

**MONTHLY PROGRESS REPORT #317
FOR AUGUST 2023**

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 2023.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 25 August 2023:

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 3.028 billion gallons of water treated and re-injected as of 25 August 2023. The following Frank Perkins Road Treatment Facility shutdowns occurred in August:

- 1824 on 08 August 2023 due to a VFD fault and was restarted at 0723 on 09 August 2023.
- 0600 on 13 August 2023 due to a power interruption and was restarted at 0742 on 14 August 2023.
- 0045 on 19 August 2023 due to a power interruption and was restarted at 0800 on 21 August 2023.
- 1420 on 22 August 2023 due to a power outage and was restarted at 0720 on 24 August 2023.
- 0800 on 24 August 2023 due to a false alarm on the PLC program and was restarted at 1330 on 24 August 2023.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 25 August 2023, over 375.6 million gallons of water were treated and re-injected. The following Base Boundary MTU shutdowns occurred in August:

- 0830 on 31 August 2023 to packer off an additional 20 feet of well screen and was restarted at 1058 on 31 August 2023.
- 1108 on 31 August 2023 to change the bag filters due to high pressure caused by disturbing the extraction well during packer installation and was restarted at 1210 on 31 August 2023
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The Leading Edge system continues to operate at a flow rate of 100 gpm. As of 25 August 2023, over 367.0 million gallons of water were treated and re-injected. No Leading Edge system shutdowns occurred in August.

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 Plant

The J-2 Range Northern Treatment facility consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The Extraction, Treatment, and Re-infiltration system includes three extraction wells, 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 25 August 2023, over 2.109 billion gallons of water have been treated and re-injected. The following MTU E and F shutdowns occurred in August:

- 1835 on 08 August 2023 due to a power outage. When the systems were restarted, it was discovered that a pressure relief valve was stuck in the open position on the influent pipe at Unit F. A new relief valve was delivered and installed, and the system was restarted at 0900 on 31 August 2023.
- 1237 on 31 August 23 to tighten the pressure relief valve due to small drip and was restarted at 1252 on 31 August 2023.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 25 August 2023, over 1.626 billion gallons of water have been treated and re-injected. The following MTU G shutdowns occurred in August:

- 1824 on 08 August 2023 due to a VFD fault and was restarted at 0922 on 09 August 2023.
- 0600 on 13 August 2023 due to a power interruption and was restarted at 0825 on 14 August 2023.

Eastern Plant

The J-2 Range Eastern Treatment facility consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The ETI system includes the following components: three extraction wells in an axial array, an ex-situ treatment process consisting of an ion exchange (IX) resin and granular activated carbon (GAC) media to treat perchlorate and explosives compounds, and three infiltration trenches located along the lateral boundaries of the plume where treated water 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 25 August 2023, over 1.758 billion gallons of water have been treated and re-injected. The following MTU H and I shutdowns occurred in August:

- 1440 on 08 August 2023 due to a power interruption and was restarted on 09 August 2023.
- 1400 on 18 August 2023 due to a fuse cutout on the powerline above the transformer and was restarted at 1015 on 23 August 2023

MTU J continues to operate at a flow rate of 120 gpm. As of 25 August 2023, over 821.5 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in August:

- 1307 on 08 August 2023 due to a power outage and was restarted at 1440 on 08 August 2023.

MTU K continues to operate at a flow rate of 125 gpm. As of 25 August 2023, over 945.7 million gallons of water have been treated and re-injected. The following MTU K shutdowns occurred in August:

- 1307 on 08 August 2023 due to a power outage and was restarted at 1440 on 08 August 2023.

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 25 August 2023, over 1.743 billion gallons of water have been treated and re-injected. The following J3 system shutdowns occurred in August:

- 1227 on 08 August 2023 due to a power interruption and was restarted at 0838 on 09 August 2023.
- 0957 on 13 August 2023 due to a power interruption and was restarted at 0915 on 14 August 2023.
- 0850 on 15 August 2023 due to FS-12 being off and was restarted on 16 August 2023.

J-1 Range Groundwater RA

Southern Plant

The J-1 Range Southern Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds. The ETR system includes two extraction wells, 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 continues to operate at a flow rate of 125 gpm. As of 25 August 2023, over 768.3 million gallons of water have been treated and re-injected. The following J-1 Range Southern MTU shutdowns occurred in August:

- 1227 on 08 August 2023 due to a power interruption and was restarted at 1246 on 08 August 2023.
- 1307 on 08 August 2023 due to a power interruption and was restarted at 1440 on 08 August 2023.
- 0600 on 13 August 2023 due to power loss that was potentially caused by a lightning strike which caused damage to the MTU and mechanical maintenance to repair the damage and was restarted at 1120 on 23 August 2023.

Northern Plant

The J-1 Range Northern Groundwater RA consists of removal and treatment of contaminated groundwater to control further migration of explosives compounds and perchlorate. The ETR system includes two extraction wells, 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 25 August 2023, over 1.259 billion gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shutdowns occurred in August:

- 1335 on 17 August 2023 to replace the fan in the VFD cabinet and was restarted at 1350 on 17 August 2023.

Central Impact Area RA

The Central Impact Area (CIA) Groundwater treatment facility consists of removal and treatment of groundwater to minimize downgradient migration of explosives compounds and perchlorate. The ETR system includes the following components: three extraction wells, an ex-situ treatment process consisting of an ion exchange 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 25 August 2023, over 3.305 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in August:

- 0815 on 08 August 2023 at CIA-3 to drain GAC vessels #2 and #5 for a carbon exchange (performed on 09 August 2023) and was restarted at 1020 on 10 August 2023.
- 1202 on 18 August 2023 at CIA-2 due to an RTU COMM LOSS alarm and installation of and was restarted at 1038 on 21 August 2023.
- 1420 on 22 August 2023 at CIA-1 due to a power outage and was restarted at 0850 on 24 August 2023.
- 1420 on 22 August 2023 at CIA-2 due to a power outage and was restarted at 0930 on 24 August 2023.

- 0625 on 27 August 2023 at CIA-2 due to an RTU COMM LOSS alarm and was restarted at 0948 on 28 August 2023.
- 2100 on 30 August 2023 at CIA-2 due to an RTU COMM LOSS alarm and was restarted and was restarted at 0740 on 31 August 2023.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 25 August 2023:

CIA

- Source Area investigations
 - Intrusive investigations in P4A2 SU 6
 - Intrusive investigations in P4A3
 - MetalMapper recollects
 - Routine visual check of consolidated shot structure (CSS) soil cover and surface area around the perimeter of the CSS

Demolition Area 1

- Bag filters changed

Demolition Area 2

- No activity

J-1 Range

- No activity

J-2 Range

- Monitoring well installation at J-2 Range North MW-735
- Groundwater hydraulic monitoring within the J-2 Range Eastern SPM
- Groundwater sampling within the J-2 Range Eastern SPM

J-3 Range

- Groundwater sampling within the J-3 Range SPM and J3 PFAS Programs

L Range

- Groundwater sampling within the L Range LTM

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 24 August 2023Project and Fieldwork Update

Darrin Smith (USACE) provided the project and fieldwork update starting with the status of the groundwater sampling crews. He noted that KGS crews completed the L Range long-term monitoring semi-annual event (5 screens) on August 17th. The team is currently sampling the J-3 Range annual event (66 screens), the J-3 Range hydraulic event (55 screens), and the J-3 Range PFAS sampling (56 screens). They also sampled USGS well S534-M01, which is near Snake Pond. A second crew began sampling the J-2 East system performance monitoring (SPM) wells (64 screens) and hydraulic event (65 screens) on August 11th. In the beginning of September, the J-2 North annual SPM (64 screens, both chemical and hydraulic) and PFAS sampling at the Upper Cape Regional Water Supply Cooperative will commence.

Mr. Smith (USACE) continued with a status of operations and maintenance activities. He noted that the August monthly process water samples were collected between August 1st and August 3rd and results are pending. The Demolition Area 1 base boundary extraction well EW-3 packering is scheduled for August 30th. The effluent at CIA-1 was resampled on August 1st and results are pending. Mr. Smith (USACE) said that a notable treatment system issue since last meeting was that the J-2 Range north system E-F is currently down. It was shut down due to a leaking pressure relief valve that was stuck open on the influent pipe in Unit F. A new relief valve has been ordered but, until the replacement valve comes in, both units will be off since system E cannot run without system F operating.

Mr. Smith (USACE) continued with an update on new well installations. He said that since the last meeting, well installation was completed at MW-734, MW-735 and MW-736. There were mechanical issues when the crews were pulling the casing out during the installation of MW-736 and the rig had to be sent to Hartford for repairs. It is anticipated the rig will return in about a week. In the meantime, crews are developing MW-734. Jane Dolan (EPA) asked Mr. Smith (USACE) to explain which monitoring wells and sentry wells were being sampled. Mr. Smith (USACE) replied that it was the deep screens at WS2BD, WS2CD and WS3DD and all three screens at sentry wells C4 and C7.

Shawn Cody (ARNG) said that the funding agenda item would be tabled until the group could meet in person. The meeting was scheduled for Thursday, August 31st at 9:30.

Gina Kaso (USACE) provided a Central Impact Area (CIA) update. She explained that geophysical activities have been completed and the Metal Mappers were being shipped home for the season. There are five UXO teams in the Impact Area. One continues to work on the polygons in area SU6 and the other four teams are performing discreet digs and polygons in Phase IV Area 3. Teams are also working in both 100% grids. Ms. Dolan (EPA) asked if a site

visit could be scheduled to the CIA to see the target that was found with other items inside it and noted she would like to physically look at the items. Ms. Kaso (USACE) explained that the warhead is available to be brought into the office at the next meeting.

Ms. Kaso (USACE) noted that Greg Hencir had accepted a position in the USACE project management division and wanted to introduce his replacement, Jeff Dvorak (USACE). Ms. Kaso (USACE) explained that Mr. Dvorak (USACE) has been with USACE for approximately a year and had significant experience in the private sector. Mr. Dvorak (USACE) said he was transitioning into the engineering technical lead role. He explained that he was an environmental scientist and had previously worked at AECOM on FUDS and BRAC projects with USACE. Jodi Cutler (IAGWSP) said that Mr. Dvorak (USACE) would add his email address to the chat and reminded the group to include him on any future emails where Mr. Hencir normally would have been copied.

J-3 Range Plume Shell Update Presentation

Mike Kulbersh (USACE) provided a presentation on the J-3 Range Plume Shell update. He noted that both he and Ryan Hupfer (USACE) would be presenting as he performed the analysis for RDX and Mr. Hupfer (USACE) handled perchlorate. It explained that the purpose is to present the layer-by-layer 2D contours and get the team's concurrence before proceeding to the 3D geostatistical interpolation.

Mr. Kulbersh (USACE) explained that to update the plume shell the following steps were taken: EDMS was queried for RDX data for the J-3 Range. When that is completed, a transient MODFLOW groundwater flow model incorporating different well stresses is setup. In this particular case, 36 different stress periods were developed in order to simulate groundwater sample collection for RDX. The simulation was ended on January 5, 2023. Representative groundwater extraction rates were used for simulation period based on well spreadsheets.

Mr. Kulbersh (USACE) continued by explaining that the was to initiate particles in MODPATH at locations, depths, and release times of each sample collection point using the transient MODFLOW groundwater flow model. The MODPATH simulation is run to migrate particles (x, y, and z) through to January 5, 2023 and then the MODPATH model predicted x, y, z locations are imported into Excel and the particles are matched with their respective measured concentrations. It was noted that RDX concentrations are decayed using exponential decay (2% remaining after 20 years of transport).

Finally, values are imported to ArcView and used as a guide to manually develop plume contours using representing 10-foot interval (0.2, 0.6, 2 µg/L) for RDX. Mr. Kulbersh (USACE) stated that in general, RDX plumes are drawn where data exceeds 0.6 µg/L, respectively, and concentrations less than these thresholds result in "deleted points," or points are "retained" but only to delineate a bounding contour (0.2 µg/L).

A simulation was started at the earliest date of groundwater sample collection October 28, 1997 and was ended on January 5, 2023. Concentrations ranged from ND to 37.6 µg/L. The number of points migrated was 3,324 with 1327 points captured by various extraction wells.

A graph showing the exponential decay curve used to attenuate the RDX concentration was displayed and discussed. Mr. Kulbersh (USACE) explained that after approximately 20 years,

concentrations are a little less than 2%, so the concentration is decayed from measured points. A slide showing mass removal through August 2022 was shown.

Mr. Kulbersh (USACE) explained that the number of points that were deleted was 1,978 with a maximum concentration of 0.31 µg/L (attenuated). The number of points less than the reporting limit (RL) of 0.2 µg/L was 1972, there were six points between the RL and the risk-based concentration of 0.6 µg/L and there were no points greater than 0.6 µg/L. There were 19 points used for the plume shells. The number between the RSL and 0.6 µg/L was 14 and there were five points greater than 0.6 µg/L with a maximum of 1.52 µg/L. There were 22 points outside of the model domain. The plume contour values used were 0.2 µg/L, 0.6 µg/L, and 2 µg/L and the maximum and minimum plume elevations were +65 feet mean sea level (msl) and -35 ft msl, respectively.

A figure showing all migrated RDX data retained and deleted was displayed. The RDX plumes and data points of 0.6 µg/L or higher was shown. Mr. Kulbersh (USACE) pointed out the simulated capture zones and noted that all of the concentrations and plumelets are all within the capture zone of the various extraction wells.

Next steps in the process include seeking agency approval on the 2D representation, which will then be converted into data points (x,y,z,c) and the raster tops and bottoms (x,y,z,0). A single data file consisting of retained points, control contour points, and raster top/bottom points will be developed and interpolated to the model grid. The new plume shell will be developed using the existing model scenario and it will be compared to the Decision Document (DD) and to the prior plume. Mr. Kulbersh (USACE) displayed the figures showing the layer-by-layer 2D analysis. Elliot Jacobs (MassDEP) noted that it appears that the RDX plume appears to be almost completely gone and that it is likely RDX won't even be modeled during the next plume shell update. Mr. Jacobs (MassDEP) asked if an email with agency concurrence would be sufficient to move forward to the next step in the process. Mr. Kulbersh (USACE) replied that it would.

Mr. Hupfer (USACE) continued the presentation with the perchlorate plume. He noted that the steps were essentially the same as described by Mr. Kulbersh (USACE). The start date for perchlorate was August 9, 2000 and the end date was January 5, 2023. Concentrations ranged from ND to 770 µg/L, which was the highest perchlorate concentration measured by the program. The number of points migrated was 2,963 with 1,243 points captured by various extraction wells. Mr. Hupfer (USACE) noted that the main difference between the RDX and perchlorate analysis is that for the perchlorate plume shells, attenuation is not accounted for like it is in the RDX plume shells, which results in being a little more conservative with the concentrations being used.

Mr. Hupfer (USACE) explained that the number of points that were deleted was 1,642 with a maximum concentration of 32.1 µg/L. The number of points less than the RL of 0.35 µg/L was 1,445. There were 157 points between the RL and the 2.0 µg/L and there were 40 points greater than 2.0 µg/L. There were 78 points used for the plume shells. The number between the RSL and 0.6 µg/L was 14 and there were five points greater than 0.6 µg/L with a maximum of 1.52 µg/L. There were 14 points outside of the model domain. The plume contour values used were 0.35 µg/L and 2.0 µg/L and the maximum and minimum plume elevations were +55 feet msl and -85 ft msl, respectively.

Mr. Hupfer (USACE) continued with figures showing all migrated data that was retained and deleted and the perchlorate plumes at data points at 2.0 µg/L or greater. The layer-by-layer plumes were displayed and discussed.

Mr. Hupfer (USACE) explained that the next steps for perchlorate were the same that they were for RDX.

Demolition Area 2 Annual Monitoring Report Presentation

Mr. Kulbersh (USACE) provided a presentation on the Demolition Area 2 Annual Monitoring Report. During the reporting period (June 2022 to May 2023), 16 groundwater samples were collected from 15 annual wells and one biennial well). There are five other biennial wells (MW-16S, MW-262M1, MW-654M1, MW-655M1/M2) that normally would be sampled in 2024. RDX was non-detect (ND) in twelve samples and reported as estimated concentrations in two samples (at or <RL) while two samples were detected above the RL. The maximum detected concentration of 0.44 µg/L was in the sample collected from MW-404M2 and was less than the Risk Based Concentration (RBC) of 0.6 µg/L. One other explosive compound, picric acid, was detected <RL in MW-311M1.

A figure showing the sampling locations, groundwater monitoring results, and trends was displayed and discussed.

Decision Document cleanup timelines were discussed. The estimates presented in the 2015 Decision Document addendum of below Health Advisory (2 µg/L) by 2016 (achieved May 2016), below RBC (0.6 µg/L) by 2018 (achieved May 2021), and below background level (0.25 µg/L) by 2025 were shown. The 2022-2023 reporting period results had no monitoring wells exceeding either the Health Advisory of 2 µg/L or the RBC of 0.6 µg/L. The maximum detected concentration was 0.44 µg/L (MW-404M2, April 2023).

Mr. Kulbersh (USACE) continued with a review of the recommendations from the annual report. They include discontinuing sampling for explosives at all wells, as remedial goals have been achieved. Implement site closeout documentation via Demonstration of Compliance Report. Per the DD (USEPA, 2010) well decommissioning can commence three years following documentation that remedial goals have been achieved. He noted that this annual report and the prior annual report (USACE, 2022) serve to document that remedial goals have been achieved for two consecutive reporting years, therefore, we recommend well decommissioning commence in Fall 2026. MassDEP had no comments on the annual report and EPA comments are pending.

Action Items

Mr. Dvorak (USACE) used the new document tracking list to review and discuss deliverables. Ms. Dolan (EPA) asked that the sampling dates for each operable unit could be added to the tracking list.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) was held on 30 August 2023. Meeting details and presentation materials can be found on the IAGWSP web site at <http://jbcc->

iaqwsp.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 2023. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 August 2023. 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 sampling of influent and groundwater samples for per- and polyfluoroalkyl substances (PFAS) from 01 to 31 August 2023. Table 3 PFAS results are compared to the Regional Screening Levels (RSL) published by EPA on 17 May 2022 as well as the EPA Lifetime Health Advisory for PFOS+PFOA and the MassDEP MCL for PFAS6.

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 Comment on the Final QAPP Addendum No. 2 03 August 2023
- Final 2022 Annual Source Removal for the Central Impact Area 07 August 2023
- Monthly Progress Report No. 306 for July 2023 15 August 2023
- Draft J-1 Northern Environmental Monitoring Report for January 2021 through December 2022 18 August 2023
- Response to Comments on the Draft J-2 Range Northern Environmental Monitoring Report for November 2021 through October 2022 dated May 2023 18 August 2023
- Final QAPP Addendum No. 2 Revision 1 21 August 2023

5. SCHEDULED ACTIONS

The following actions and/or documents are being prepared in September 2023.

- Memorandum of Resolution on the Draft Small Arms Ranges Environmental Monitoring Work Plan Addendum
- Final J-2 Range Eastern 2022 Environmental Monitoring Report
- Draft J-2 Range Northern 2022 Environmental Monitoring Report
- Draft J-1 Range South 2022 Environmental Monitoring Report
- Draft J-1 Range North 2022 Environmental Monitoring Report with Plume Shell Tech Memo
- Draft Central Impact Area Environmental Monitoring Report for July 2022 – June 2023
- Draft J-3 Range Environmental Monitoring Report for September 2021 – August 2022
- Demolition Area 2 2023 Environmental Monitoring Report
- Memorandum of Resolution for the Northwest Corner Demonstration of Compliance Report (*on hold pending resolution of PFAS issues*)
- Response Letter to EPA Comments due to EPA 15 September 2023
- IAGWSP Comprehensive PFAS Groundwater Sampling Summary Report
- Response to Comments on the Draft Five Year Review Report

TABLE 1
Sampling Progress: 01 to 31 August 2023

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_082923	FB	08/29/2023	Water Quality Control Matrix	0	0
Lima Range	MW-239M3	MW-239M3_P23	N	08/29/2023	Ground Water	60	70
Lima Range	MW-239M2	MW-239M2_P23	N	08/29/2023	Ground Water	150	160
Lima Range	MW-239M1	MW-239M1_P23	N	08/29/2023	Ground Water	180	190
J2 Range Eastern	J2MW-02PZ	J2MW-02PZ_F23	N	08/28/2023	Ground Water	191	201
J3 Range	SP3-91M	SP3-91M_P23	N	08/28/2023	Ground Water	50	70
J3 Range	MW-218M3	MW-218M3_F23	N	08/28/2023	Ground Water	78	83
J2 Range Eastern	MW-307M3	MW-307M3_F23	N	08/24/2023	Ground Water	125.8	135.82
J2 Range Eastern	MW-307M3	MW-307M3_F23D	FD	08/24/2023	Ground Water	125.8	135.82
J2 Range Eastern	MW-324M2	MW-324M2_F23	N	08/24/2023	Ground Water	203.74	214.74
J2 Range Eastern	MW-324M1	MW-324M1_F23	N	08/24/2023	Ground Water	234.85	244.85
J2 Range Eastern	MW-319M2	MW-319M2_F23	N	08/23/2023	Ground Water	165.17	175.17
J2 Range Eastern	MW-319M1	MW-319M1_F23	N	08/23/2023	Ground Water	200.25	210.25
J2 Range Eastern	MW-709S	MW-709S_F23	N	08/23/2023	Ground Water	106.2	116.2
J2 Range Eastern	MW-708S	MW-708S_F23	MS	08/23/2023	Ground Water	107.7	117.7
J2 Range Eastern	MW-708S	MW-708S_F23	N	08/23/2023	Ground Water	107.7	117.7
J2 Range Eastern	MW-708S	MW-708S_F23	SD	08/23/2023	Ground Water	107.7	117.7
J2 Range Eastern	MW-707S	MW-707S_F23	N	08/23/2023	Ground Water	110.3	120.3
J2 Range Eastern	MW-706S	MW-706S_F23	N	08/23/2023	Ground Water	112.7	122.7
J2 Range Eastern	MW-365M2	MW-365M2_F23	N	08/22/2023	Ground Water	205.52	215.52
J3 Range	MW-194M1	MW-194M1_P23	N	08/22/2023	Ground Water	85.6	90.6
J2 Range Eastern	MW-436M1	MW-436M1_F23	N	08/22/2023	Ground Water	295.47	305.47
J3 Range	MW-196S	MW-196S_P23	N	08/22/2023	Ground Water	32	37
J2 Range Eastern	MW-393D	MW-393D_F23	N	08/22/2023	Ground Water	313.56	323.56
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_082223	AB	08/22/2023	Water Quality Control Matrix	0	0
J2 Range Eastern	MW-393M2	MW-393M2_F23	N	08/22/2023	Ground Water	218.16	228.16
J3 Range	MW-196M1	MW-196M1_P23	N	08/22/2023	Ground Water	45	50
J2 Range Eastern	MW-393M1	MW-393M1_F23	N	08/22/2023	Ground Water	268.02	278.02
J2 Range Eastern	MW-170M2	MW-170M2_F23	N	08/21/2023	Ground Water	198	208
J2 Range Eastern	MW-170M1	MW-170M1_F23	N	08/21/2023	Ground Water	265	275
J2 Range Eastern	MW-321M2	MW-321M2_F23	N	08/21/2023	Ground Water	155.67	165.67
J2 Range Eastern	MW-321M1	MW-321M1_F23	N	08/21/2023	Ground Water	174.61	184.61
J2 Range Eastern	MW-667M2	MW-667M2_F23	N	08/21/2023	Ground Water	277.3	287.3
J2 Range Eastern	MW-667M1	MW-667M1_F23	N	08/21/2023	Ground Water	302.3	312.3
Lima Range	90MW0071	90MW0071_P23	N	08/21/2023	Ground Water	0	0
J2 Range Eastern	J2MW-04M2	J2MW-04M2_F23	N	08/21/2023	Ground Water	210	220
J3 Range	SP3-91D	SP3-91D_P23	N	08/21/2023	Ground Water	0	0
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F23	N	08/21/2023	Ground Water	257	267
J2 Range Eastern	MW-335M2	MW-335M2_F23	N	08/21/2023	Ground Water	215.25	225.25
J2 Range Eastern	MW-335M1	MW-335M1_F23	N	08/17/2023	Ground Water	255.2	265.2
J2 Range Eastern	J2MW-02M2	J2MW-02M2_F23	N	08/17/2023	Ground Water	236	246
J2 Range Eastern	J2MW-02M1	J2MW-02M1_F23	N	08/17/2023	Ground Water	271	281
J2 Range Eastern	J2MW-02M1	J2MW-02M1_F23D	FD	08/17/2023	Ground Water	271	281
J2 Range Eastern	J2MW-01M1	J2MW-01M1_F23	N	08/17/2023	Ground Water	275	285
J2 Range Eastern	J2MW-01M2	J2MW-01M2_F23	N	08/17/2023	Ground Water	245	255
J2 Range Eastern	MW-366M2	MW-366M2_F23	N	08/16/2023	Ground Water	175	185
J2 Range Eastern	MW-366M1	MW-366M1_F23	N	08/16/2023	Ground Water	215	225
Lima Range	90MW0031	90MW0031_P23	MS	08/16/2023	Ground Water	195.3	200.2
Lima Range	90MW0031	90MW0031_P23	N	08/16/2023	Ground Water	195.3	200.2
Lima Range	90MW0031	90MW0031_P23	SD	08/16/2023	Ground Water	195.3	200.2
J2 Range Eastern	MW-339M2	MW-339M2_F23	N	08/16/2023	Ground Water	213	223
Lima Range	MW-236S	MW-236S_P23	N	08/16/2023	Ground Water	96	106
Lima Range	MW-236S	MW-236S_P23D	FD	08/16/2023	Ground Water	96	106
J2 Range Eastern	MW-339M1	MW-339M1_F23	N	08/16/2023	Ground Water	233	243
Lima Range	MW-529M1	MW-529M1_P23	N	08/16/2023	Ground Water	107	117
J2 Range Eastern	MW-705M2	MW-705M2_F23	N	08/16/2023	Ground Water	185.9	195.9
Lima Range	MW-530S	MW-530S_P23	N	08/16/2023	Ground Water	97	107
J2 Range Eastern	MW-705M1	MW-705M1_F23	N	08/16/2023	Ground Water	209.7	219.7
Joint Base Cape Code - IAGWSP	FIELDQC	EB_J3_081623	EB	08/16/2023	Water Quality Control Matrix	0	0
J2 Range Eastern	MW-368M3	MW-368M3_F23	N	08/15/2023	Ground Water	155.5	165.5
J2 Range Eastern	MW-368M2	MW-368M2_F23	N	08/15/2023	Ground Water	202.73	212.73
J2 Range Eastern	MW-368M1	MW-368M1_F23	N	08/15/2023	Ground Water	237.35	247.35

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 August 2023

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-368M1	MW-368M1_F23D	FD	08/15/2023	Ground Water	237.35	247.35
Lima Range	MW-242M3	MW-242M3_P23	N	08/15/2023	Ground Water	0	0
Lima Range	MW-242M2	MW-242M2_P23	N	08/15/2023	Ground Water	165	175
J2 Range Eastern	MW-668M1	MW-668M1_F23	N	08/15/2023	Ground Water	168.7	178.7
J2 Range Eastern	MW-668M1	MW-668M1_F23D	FD	08/15/2023	Ground Water	168.7	178.7
Lima Range	MW-242M1	MW-242M1_F23	N	08/15/2023	Ground Water	235	245
Lima Range	MW-242M1	MW-242M1_P23	N	08/15/2023	Ground Water	235	245
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F23	MS	08/15/2023	Ground Water	185	195
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F23	N	08/15/2023	Ground Water	185	195
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F23	SD	08/15/2023	Ground Water	185	195
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_081523	AB	08/15/2023	Water Quality Control Matrix	0	0
Lima Range	MW-595M2	MW-595M2_F23	N	08/15/2023	Ground Water	205.3	215.3
Lima Range	MW-595M2	MW-595M2_P23	N	08/15/2023	Ground Water	205.3	215.3
J2 Range Eastern	J2MW-05M1	J2MW-05M1_F23	N	08/15/2023	Ground Water	225	235
Lima Range	MW-595M1	MW-595M1_F23	N	08/15/2023	Ground Water	255.3	265.3
Lima Range	MW-595M1	MW-595M1_P23	N	08/15/2023	Ground Water	255.3	265.3
J2 Range Eastern	MW-685M1	MW-685M1_F23	N	08/14/2023	Ground Water	166.2	176.2
J2 Range Eastern	MW-665M3	MW-665M3_F23	N	08/14/2023	Ground Water	175.2	185.2
Lima Range	MW-651M1	MW-651M1_F23	N	08/14/2023	Ground Water	242.3	252.3
Lima Range	MW-651M1	MW-651M1_P23	N	08/14/2023	Ground Water	242.3	252.3
J2 Range Eastern	MW-665M2	MW-665M2_F23	N	08/14/2023	Ground Water	205.2	215.2
J2 Range Eastern	MW-665M2	MW-665M2_F23D	FD	08/14/2023	Ground Water	205.2	215.2
Lima Range	MW-596M1	MW-596M1_F23	N	08/14/2023	Ground Water	231.1	241.1
J2 Range Eastern	MW-665M1	MW-665M1_F23	N	08/14/2023	Ground Water	225.2	235.2
J2 Range Eastern	MW-215M2	MW-215M2_F23	N	08/14/2023	Ground Water	205	215
J2 Range Eastern	MW-215M1	MW-215M1_F23	N	08/14/2023	Ground Water	240	250
J3 Range	MW-30	MW-30_P23	N	08/11/2023	Ground Water	26	36
J3 Range	MW-181S	MW-181S_P23	N	08/11/2023	Ground Water	32.25	42.25
J3 Range	MW-181S	MW-181S_P23D	FD	08/11/2023	Ground Water	32.25	42.25
J2 Range Eastern	MW-666M3	MW-666M3_F23	N	08/11/2023	Ground Water	199.8	209.8
Lima Range	MW-291M2	MW-291M2_P23	N	08/11/2023	Ground Water	125.29	135.29
Lima Range	MW-291M1	MW-291M1_P23	MS	08/11/2023	Ground Water	185.41	195.41
Lima Range	MW-291M1	MW-291M1_P23	N	08/11/2023	Ground Water	185.41	195.41
Lima Range	MW-291M1	MW-291M1_P23	SD	08/11/2023	Ground Water	185.41	195.41
J2 Range Eastern	MW-666M2	MW-666M2_F23	N	08/11/2023	Ground Water	219.8	229.8
J2 Range Eastern	MW-666M1	MW-666M1_F23	N	08/11/2023	Ground Water	244.8	254.8
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_081123	AB	08/11/2023	Water Quality Control Matrix	0	0
J3 Range	J3EWIP2	J3EWIP2_F23	N	08/11/2023	Ground Water	150.5	170.5
J3 Range	J3EWIP2	J3EWIP2_F23D	FD	08/11/2023	Ground Water	150.5	170.5
J3 Range	J3EWIP2	J3EWIP2_P23	N	08/11/2023	Ground Water	150.5	170.5
J3 Range	MW-653M1	MW-653M1_F23	N	08/09/2023	Ground Water	147.5	157.5
J3 Range	MW-653M1	MW-653M1_P23	N	08/09/2023	Ground Water	147.5	157.5
J3 Range	MW-143M3	MW-143M3_F23	N	08/09/2023	Ground Water	107	112
J3 Range	MW-143M3	MW-143M3_P23	N	08/09/2023	Ground Water	107	112
J3 Range	MW-143M2	MW-143M2_F23	MS	08/09/2023	Ground Water	117	122
J3 Range	MW-143M2	MW-143M2_F23	N	08/09/2023	Ground Water	117	122
J3 Range	MW-143M2	MW-143M2_F23	SD	08/09/2023	Ground Water	117	122
J3 Range	MW-143M2	MW-143M2_P23	N	08/09/2023	Ground Water	117	122
J3 Range	MW-143M2	MW-143M2_P23D	FD	08/09/2023	Ground Water	117	122
J3 Range	MW-143M1	MW-143M1_F23	N	08/09/2023	Ground Water	144	154
J3 Range	MW-143M1	MW-143M1_P23	N	08/09/2023	Ground Water	144	154
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_080923	AB	08/09/2023	Water Quality Control Matrix	0	0
J3 Range	MW-247M3	MW-247M3_F23	N	08/09/2023	Ground Water	95	105
J3 Range	MW-247M3	MW-247M3_P23	N	08/09/2023	Ground Water	95	105
J3 Range	J3EWIP1	J3EWIP1_F23	N	08/08/2023	Ground Water	153	193
J3 Range	J3EWIP1	J3EWIP1_P23	N	08/08/2023	Ground Water	153	193
J3 Range	J3EW0032	J3EW0032_F23	N	08/08/2023	Ground Water	102	152
J3 Range	J3EW0032	J3EW0032_P23	N	08/08/2023	Ground Water	102	152
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_080823	AB	08/08/2023	Water Quality Control Matrix	0	0
J3 Range	90EW0001	90EW0001_F23	N	08/08/2023	Ground Water	83.1	143.8
J3 Range	90EW0001	90EW0001_P23	N	08/08/2023	Ground Water	83.1	143.8
J3 Range	90PLT01006	90PLT01006_F23	N	08/08/2023	Ground Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 August 2023

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Lima Range	MW-246M2	MW-246M2_P23	N	08/07/2023	Ground Water	95	105
Lima Range	MW-246M1	MW-246M1_P23	N	08/07/2023	Ground Water	178	188
J3 Range	MW-197M3	MW-197M3_F23	N	08/07/2023	Ground Water	60.2	65.2
J3 Range	MW-197M3	MW-197M3_P23	N	08/07/2023	Ground Water	60.2	65.2
J3 Range	MW-197M2	MW-197M2_F23	N	08/07/2023	Ground Water	80.2	85.2
J3 Range	MW-197M2	MW-197M2_F23D	FD	08/07/2023	Ground Water	80.2	85.2
J3 Range	MW-197M2	MW-197M2_P23	N	08/07/2023	Ground Water	80.2	85.2
J3 Range	MW-197M2	MW-197M2_P23D	FD	08/07/2023	Ground Water	80.2	85.2
J3 Range	MW-197M1	MW-197M1_F23	N	08/07/2023	Ground Water	120	125
J3 Range	MW-197M1	MW-197M1_P23	N	08/07/2023	Ground Water	120	125
J1 Range Southern	J1S-EFF	J1S-EFF-189A	N	08/03/2023	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-189A	N	08/03/2023	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-189A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-179A	N	08/03/2023	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-179A	N	08/03/2023	Process Water	0	0
J3 Range	J3-EFF	J3-EFF-203A	N	08/02/2023	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-203A	N	08/02/2023	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-203A	N	08/02/2023	Process Water	0	0
J3 Range	J3-INF	J3-INF-203A	N	08/02/2023	Process Water	0	0
J2 Range Eastern	MW-128S	MW-128S_P23	N	08/02/2023	Ground Water	87	97
J3 Range	MW-163S	MW-163S_F23	N	08/02/2023	Ground Water	38	48
J3 Range	MW-163S	MW-163S_F23D	FD	08/02/2023	Ground Water	38	48
J3 Range	MW-163S	MW-163S_P23	N	08/02/2023	Ground Water	38	48
J3 Range	MW-163S	MW-163S_P23D	FD	08/02/2023	Ground Water	38	48
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-203A	N	08/02/2023	Process Water	0	0
J3 Range	MW-359M2	MW-359M2_F23	N	08/02/2023	Ground Water	148.62	158.62
J3 Range	MW-359M2	MW-359M2_P23	N	08/02/2023	Ground Water	148.62	158.62
J2 Range Northern	J2N-INF-G	J2N-INF-G-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-203A	N	08/02/2023	Process Water	0	0
J3 Range	MW-359M1	MW-359M1_P23	N	08/02/2023	Ground Water	184.26	194.26
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-203A	N	08/02/2023	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-203A	N	08/02/2023	Process Water	0	0
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_080223	AB	08/02/2023	Water Quality Control Matrix	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-118A	N	08/02/2023	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-118A	N	08/02/2023	Process Water	0	0
J3 Range	MW-193S	MW-193S_F23	N	08/02/2023	Ground Water	32.5	37.5
J3 Range	MW-193S	MW-193S_P23	N	08/02/2023	Ground Water	32.5	37.5
J1 Range Northern	J1N-MID1	J1N-MID1-118A	N	08/02/2023	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-118A	N	08/02/2023	Process Water	0	0
J3 Range	MW-193M1	MW-193M1_F23	N	08/02/2023	Ground Water	57.5	62.5
J3 Range	MW-193M1	MW-193M1_P23	N	08/02/2023	Ground Water	57.5	62.5
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-209A	N	08/01/2023	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-209A	N	08/01/2023	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-209A	N	08/01/2023	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-209A	N	08/01/2023	Process Water	0	0
J3 Range	MW-295M2	MW-295M2_F23	N	08/01/2023	Ground Water	117	127

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 August 2023

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J3 Range	MW-295M2	MW-295M2_P23	N	08/01/2023	Ground Water	117	127
J3 Range	MW-295M2	MW-295M2_P23D	FD	08/01/2023	Ground Water	117	127
Demolition Area 1	D1LE-EFF	D1LE-EFF-85A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-85A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-85A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-85A	N	08/01/2023	Process Water	0	0
J3 Range	MW-295M1	MW-295M1_F23	N	08/01/2023	Ground Water	145	155
J3 Range	MW-295M1	MW-295M1_P23	N	08/01/2023	Ground Water	145	155
Demolition Area 1	D1-EFF	D1-EFF-157A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-157A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-157A	N	08/01/2023	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-157A	N	08/01/2023	Process Water	0	0
J3 Range	MW-232M2	MW-232M2_F23	N	08/01/2023	Ground Water	61	66
J3 Range	MW-232M2	MW-232M2_P23	N	08/01/2023	Ground Water	61	66
Central Impact Area	CIA2-EFF	CIA2-EFF-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-115A	N	08/01/2023	Process Water	0	0
Joint Base Cape Code - IAGWSP	FIELDQC	FRB-CIA_080123	AB	08/01/2023	Water Quality Control Matrix	0	0
J3 Range	MW-232M1	MW-232M1_F23	N	08/01/2023	Ground Water	77.5	82.5
J3 Range	MW-232M1	MW-232M1_F23D	FD	08/01/2023	Ground Water	77.5	82.5
J3 Range	MW-232M1	MW-232M1_P23	N	08/01/2023	Ground Water	77.5	82.5
Central Impact Area	CIA1-EFF	CIA1-EFF-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF_080123	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-115A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-115A	N	08/01/2023	Process Water	0	0
Joint Base Cape Code - IAGWSP	FIELDQC	FRB_J3_080123	AB	08/01/2023	Water Quality Control Matrix	0	0
J3 Range	MW-125S	MW-125S_P23	MS	08/01/2023	Ground Water	50	60
J3 Range	MW-125S	MW-125S_P23	N	08/01/2023	Ground Water	50	60
J3 Range	MW-125S	MW-125S_P23	SD	08/01/2023	Ground Water	50	60
Central Impact Area	CIA3-EFF	CIA3-EFF-86A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-86A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-86A	N	08/01/2023	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-86A	N	08/01/2023	Process Water	0	0

**TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received August 2023**

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	J1S-EW2-INF	J1S-EW2-INF_S23	0	0	07/17/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-524M1	MW-524M1_S23	148	158	07/13/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.091	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-524M1	MW-524M1_S23D	148	158	07/13/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.065	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-592M1	MW-592M1_S23	201	211	07/13/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.077	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-591M1	MW-591M1_S23	200	210	07/11/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.082	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-402M1	MW-402M1_S23	190.14	200.13	07/11/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-647M1	MW-647M1_S23	211.3	221.3	07/10/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-669M1	MW-669M1_S23	223.7	233.7	06/27/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.43		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-669M1	MW-669M1_S23D	223.7	233.7	06/27/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.46		µg/L	0.60		0.043	0.20
J1 Range Southern	MW-720M1	MW-720M1_S23	146.6	156.6	06/26/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.069	J	µg/L	0.60		0.043	0.20
J1 Range Southern	MW-721M1	MW-721M1_S23	168.1	178.1	06/26/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.043	0.20
J1 Range Southern	MW-721M1	MW-721M1_S23	168.1	178.1	06/26/2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.091	0.20
J1 Range Southern	MW-722M1	MW-722M1_S23	114.2	124.2	06/22/2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.045	J	µg/L	0.60		0.037	0.20

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

TABLE 3
VALIDATED PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) RESULTS
Data Received August 2022

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-EFF-F	J2N-EFF-F_JUL23	0	0	07/11/2023	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	9.6		ng/L			0.93	7.0
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorohexanoic acid (PFHxA)	0.92	J	ng/L	990		0.40	1.7
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorooctanoic acid (PFOA)	0.70	J	ng/L	6.0		0.32	1.7
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	25.0		ng/L			0.96	7.2
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluoroheptanesulfonic acid (PFHpS)	1.1	J	ng/L			0.36	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluoroheptanoic acid (PFHpA)	0.99	J	ng/L			0.45	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	19.0		ng/L	39.0		0.35	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluorohexanoic acid (PFHxA)	1.1	J	ng/L	990		0.41	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluorooctanesulfonic acid (PFOS)	3.6	J	ng/L	4.0		0.40	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluorooctanoic acid (PFOA)	6.1		ng/L	6.0	X	0.33	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	0	0	07/11/2023	E1633DR	Perfluoropentanoic acid (PFPeA)	1.0	J	ng/L			0.50	3.6
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	28.0		ng/L			0.95	7.1
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluoroheptanesulfonic acid (PFHpS)	1.0	J	ng/L			0.35	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluoroheptanoic acid (PFHpA)	1.1	J	ng/L			0.44	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorohexanesulfonic acid (PFHxS)	19.0		ng/L	39.0		0.35	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorohexanoic acid (PFHxA)	1.3	J	ng/L	990		0.40	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorooctanesulfonic acid (PFOS)	3.9	J	ng/L	4.0		0.39	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluorooctanoic acid (PFOA)	6.5		ng/L	6.0	X	0.33	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluoropentanesulfonic acid (PFPeS)	0.32	J	ng/L			0.31	1.8
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	0	0	07/11/2023	E1633DR	Perfluoropentanoic acid (PFPeA)	1.0	J	ng/L			0.49	3.5

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