251 consolidated shot structure (CSS) items and 40 BIPs (plus any additional CSS/BIP items discovered this year) will be completed prior to the end of 2024 field season.

Mr. Hnetinka (IE-Weston) reported that ~3.35 acres (~3,164 TOIs) and 0.957 acres of polygons will carry over from the 2024 field season. In addition, the 2025 field work will include: Phase IV Area 2 – 0.222 acre, Phase IV Area 3 – 0.352 acre, and Phase IV Area 4 – 0.383 acre.

Mr. Hnetinka (IE-Weston) reviewed the status of project reports. The 2021 Source Removal Annual Report, Revision 1 was submitted for EPA and MassDEP review on 9/27/23. It had been revised based on the final disposition of suspected UXO items that were discovered in 2021 but demolished in 2022 or 2023. The report was also updated based on comments received on the 2022 Source Removal Annual Report. MassDEP provided comments on 12/15/23 and a response from EPA was due October 2023. The 2024 UFP-QAPP updated Final version was distributed on 7/12/24. The 2023 Source Removal Annual Report is being revised based on EPA comments on 7/22/24 (MassDEP approved it on 2/27/24). Responses to EPA comments will be provided no later than 8/30/24.

Mr. Hnetinka (IE-Weston) showed a status map to summarize the current intrusive work in Phase IV Area 4, the completed work in Phase IV Area 3, and the tally of MEC items recovered during the field season. Four teams are working in the field and three of those are investigating TOIs in Phase IV Area 4. The other team is conducting demolition operations.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) has yet to be scheduled (previous meeting was 17 July 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 August 2024. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 August 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 August 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 August 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:

- Final Central Impact Area Environmental Monitoring Report for July 2022 through June 2023 08 August 2024
- Monthly Progress Report No. 328 for July 2024 08 August 2024

5. SCHEDULED ACTIONS

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

- Response to Comments on the Five-Year Review
- Final J-1 Range North Environmental Monitoring Report for January 2021 through December 2022 with Plume Shell Technical Memorandum
- Final L Range Environmental Monitoring Report for March 2023 through February 2024
- Response to Comments on the J-3 Range Environmental Monitoring Report for September 2022 – August 2023 with Plume Shell Technical Memorandum
- IAGWSP Comprehensive PFAS Report
- Response to Comments on the Central Impact Area 2023 Source Removal Report
- Response to Comments on the Draft J-2 Range Eastern Environmental Monitoring Report for November 2022 – October 2022
- Response to Comments on the Draft J-2 Range Northern Environmental Monitoring Report for November 2022 – October 2023
- Draft J-1 Range South Environmental Monitoring Report for January 2023 through December 2023
- Draft Small Arms Range Environmental Monitoring Report for July 2023 through June 2024

TABLE 1
Sampling Progress: 01 to 31 August 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	MW-122S	MW-122S_F24	N	08/28/2024	Ground Water	88	98
J2 Range Eastern	MW-307M3	MW-307M3_F24	N	08/27/2024	Ground Water	125.8	135.82
J2 Range Eastern	MW-307M3	MW-307M3_F24D	FD	08/27/2024	Ground Water	125.8	135.82
J2 Range Eastern	MW-121S	MW-121S_F24	N	08/27/2024	Ground Water	87.95	97.95
J2 Range Eastern	J2MW-02PZ	J2MW-02PZ_F24	N	08/27/2024	Ground Water	191	201
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F24	N	08/27/2024	Ground Water	236	246
J2 Range Eastern	J2MW-02M1	J2MW-02M1_F24	N	08/26/2024	Ground Water	271	281
J2 Range Eastern	J2MW-02M1	J2MW-02M1_F24D	FD	08/26/2024	Ground Water	271	281
J2 Range Eastern	MW-324M2	MW-324M2_F24	N	08/26/2024	Ground Water	203.74	214.74
J2 Range Eastern	MW-324M2	MW-324M2_F24D	FD	08/26/2024	Ground Water	203.74	214.74
J2 Range Eastern	MW-324M1	MW-324M1_F24	N	08/26/2024	Ground Water	234.85	244.85
J2 Range Eastern	MW-335M2	MW-335M2_F24	N	08/26/2024	Ground Water	215.25	225.25
J2 Range Eastern	MW-335M1	MW-335M1_F24	N	08/22/2024	Ground Water	255.2	265.2
Western Boundary	RNGCNTRL_KTCHN	RNGCNTRL_KTCHN_F24	N	08/22/2024	Process Water	0	0
Ammunition Supply Point (ASP)	ASP_KTCHN	ASP_KTCHN_F24	N	08/22/2024	Process Water	0	0
Ammunition Supply Point (ASP)	ASP_KTCHN	ASP_KTCHN_F24D	FD	08/22/2024	Process Water	0	0
J2 Range Eastern	MW-170M2	MW-170M2_F24	N	08/20/2024	Ground Water	198	208
J2 Range Eastern	MW-170M1	MW-170M1_F24	N	08/20/2024	Ground Water	265	275
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F24	N	08/20/2024	Ground Water	245	255
J2 Range Eastern	J2MW-01M1	J2MW-01M1_F24	N	08/20/2024	Ground Water	275	285
J2 Range Eastern	MW-666M3	MW-666M3_F24	N	08/19/2024	Ground Water	199.8	209.8
J2 Range Eastern	MW-666M2	MW-666M2_F24	N	08/19/2024	Ground Water	219.8	229.8
J2 Range Eastern	MW-666M1	MW-666M1_F24	N	08/19/2024	Ground Water	244.8	254.8
J2 Range Eastern	MW-705M2	MW-705M2_F24	N	08/19/2024	Ground Water	185.9	195.9
J2 Range Eastern	MW-665M2	MW-665M2_F24	N	08/15/2024	Ground Water	205.2	215.2
J2 Range Eastern	MW-665M2	MW-665M2_F24D	FD	08/15/2024	Ground Water	205.2	215.2
J2 Range Eastern	MW-665M1	MW-665M1_F24	N	08/15/2024	Ground Water	225.2	235.2
J2 Range Eastern	MW-215M2	MW-215M2_F24	N	08/14/2024	Ground Water	205	215
J2 Range Eastern	MW-705M1	MW-705M1_F24	N	08/14/2024	Ground Water	209.7	219.7
J2 Range Eastern	MW-215M1	MW-215M1_F24	N	08/14/2024	Ground Water	240	250
J2 Range Eastern	MW-665M3	MW-665M3_F24	N	08/14/2024	Ground Water	175.2	185.2
J2 Range Eastern	MW-368M3	MW-368M3_F24	N	08/14/2024	Ground Water	155.5	165.5
J2 Range Eastern	MW-368M2	MW-368M2_F24	N	08/14/2024	Ground Water	202.73	212.73
J2 Range Eastern	MW-368M1	MW-368M1_F24	N	08/14/2024	Ground Water	237.35	247.35
J2 Range Eastern	MW-368M1	MW-368M1_F24D	FD	08/14/2024	Ground Water	237.35	247.35
J2 Range Eastern	MW-339M2	MW-339M2_F24	N	08/13/2024	Ground Water	213	223
J2 Range Eastern	MW-339M1	MW-339M1_F24	N	08/13/2024	Ground Water	233	243
J2 Range Eastern	MW-366M2	MW-366M2_F24	N	08/13/2024	Ground Water	175	185
J2 Range Eastern	MW-366M1	MW-366M1_F24	N	08/13/2024	Ground Water	215	225
J2 Range Eastern	MW-366M1	MW-366M1_F24D	FD	08/13/2024	Ground Water	215	225
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F24	MS	08/12/2024	Ground Water	185	195
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F24	N	08/12/2024	Ground Water	185	195
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F24	SD	08/12/2024	Ground Water	185	195
J2 Range Eastern	J2MW-05M1	J2MW-05M1_F24	N	08/12/2024	Ground Water	225	235
J2 Range Eastern	MW-685M1	MW-685M1_F24	N	08/12/2024	Ground Water	166.2	176.2
J2 Range Eastern	MW-668M1	MW-668M1_F24	N	08/12/2024	Ground Water	168.7	178.7
J2 Range Eastern	MW-668M1	MW-668M1_F24D	FD	08/12/2024	Ground Water	168.7	178.7
J2 Range Eastern	MW-706S	MW-706S_F24	N	08/08/2024	Ground Water	112.7	122.7
J2 Range Eastern	MW-709S	MW-709S_F24	N	08/08/2024	Ground Water	106.2	116.2
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	MW-708S	MW-708S_F24	MS	08/08/2024	Ground Water	107.7	117.7
J2 Range Eastern	MW-708S	MW-708S_F24	N	08/08/2024	Ground Water	107.7	117.7
J2 Range Eastern	MW-708S	MW-708S_F24	SD	08/08/2024	Ground Water	107.7	117.7
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-191A	N	08/08/2024	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 August 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-EFF-IH	J2E-EFF-IH-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	MW-321M2	MW-321M2_F24	N	08/08/2024	Ground Water	155.67	165.67
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-191A	N	08/08/2024	Process Water	0	0
J2 Range Eastern	MW-321M1	MW-321M1_F24	N	08/08/2024	Ground Water	174.61	184.61
J2 Range Eastern	MW-707S	MW-707S_F24	N	08/07/2024	Ground Water	110.3	120.3
J2 Range Eastern	MW-228S	MW-228S_F24	N	08/07/2024	Ground Water	104	114
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-221A	N	08/07/2024	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-221A	N	08/07/2024	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-221A	N	08/07/2024	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-221A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1LE-EFF	D1LE-EFF-97A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-97A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-97A	N	08/07/2024	Process Water	0	0
J2 Range Eastern	MW-116S	MW-116S_F24	N	08/07/2024	Ground Water	103	113.7
Demolition Area 1	D1LE-INF	D1LE-INF-97A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1-EFF	D1-EFF-169A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-169A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-169A	N	08/07/2024	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-169A	N	08/07/2024	Process Water	0	0
J2 Range Eastern	MW-154S	MW-154S_F24	N	08/07/2024	Ground Water	98	108
J2 Range Eastern	MW-319M2	MW-319M2_F24	N	08/07/2024	Ground Water	165.17	175.17
J2 Range Eastern	MW-319M1	MW-319M1_F24	N	08/07/2024	Ground Water	200.25	210.25
J2 Range Eastern	MW-310M1	MW-310M1_F24	N	08/06/2024	Ground Water	171.4	181.4
J2 Range Eastern	J2MW-04M2	J2MW-04M2_F24	N	08/06/2024	Ground Water	210	220
Central Impact Area	CIA2-EFF	CIA2-EFF-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-127A	N	08/06/2024	Process Water	0	0
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F24	N	08/06/2024	Ground Water	257	267
Central Impact Area	CIA1-EFF	CIA1-EFF-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-127A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-127A	N	08/06/2024	Process Water	0	0
J2 Range Eastern	MW-667M2	MW-667M2_F24	N	08/06/2024	Ground Water	277.3	287.3
Central Impact Area	CIA3-EFF	CIA3-EFF-98A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-98A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-98A	N	08/06/2024	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-98A	N	08/06/2024	Process Water	0	0
J2 Range Eastern	MW-667M1	MW-667M1_F24	N	08/06/2024	Ground Water	302.3	312.3
J2 Range Eastern	MW-393M2	MW-393M2_F24	N	08/05/2024	Ground Water	218.16	228.16
J2 Range Eastern	MW-393M1	MW-393M1_F24	N	08/05/2024	Ground Water	268.02	278.02
J1 Range Northern	J1N-EFF	J1N-EFF-130A	N	08/05/2024	Process Water	0	0
J2 Range Eastern	MW-393D	MW-393D_F24	N	08/05/2024	Ground Water	313.56	323.56
J1 Range Northern	J1N-MID2	J1N-MID2-130A	N	08/05/2024	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-130A	N	08/05/2024	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-130A	N	08/05/2024	Process Water	0	0
J2 Range Eastern	MW-351M2	MW-351M2_F24	MS	08/05/2024	Ground Water	233.67	243.67
J2 Range Eastern	MW-351M2	MW-351M2_F24	N	08/05/2024	Ground Water	233.67	243.67
J2 Range Eastern	MW-351M2	MW-351M2_F24	SD	08/05/2024	Ground Water	233.67	243.67
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_AUG24	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-215A	N	08/05/2024	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 August 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 Northern	J2N-MID-1F	J2N-MID-1F-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-215A	N	08/05/2024	Process Water	0	0
J2 Range Eastern	MW-351M1	MW-351M1_F24	N	08/05/2024	Ground Water	278.64	288.64
J2 Range Northern	J2N-INF-F	J2N-INF-F_AUG24-D	FD	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-INF-F	J2N-INF-F_AUG24	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-215A	N	08/05/2024	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-215A	N	08/05/2024	Process Water	0	0
J2 Range Eastern	MW-354M2	MW-354M2_F24	N	08/01/2024	Ground Water	234.8	244.8
J2 Range Eastern	MW-354M1	MW-354M1_F24	N	08/01/2024	Ground Water	274.52	284.52
J2 Range Eastern	MW-436M1	MW-436M1_F24	N	08/01/2024	Ground Water	295.47	305.47
J2 Range Eastern	MW-357M1	MW-357M1_F24	N	08/01/2024	Ground Water	274.5	284.5
J3 Range	J3-EFF	J3-EFF-215A	N	08/01/2024	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-215A	N	08/01/2024	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-215A	N	08/01/2024	Process Water	0	0
J3 Range	J3-INF	J3-INF-215A	N	08/01/2024	Process Water	0	0
J1 Range Southern	J1S-EFF	J1S-EFF-201A	N	08/01/2024	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-201A	N	08/01/2024	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-201A	N	08/01/2024	Process Water	0	0

**TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received August 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
Lima Range	MW-242M1	MW-242M1_F24	235	245	07/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.043	0.20
Lima Range	MW-651M1	MW-651M1_F24	242.3	252.3	07/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.34		µg/L	0.60		0.043	0.20
Lima Range	MW-595M2	MW-595M2_F24	205.3	215.3	07/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.40		µg/L	0.60		0.043	0.20
Lima Range	MW-595M1	MW-595M1_F24	255.3	265.3	07/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.043	0.20
Lima Range	MW-595M1	MW-595M1_F24D	255.3	265.3	07/29/2024	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.043	0.20

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