MONTHLY PROGRESS REPORT #316
FOR JULY 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 July 2023.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 28 July 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 3.022 billion gallons of water treated and re-injected as of 28 July 2023. The following Frank Perkins Road Treatment Facility shutdowns occurred in July:

- 1645 on 09 July 2023 due to a power interruption and was restarted at 0730 on 10 July 2023.
- 0750 on 11 July 2023 due to a power interruption and was restarted at 0832 on 11 July 2023.
- 1415 on 13 July 2023 due to a power outage and was restarted at 0727 on 14 July 2023.

The Base Boundary Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 gpm. As of 28 July 2023, over 373.0 million gallons of water were treated and re-injected. The following Base Boundary MTU shutdowns occurred in July:

- 1645 on 09 July 2023 due to a power interruption and was restarted at 0820 on 10 July 2023.
- 1502 on 12 July 2023 due to a power interruption and was restarted at 0807 on 13 July 2023.
- 1415 on 13 July 2023 due to a power outage and was restarted at 1035 on 14 July 2023.

The Leading Edge system continues to operate at a flow rate of 100 gpm. As of 28 July 2023, over 363.0 million gallons of water were treated and re-injected. The following Leading Edge system shutdowns occurred in July:

- 1111 on 04 July 2023 due to a power interruption and was restarted at 0830 on 05 July 2023.
- 1645 on 09 July 2023 due to a power interruption and was restarted at 0910 on 10 July 2023.
- 1442 on 13 July 2023 due to a power outage and was restarted at 0934 on 14 July 2023.

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.

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The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 28 July 2023, over 2.106 billion gallons of water have been treated and re-injected. The following MTU E and F shutdowns occurred in July:

- 1645 on 09 July 2023 due to a power interruption and was restarted at 0816 on 10 July 2023.
- 1414 on 13 July 2023 due to a power outage and was restarted at 0958 on 14 July 2023.
- 1944 on 21 July 2023 due to a power interruption and was restarted at 0825 on 24 July 2023.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 28 July 2023, over 1.618 billion gallons of water have been treated and re-injected. The following Northern MTU G shutdowns occurred in July:

- 1645 on 09 July 2023 due to a power interruption and was restarted at 0833 on 10 July 2023.
- 0745 on 12 July 2023 to change bag filters and was restarted at 0830 on 12 July 2023.
- 1440 on 13 July 2023 due to a power outage and was restarted at 0920 on 14 July 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 28 July 2023, over 1.749 billion gallons of water have been treated and re-injected. No MTU H and I shutdowns occurred in July.

MTU J continues to operate at a flow rate of 120 gpm. As of 28 July 2023, over 817.0 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in July:

- 0540 on 01 July 2023 due to a power interruption and was restarted at 1010 on 03 July 2023.
- 1440 on 13 July 2023 due to a power outage and was restarted at 0755 on 14 July 2023.
- 1933 on 21 July 2023 due to a power interruption and was restarted at 0755 on 24 July 2023.
- 2231 on 29 July 2023 due to a power interruption and was restarted at 0953 on 31 July 2023.

MTU K continues to operate at a flow rate of 125 gpm. As of 28 July 2023, over 940.3 million gallons of water have been treated and re-injected. The following MTU K shutdowns occurred in July:

- 0540 on 01 July 2023 due to a power interruption and was restarted at 1142 on 03 July 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 28 July 2023, over 1.736 billion gallons of water have been treated and re-injected. The following J-3 Range system shutdowns occurred in July:

- 1640 on 12 July 2023 due to FS-12 being turned off for energy curtailment and was restarted at 0731 on 13 July 2023.
- 1415 on 13 July 2023 due to a power outage and was restarted at 1400 on 14 July 2023.
- 1628 on 17 July 2023 due to FS-12 being turned off for energy curtailment and was restarted at 0827 on 18 July 2023.
- 1935 on 21 July 2023 due to a power interruption and was restarted at 0924 on 24 July 2023.
- 1600 on 27 July 2023 due to FS-12 being turned off for energy curtailment and was restarted at 0938 on 28 July 2023.
- 1600 on 28 July 2023 due to FS-12 being turned off for energy curtailment and was restarted at 0943 on 31 July 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 28 July 2023, over 765.1 million gallons of water have been treated and re-injected. The following J-1 Range Southern MTU shutdowns occurred in July:

- 1010 on 05 July 2023 at EW002 to run EW0001 for sampling and EW002 was restarted at 1045 on 05 July 2023.
- 1634 on 13 July 2023 due to a power outage and was restarted at 0745 on 14 July 2023.
- 0945 on 17 July 2023 at EW002 to run EW0001 for sampling and EW002 was restarted at 1032 on 17July 2023.
- 1933 on 21 July 2023 due to a power interruption and was restarted at 0740 on 24 July 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 28 July 2023, over 1.250 billion gallons of water have been treated and re-injected. No J-1 Range Northern MTU shutdowns occurred in July.

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 28 July 2023, over 3.289 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in July:

- 2104 on 09 July 2023 at CIA-3 due to a power interruption and was restarted at 0750 on 11 July 2023.
- 1415 on 13 July 2023 at CIA-2 due to a power outage and was restarted at 0825 on 14 July 2023.
- 1415 on 13 July 2023 at CIA-3 due to a power interruption and was restarted at 0728 on 18 July 2023.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 28 July 2023:

CIA

- Source Area investigations
    - MetalMapper cued data collection in P4A3
    - Intrusive investigations in P4A2 SU6 polygons
    - Intrusive investigations in P4A3

    - Routine visual check of consolidated shot structure (CSS) soil cover and surface area around the perimeter of the CSS
- Groundwater sampling within CIA SPM

Demolition Area 1
- No activity
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Demolition Area 2
- No activity

J-1 Range
- Bag filters changed at J-1 South
- Groundwater sampling within J-1 South SPM
- Survey of infiltration gallery at J-1 South performed by Green Seal Environmental
- Roof ladder installed at J-1 North

J-2 Range
- Drilling, groundwater profile sampling, soil logging, and monitoring well installation at J-2 Range North
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J-3 Range
- Groundwater and surface water sampling within J-3 Range SPM
- Bag filters changed

L Range
- No activity
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Small Arms Ranges
- No activity

Northwest Corner
- No activity
-

Training Areas
- No activity
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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 20 July 2023

Project and Fieldwork Update

Darrin Smith (USACE) provided the project and fieldwork update starting with the status of the groundwater sampling crews. He noted that Koman Government Solutions (KGS) crews completed the J-1 North semi-annual event (27 screens) on 22 June and the J-1 South semi-annual event (27 screens) on 17 July. The team started 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) on 17 July, which is anticipated to run through July. After they finish with J- 3, the crews will move to the L Range semi-annual event (5 screens).

Mr. Smith (USACE) continued with a status of operations and maintenance activities. He noted that the July monthly process water samples were collected on 13 July and results are pending. PFAS samples were collected at CIA 1, 2, and 3 influent and effluent on 6 June, and preliminary results were forwarded to the agencies on Friday, 14 July. The one-time resampling of J-1 North influent and the J-2 North influent and effluent quarterly sampling for PFAS was performed on 11 July. Results are expected mid-August.

Mr. Smith (USACE) continued with an update on the drilling activities. He said crews are currently working at BH-733 on Checkerberry Lane and are at 287 feet below ground surface with 15 profile samples collected to date. He explained that bedrock should be shallower in this area, and they are hoping to hit it today. Jodi Lyn Cutler (IAGWSP) asked how the group would like to proceed with screen setting for the remaining wells. Mr. Smith (USACE) suggested that to prevent downtime, it would be prudent to set at least one screen at J-2 Range North, and then return to Checkerberry Lane. Greg Hencir (USACE) suggested a call to discuss all of the J-2 North wells. Ms. Cutler (IAGWSP) asked Mr. Hencir (USACE) to let her know how soon well screen recommendations for those locations can be provided and forwarded to the agencies. Jane Dolan (EPA) asked that Carol Keating (EPA) be included in any distribution regarding the J-1 South screen setting call.

Gina Kaso (USACE) continued with a Central Impact Area update. She explained that there are currently four dig teams working. One is working in Survey Unit (SU) 6 polygons and three are performing discreet digs in SU-13 and SU-14. She noted that there are also three Metal Mapper teams operating and they anticipate finishing by 4 August.

Miscellaneous

Ms. Cutler (IAGWSP) began by confirming that the group received the CIA PFAS results that she forwarded on Friday, 14 July. Ms. Cutler (IAGWSP) said that just before the meeting she received word that the results were validated and reminded the group that they were all non-detect except for CIA-1 effluent, which had a detection of PFHxS at 0.42J ng/L. She said that the IAGWSP plans to resample.

Ms. Cutler (IAGWSP) continued with a review of comment letters recently received from EPA on two Environmental Monitoring Reports (EMR), CIA and J-2 East. Ms. Cutler (IAGWSP) noted that in the CIA letter, there were no non-PFAS-related comments and in J-2 East, there were only a few specific comments not related to PFAS. Ms. Cutler (IAGWSP) explained that since it had been decided at previous tech meetings that PFAS would be handled outside of EMRs, IAGWSP would like to finalize the EMRs and set aside the PFAS issues to be handled separately. Jane Dolan (EPA) asked if the PFAS comments would be responded to separately

and Ms. Cutler (IAGWSP) said that they would. Ms. Cutler (IAGWSP) reminded the group that the IAGWSP had shared the table of contents for the upcoming site wide PFAS report. Ms. Dolan (EPA) stated that she reviewed the table of contents and thought that it would work, and mentioned that in the conceptual site model section, IAGWSP should identify what they believe the PFAS source is. Ms. Dolan (EPA) asked why the Ammunition Supply Point (ASP) and Western Boundary were called out in the report. Ms. Cutler (IAGWSP) replied that those were two tap water samples collected during the Army National Guard's preliminary assessment for PFAS in 2017. Pam Richardson (IAGWSP) clarified that the locations sampled were wells at the ASP and Range Control, not Western Boundary. Ms. Dolan (EPA) asked for clarification on the data cutoff for the report. Ms. Cutler (IAGWSP) replied that data through September of 2023 would be included and if data were collected before September, it will still be included in the report, even if it is not validated.

Ms. Cutler (IAGWSP) explained that she and Bob Lim (EPA) had spoken earlier in the week regarding his comments on the draft Five-Year Review Report. She noted that Mr. Lim (EPA) agreed to a mid-November date for responses to comments, due to the volume and significance. While one of EPA's major comments was that the IAGWSP did not follow the CERCLA Five-Year Review process, Ms. Cutler (IAGWSP) reminded the group that during the development of the 2012-2016 IAGWSP Five-Year Review, there were extensive discussions and agreement regarding the format and content of the report under the Safe Drinking Water Act (SDWA) Administrative Orders. She said that for the 2017-2021 draft Five-Year Review Report, IAGWSP followed the previously agreed upon format. Elliot Jacobs (MassDEP) asked if a Five-Year Review Report was a requirement under the Administrative Orders and Ms. Cutler (IAGWSP) replied that it was. Len Pinaud (MassDEP) asked how IAGWSP plans to move forward, with a CERCLA format or a modified SDWA format. Ms. Cutler (IAGWSP) replied that IAGWSP believes that the previously agreed upon format is appropriate and would be moving forward with that. Mr. Lim (EPA) said that he wanted to echo what Ms. Cutler (IAGWSP) said, that they had talked about the general agreements with the previous Five-Year review. He noted that what was most important to EPA was the protectiveness statements and, if a site is found to be short term protective, the issues and recommendations needed to be explained in detail. Mr. Lim (EPA) said that he told Ms. Cutler(IAGWSP) he was okay with giving the IAGWSP the time to take to prepare the response. Mr. Pinaud (MassDEP) said that MassDEP would defer to EPA on this report.

Ms. Cutler (IAGWSP) said that in the CIA letter on the EMR, there was a reference to a quote with the statement that "…20% of US military munitions contain PFAS." Ms. Cutler (IAGWSP) stated that IAGWSP has searched for this reference and the only document it appears in is related to the war in Ukraine. Ms. Dolan (EPA) said she would forward the reference to Ms. Cutler (IAGWSP).

Ms. Cutler (IAGWSP) said that while the IAGWSP plans to sample the deep screen intervals for the pump test wells around Water Supply Well WS-2, it is on hold. The Upper Cape Regional Water Supply Cooperative has requested sampling of the sentry wells. IAGWSP is trying to determine the funding for this sampling event. Mr. Pinaud (MassDEP) asked why, if the program had already sampled WS-2, how IAGWSP has the authority to sample the water supply well but not a sentinel well. Ms. Cutler (IAGWSP) replied that IAGWSP has already sampled the sentinel wells, and there were no detections above any regulatory standards. So, while the program has the authority to collect samples to determine if there is an issue, it might not have the authority to go back and resample.

Ms. Cutler (IAGWSP) asked Ms. Dolan (EPA) to confirm that she was ok with separating the PFAS comments out from the EMR reports, as discussed earlier. Ms. Dolan (EPA) replied that she was ok with this approach but asked when she would receive a response to the PFAS-specific comments. Ms. Cutler (IAGWSP) said that the IAGWSP is working with the Department of the Army to respond to those comments, so she did not have a date at this time. Ms. Dolan (EPA) asked that that be stated in the cover letters responding to the EMR comments.

Action Items

Greg Hencir (USACE) used the document tracking list to review and discuss deliverables.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) will be held virtually via Microsoft Teams on 30 August 2023 (previous meeting was 12 April 2023). Meeting details and presentation materials 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 July 2023. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 01 to 31 July 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 July 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:

- Monthly Progress Report No. 315 for June 2023 — 13 July 2023
- Draft Demolition Area 2 Environmental Monitoring Report for June 2022 through May 2023 — 25 July 2023

• Draft J-1 Range Southern Environmental Monitoring Report for January 2021 through December 2022	25 July 2023
• Final Central Impact Area 2022 Environmental Monitoring Report	27 July 2023
• Response To Comments on the Draft J-2 Range Eastern Environmental Monitoring Report for November 2021 through October 2022	31 July 2023

5. SCHEDULED ACTIONS

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

- Response To Comments on the Draft J-2 Range Northern 2022 Environmental Monitoring Report
- Memorandum of Resolution for the Northwest Corner Demonstration of Compliance Report (*on hold pending resolution of PFAS issues*)
- Response To Comments on the Final QAPP Addendum No. 2

TABLE 1
Sampling Progress: 01 to 31 July 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-653M2	MW-653M2_F23	N	07-28-2023	Ground Water	59.3	69.3
J3 Range	MW-329M2	MW-329M2_F23	N	07-28-2023	Ground Water	150.05	160.05
J3 Range	MW-329M2	MW-329M2_F23D	FD	07-28-2023	Ground Water	150.05	160.05
J3 Range	MW-329M1	MW-329M1_F23	N	07-28-2023	Ground Water	179.96	189.96
J3 Range	90MW0054	90MW0054_F23	N	07-28-2023	Ground Water	107	112
J3 Range	90MW0054	90MW0054_F23D	FD	07-28-2023	Ground Water	107	112
J3 Range	90MP0059B	90MP0059B_F23	N	07-28-2023	Ground Water	116.4	118.9
J3 Range	MW-144M2	MW-144M2_F23	N	07-26-2023	Ground Water	130	140
J3 Range	MW-243M2	MW-243M2_F23	N	07-26-2023	Ground Water	84.5	94.5
J3 Range	MW-243M1	MW-243M1_F23	N	07-26-2023	Ground Water	114.5	124.5
J3 Range	MW-250M3	MW-250M3_F23	N	07-26-2023	Ground Water	95	105
J3 Range	MW-250M2	MW-250M2_F23	N	07-26-2023	Ground Water	145	155
J3 Range	MW-250M1	MW-250M1_F23	N	07-26-2023	Ground Water	185	195
J3 Range	MW-247M2	MW-247M2_F23	N	07-25-2023	Ground Water	125	135
J3 Range	MW-247M1	MW-247M1_F23	N	07-25-2023	Ground Water	180	190
J3 Range	MW-157M3	MW-157M3_F23	N	07-25-2023	Ground Water	70	80
J3 Range	MW-157M2	MW-157M2_F23	N	07-25-2023	Ground Water	110	120
J3 Range	MW-157M1	MW-157M1_F23	N	07-25-2023	Ground Water	154	164
J3 Range	MW-636M2	MW-636M2_F23	N	07-24-2023	Ground Water	110.5	120.5
J3 Range	MW-636M1	MW-636M1_F23	N	07-24-2023	Ground Water	141.6	151.6
J3 Range	MW-576M3	MW-576M3_F23	N	07-24-2023	Ground Water	98.9	108.9
J3 Range	MW-576M2	MW-576M2_F23	N	07-24-2023	Ground Water	133.9	143.9
J3 Range	MW-576M1	MW-576M1_F23	N	07-24-2023	Ground Water	173.9	183.9
J1 Range Southern	BH-733	BH-733-297-302	N	07-20-2023	Water	297	302
J3 Range	MW-637M3	MW-637M3_F23	N	07-20-2023	Ground Water	174.1	184.1
J3 Range	MW-637M2	MW-637M2_F23	N	07-20-2023	Ground Water	214.1	224.1
J3 Range	MW-637M1	MW-637M1_F23	N	07-20-2023	Ground Water	236.1	246.1
J3 Range	MW-343M2	MW-343M2_F23	MS	07-20-2023	Ground Water	166.8	171.8
J3 Range	MW-343M2	MW-343M2_F23	N	07-20-2023	Ground Water	166.8	171.8
J3 Range	MW-343M2	MW-343M2_F23	SD	07-20-2023	Ground Water	166.8	171.8
J1 Range Southern	BH-733	BH-733-292-297	N	07-20-2023	Water	292	297
J3 Range	MW-343M1	MW-343M1_F23	N	07-20-2023	Ground Water	214.8	224.8
J1 Range Southern	BH-733	BH-733-282-287	N	07-19-2023	Water	282	287
J3 Range	MW-142M2	MW-142M2_F23	N	07-19-2023	Ground Water	140	150
J3 Range	MW-701M2	MW-701M2_F23	N	07-19-2023	Ground Water	147.5	157.5
J3 Range	MW-701M1	MW-701M1_F23	MS	07-19-2023	Ground Water	177	187
J3 Range	MW-701M1	MW-701M1_F23	N	07-19-2023	Ground Water	177	187
J3 Range	MW-701M1	MW-701M1_F23	SD	07-19-2023	Ground Water	177	187
J3 Range	MW-227M3	MW-227M3_F23	N	07-19-2023	Ground Water	65	75
J3 Range	MW-227M2	MW-227M2_F23	N	07-19-2023	Ground Water	110	120
J3 Range	MW-227M2	MW-227M2_F23D	FD	07-19-2023	Ground Water	110	120
J3 Range	MW-227M1	MW-227M1_F23	N	07-19-2023	Ground Water	130	140
J3 Range	MW-155M1	MW-155M1_F23	N	07-18-2023	Ground Water	124	134
J3 Range	J3-MW-1-B	J3-MW-1-B_F23	N	07-18-2023	Ground Water	175.61	185.61
J3 Range	J3-MW-1-C	J3-MW-1-C_F23	N	07-18-2023	Ground Water	203.61	213.61
J3 Range	LKSNK0006	LKSNK0006_F23	N	07-18-2023	Surface Water	0	0
J1 Range Southern	BH-733	BH-733-272-277	N	07-18-2023	Water	272	277
J1 Range Southern	BH-733	BH-733-272-277D	FD	07-18-2023	Water	272	277
J3 Range	LKSNK0007	LKSNK0007_F23	N	07-18-2023	Surface Water	0	0
J3 Range	LKSNK0005	LKSNK0005_F23	N	07-18-2023	Surface Water	0	0
J1 Range Southern	BH-733	BH-733-262-267	N	07-17-2023	Water	262	267
J1 Range Southern	BH-733	BH-733-252-257	N	07-17-2023	Water	252	257
Northwest Corner	RSNW06	RSNW06_S23	N	07-17-2023	Ground Water	0	0
J1 Range Southern	J1S-EW1-INF	J1S-EW1-INF_S23	N	07-17-2023	Ground Water	0	0
J1 Range Southern	J1S-EW2-INF	J1S-EW2-INF_S23	N	07-17-2023	Ground Water	0	0
J1 Range Southern	BH-733	BH-733-242-247	N	07-17-2023	Water	242	247
J1 Range Southern	BH-733	BH-733-232-237	N	07-14-2023	Water	232	237
J1 Range Southern	BH-733	BH-733-222-227	N	07-14-2023	Water	222	227
J1 Range Southern	BH-733	BH-733-212-217	N	07-14-2023	Water	212	217

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 July 2023

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Southern	BH-733	BH-733-202-207	N	07-13-2023	Water	202	207
J1 Range Southern	J1S-EFF	J1S-EFF-188A	N	07-13-2023	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-188A	N	07-13-2023	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-188A	N	07-13-2023	Process Water	0	0
J1 Range Southern	MW-524M1	MW-524M1_S23	N	07-13-2023	Ground Water	148	158
J1 Range Southern	MW-524M1	MW-524M1_S23D	FD	07-13-2023	Ground Water	148	158
Central Impact Area	CIA2-EFF	CIA2-EFF-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-114A	N	07-13-2023	Process Water	0	0
J1 Range Southern	BH-733	BH-733-192-197	MS	07-13-2023	Water	192	197
J1 Range Southern	BH-733	BH-733-192-197	N	07-13-2023	Water	192	197
J1 Range Southern	BH-733	BH-733-192-197	SD	07-13-2023	Water	192	197
Central Impact Area	CIA2-MID1	CIA2-MID1-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-114A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-114A	N	07-13-2023	Process Water	0	0
J1 Range Southern	MW-592M2	MW-592M2_S23	N	07-13-2023	Ground Water	158	168
Central Impact Area	CIA3-EFF	CIA3-EFF-85A	N	07-13-2023	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-85A	N	07-13-2023	Process Water	0	0
J1 Range Southern	MW-592M1	MW-592M1_S23	N	07-13-2023	Ground Water	201	211
Central Impact Area	CIA3-MID1	CIA3-MID1-85A	N	07-13-2023	Process Water	0	0
J1 Range Southern	BH-733	BH-733-182-187	N	07-13-2023	Water	182	187
Central Impact Area	CIA3-INF	CIA3-INF-85A	N	07-13-2023	Process Water	0	0
J1 Range Southern	BH-733	BH-733-172-177	N	07-12-2023	Water	172	177
J3 Range	J3-EFF	J3-EFF-202A	N	07-12-2023	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-202A	N	07-12-2023	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-202A	N	07-12-2023	Process Water	0	0
J3 Range	J3-INF	J3-INF-202A	N	07-12-2023	Process Water	0	0
J1 Range Southern	MW-646M2	MW-646M2_S23	N	07-12-2023	Ground Water	168	178
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-208A	N	07-12-2023	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-208A	N	07-12-2023	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-208A	N	07-12-2023	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-208A	N	07-12-2023	Process Water	0	0
J1 Range Southern	BH-733	BH-733-162-167	N	07-12-2023	Water	162	167
J1 Range Southern	MW-646M1	MW-646M1_S23	MS	07-12-2023	Ground Water	198	208
J1 Range Southern	MW-646M1	MW-646M1_S23	N	07-12-2023	Ground Water	198	208
J1 Range Southern	MW-646M1	MW-646M1_S23	SD	07-12-2023	Ground Water	198	208
Demolition Area 1	D1LE-EFF	D1LE-EFF-84A	N	07-12-2023	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-84A	N	07-12-2023	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-84A	N	07-12-2023	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-84A	N	07-12-2023	Process Water	0	0
J1 Range Southern	MW-400M2	MW-400M2_S23	MS	07-12-2023	Ground Water	138.9	148.9
J1 Range Southern	MW-400M2	MW-400M2_S23	N	07-12-2023	Ground Water	138.9	148.9
J1 Range Southern	MW-400M2	MW-400M2_S23	SD	07-12-2023	Ground Water	138.9	148.9
J1 Range Southern	BH-733	BH-733-152-157	N	07-12-2023	Water	152	157
J1 Range Southern	BH-733	BH-733-152-157-D	FD	07-12-2023	Water	152	157
Demolition Area 1	D1-EFF	D1-EFF-156A	N	07-12-2023	Process Water	0	0
J1 Range Southern	MW-400M1	MW-400M1_S23	N	07-12-2023	Ground Water	192.76	202.75
Demolition Area 1	D1-MID-2	D1-MID-2-156A	N	07-12-2023	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-156A	N	07-12-2023	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-156A	N	07-12-2023	Process Water	0	0
J1 Range Southern	BH-733	BH-733-142-147	N	07-11-2023	Water	142	147
J1 Range Southern	MW-591M2	MW-591M2_S23	N	07-11-2023	Ground Water	165	175
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-202A	N	07-11-2023	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 01 to 31 July 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 Northern	J2N-MID-2F	J2N-MID-2F-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-202A	N	07-11-2023	Process Water	0	0
J1 Range Southern	MW-591M1	MW-591M1_S23	N	07-11-2023	Ground Water	200	210
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-202A	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-202A	N	07-11-2023	Process Water	0	0
Joint Base Cape Code - IAGWSP	FIELDQC	J2N-FRB-071123	AB	07-11-2023	Water Quality Control Matrix	0	0
J2 Range Northern	J2N-EFF-F	J2N-EFF-F_JUL23	N	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23-D	FD	07-11-2023	Process Water	0	0
J2 Range Northern	J2N-INF-F	J2N-INF-F_JUL23	N	07-11-2023	Process Water	0	0
J1 Range Southern	MW-402M1	MW-402M1_S23	N	07-11-2023	Ground Water	190.14	200.13
J1 Range Northern	J1N-EFF	J1N-EFF-117A	N	07-11-2023	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-117A	N	07-11-2023	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-117A	N	07-11-2023	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF_JUL23	N	07-11-2023	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-117A	N	07-11-2023	Process Water	0	0
J1 Range Southern	MW-647M2	MW-647M2_S23	N	07-11-2023	Ground Water	189.3	199.3
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-178A	N	07-10-2023	Process Water	0	0
J1 Range Southern	MW-647M1	MW-647M1_S23	N	07-10-2023	Ground Water	211.3	221.3
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-178A	N	07-10-2023	Process Water	0	0
J1 Range Southern	MW-670M2	MW-670M2_S23	N	07-10-2023	Ground Water	198.5	208.5
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-178A	N	07-10-2023	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-178A	N	07-10-2023	Process Water	0	0
J1 Range Southern	MW-670M1	MW-670M1_S23	N	07-10-2023	Ground Water	220.5	230.5
J1 Range Southern	MW-402M2	MW-402M2_S23	N	07-10-2023	Ground Water	155.24	165.27

N = Normal Sample
FD = Field Duplicate

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received July 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 Northern	MW-245M2	MW-245M2_S23	204	214	06-22-2023	SW6850	Perchlorate	10.0		µg/L	2.0	X	0.12	0.40
J1 Range Northern	MW-245M2	MW-245M2_S23	204	214	06-22-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	21.0		µg/L	0.60	X	0.074	0.40
J1 Range Northern	MW-245M2	MW-245M2_S23	204	214	06-22-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	5.3		µg/L	400		0.11	0.20
J1 Range Northern	MW-245M2	MW-245M2_S23D	204	214	06-22-2023	SW6850	Perchlorate	11.0		µg/L	2.0	X	0.12	0.40
J1 Range Northern	MW-245M2	MW-245M2_S23D	204	214	06-22-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	21.0		µg/L	0.60	X	0.074	0.40
J1 Range Northern	MW-245M2	MW-245M2_S23D	204	214	06-22-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	5.3		µg/L	400		0.11	0.20
J1 Range Northern	MW-590M2	MW-590M2_S23	238	248	06-22-2023	SW6850	Perchlorate	0.68		µg/L	2.0		0.058	0.20
J1 Range Northern	MW-590M2	MW-590M2_S23D	238	248	06-22-2023	SW6850	Perchlorate	0.67		µg/L	2.0		0.058	0.20
J1 Range Northern	MW-430M2	MW-430M2_S23	188.41	198.41	06-21-2023	SW6850	Perchlorate	0.25		µg/L	2.0		0.058	0.20
J1 Range Northern	J1NEW0002	J1NEW0002_S23	200	250	06-21-2023	SW6850	Perchlorate	1.1		µg/L	2.0		0.058	0.20
J1 Range Northern	J1NEW0002	J1NEW0002_S23	200	250	06-21-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.28		µg/L	0.60		0.037	0.20
J1 Range Northern	J1NEW0001	J1NEW0001_S23	217	257	06-21-2023	SW6850	Perchlorate	0.16	J	µg/L	2.0		0.058	0.20
J1 Range Northern	MW-303M2	MW-303M2_S23	235.09	245.1	06-20-2023	SW6850	Perchlorate	0.061	J	µg/L	2.0		0.058	0.20
J1 Range Northern	MW-303M2	MW-303M2_S23	235.09	245.1	06-20-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.9		µg/L	0.60	X	0.037	0.20
J1 Range Northern	MW-303M2	MW-303M2_S23	235.09	245.1	06-20-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.5		µg/L	400		0.11	0.20
J1 Range Northern	MW-303M2	MW-303M2_S23D	235.09	245.1	06-20-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.9		µg/L	0.60	X	0.037	0.20
J1 Range Northern	MW-303M2	MW-303M2_S23D	235.09	245.1	06-20-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.5		µg/L	400		0.11	0.20
J1 Range Northern	MW-584M1	MW-584M1_S23	248	258	06-19-2023	SW6850	Perchlorate	0.95		µg/L	2.0		0.058	0.20
J1 Range Northern	MW-566M1	MW-566M1_S23	232	242	06-19-2023	SW6850	Perchlorate	0.60		µg/L	2.0		0.058	0.20
J1 Range Northern	MW-549M1	MW-549M1_S23	227.4	237.4	06-19-2023	SW6850	Perchlorate	2.3		µg/L	2.0	X	0.058	0.20
J1 Range Northern	MW-549M1	MW-549M1_S23	227.4	237.4	06-19-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.037	0.20
J1 Range Northern	MW-567M1	MW-567M1_S23	215.5	225.5	06-13-2023	SW6850	Perchlorate	0.71		µg/L	2.0		0.058	0.20
J1 Range Northern	MW-547M1	MW-547M1_S23	237	247	06-13-2023	SW6850	Perchlorate	3.9		µg/L	2.0	X	0.058	0.20
J1 Range Northern	MW-689M1	MW-689M1_S23	253.5	263.5	06-12-2023	SW6850	Perchlorate	0.70		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-730M3	MW-730M3_S23	115.46	125.46	06-08-2023	SW6850	Perchlorate	2.6		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-730M2	MW-730M2_S23	165.87	175.87	06-08-2023	SW6850	Perchlorate	16.0		µg/L	2.0	X	0.29	1.0
Demolition Area 1	MW-730M2	MW-730M2_S23	165.87	175.87	06-08-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	4.2		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-730M1	MW-730M1_S23	185.82	195.82	06-08-2023	SW6850	Perchlorate	5.1		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-730M1	MW-730M1_S23	185.82	195.82	06-08-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.055	J	µg/L	0.60		0.037	0.20
Demolition Area 1	MW-732M2	MW-732M2_S23	96.2	106.2	06-08-2023	SW6850	Perchlorate	0.55		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-732M1	MW-732M1_S23	156	166	06-08-2023	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-611M2	MW-611M2_S23	91	101	06-07-2023	SW6850	Perchlorate	1.2		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-611M1	MW-611M1_S23	141	151	06-07-2023	SW6850	Perchlorate	2.0		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-611M1	MW-611M1_S23D	141	151	06-07-2023	SW6850	Perchlorate	2.1		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-610M2	MW-610M2_S23	85	95	06-06-2023	SW6850	Perchlorate	0.065	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-610M1	MW-610M1_S23	110	120	06-06-2023	SW6850	Perchlorate	0.30		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-598M2	MW-598M2_S23	88	98	06-06-2023	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-598M1	MW-598M1_S23	122	132	06-06-2023	SW6850	Perchlorate	0.37		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-73S	MW-73S_S23	38.5	48	06-05-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.037	0.20
Demolition Area 1	MW-73S	MW-73S_S23D	38.5	48	06-05-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.037	0.20
Demolition Area 1	XX9514	XX9514_S23	0	0	06-05-2023	SW6850	Perchlorate	1.8		µg/L	2.0		0.058	0.20
Demolition Area 1	XX9514	XX9514_S23	0	0	06-05-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.067	J	µg/L	7.3		0.036	0.20
Demolition Area 1	XX9514	XX9514_S23D	0	0	06-05-2023	SW6850	Perchlorate	1.8		µg/L	2.0		0.058	0.20

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

MCL/HA= Either the MCL or Lowest Health Advisory Limit
August 13, 2023

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received July 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
Demolition Area 1	MW-731M3	MW-731M3_S23	160.1	170.1	05-31-2023	SW6850	Perchlorate	1.2		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-731M3	MW-731M3_S23	160.1	170.1	05-31-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.48		µg/L	0.60		0.037	0.20
Demolition Area 1	MW-731M2	MW-731M2_S23	190.9	200.9	05-31-2023	SW6850	Perchlorate	3.4		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-731M2	MW-731M2_S23	190.9	200.9	05-31-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.037	0.20
Demolition Area 1	MW-731M1	MW-731M1_S23	220.8	230.8	05-31-2023	SW6850	Perchlorate	0.96		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-641M2	MW-641M2_S23	86.2	96.2	05-31-2023	SW6850	Perchlorate	0.20		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-641M1	MW-641M1_S23	113.2	123.2	05-25-2023	SW6850	Perchlorate	0.87		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-642M2	MW-642M2_S23	77.3	87.3	05-25-2023	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-642M1	MW-642M1_S23	104.3	114.3	05-25-2023	SW6850	Perchlorate	0.34		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-582M2	MW-582M2_S23	84	94	05-25-2023	SW6850	Perchlorate	0.20		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-582M1	MW-582M1_S23	134	144	05-25-2023	SW6850	Perchlorate	0.37		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-659M2	MW-659M2_S23	85	95	05-24-2023	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-659M1	MW-659M1_S23	120	130	05-24-2023	SW6850	Perchlorate	0.18	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-569M2	MW-569M2_S23	84	94	05-24-2023	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-569M1	MW-569M1_S23	114	124	05-24-2023	SW6850	Perchlorate	0.51		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-571M2	MW-571M2_S23	74	84	05-24-2023	SW6850	Perchlorate	0.18	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-571M1	MW-571M1_S23	114	124	05-24-2023	SW6850	Perchlorate	0.82		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-248M3	MW-248M3_S23	143	153	05-23-2023	SW6850	Perchlorate	0.075	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-556M2	MW-556M2_S23	111	121	05-22-2023	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-556M1	MW-556M1_S23	153	163	05-22-2023	SW6850	Perchlorate	0.67		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-558M2	MW-558M2_S23	98	108	05-22-2023	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-558M1	MW-558M1_S23	134	144	05-22-2023	SW6850	Perchlorate	0.27		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-559M2	MW-559M2_S23	87	97	05-22-2023	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-559M1	MW-559M1_S23	135.6	145.6	05-22-2023	SW6850	Perchlorate	0.20		µg/L	2.0		0.058	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	2,4,6-Trinitrotoluene	0.59		µg/L	2.0		0.028	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	2,4-Dinitrotoluene	0.061	J	µg/L	5.0		0.020	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	2-Amino-4,6-dinitrotoluene	0.18	J	µg/L	7.3		0.031	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.16	J	µg/L	7.3		0.036	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.49		µg/L	0.60		0.037	0.20
Demolition Area 1	MW-31S	MW-31S_S23	98	103	05-18-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.25		µg/L	400		0.11	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	2,4,6-Trinitrotoluene	0.57		µg/L	2.0		0.028	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	2,4-Dinitrotoluene	0.064	J	µg/L	5.0		0.020	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	2-Amino-4,6-dinitrotoluene	0.21	J	µg/L	7.3		0.031	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.16	J	µg/L	7.3		0.036	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.49		µg/L	0.60		0.037	0.20
Demolition Area 1	MW-31S	MW-31S_S23D	98	103	05-18-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.19	J	µg/L	400		0.11	0.20
Demolition Area 1	MW-31M	MW-31M_S23	113	123	05-18-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.19	J	µg/L	7.3		0.036	0.20
Demolition Area 1	MW-31M	MW-31M_S23	113	123	05-18-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.5		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-31M	MW-31M_S23	113	123	05-18-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.6		µg/L	400		0.11	0.20
Demolition Area 1	MW-352M1	MW-352M1_S23	115	125	05-17-2023	SW6850	Perchlorate	0.058	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-353M1	MW-353M1_S23	107	117	05-17-2023	SW6850	Perchlorate	0.080	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-597M2	MW-597M2_S23	118	128	05-17-2023	SW6850	Perchlorate	0.063	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-597M1	MW-597M1_S23	148	158	05-17-2023	SW6850	Perchlorate	0.075	J	µg/L	2.0		0.058	0.20

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

MCL/HA= Either the MCL or Lowest Health Advisory Limit
August 13, 2023

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received July 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
Demolition Area 1	MW-597M1	MW-597M1_S23	148	158	05-17-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.049	J	µg/L	0.60		0.037	0.20
Demolition Area 1	MW-543M2	MW-543M2_S23	91.8	101.8	05-16-2023	SW6850	Perchlorate	0.061	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-544M2	MW-544M2_S23	112	122	05-16-2023	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-544M1	MW-544M1_S23	162	172	05-16-2023	SW6850	Perchlorate	6.5		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-544M1	MW-544M1_S23	162	172	05-16-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.67		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-544M1	MW-544M1_S23D	162	172	05-16-2023	SW6850	Perchlorate	6.6		µg/L	2.0	X	0.058	0.20
Demolition Area 1	MW-544M1	MW-544M1_S23D	162	172	05-16-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.67		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-19S	MW-19S_S23	38	48	05-15-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.097	J	µg/L	7.3		0.036	0.20
Demolition Area 1	MW-19S	MW-19S_S23	38	48	05-15-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-19S	MW-19S_S23	38	48	05-15-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.32		µg/L	400		0.11	0.20
Demolition Area 1	MW-19S	MW-19S_S23D	38	48	05-15-2023	SW8330	2-Amino-4,6-dinitrotoluene	0.060	J	µg/L	7.3		0.031	0.20
Demolition Area 1	MW-19S	MW-19S_S23D	38	48	05-15-2023	SW8330	4-Amino-2,6-dinitrotoluene	0.16	J	µg/L	7.3		0.036	0.20
Demolition Area 1	MW-19S	MW-19S_S23D	38	48	05-15-2023	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.3		µg/L	0.60	X	0.037	0.20
Demolition Area 1	MW-19S	MW-19S_S23D	38	48	05-15-2023	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.36		µg/L	400		0.11	0.20
Demolition Area 1	MW-211M2	MW-211M2_S23	175	185	05-15-2023	SW6850	Perchlorate	0.069	J	µg/L	2.0		0.058	0.20
Demolition Area 1	MW-211M1	MW-211M1_S23	200	210	05-15-2023	SW6850	Perchlorate	0.46		µg/L	2.0		0.058	0.20

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

MCL/HA= Either the MCL or Lowest Health Advisory Limit
August 13, 2023

PFAS Summary Report – Groundwater
Joint Base Cape Cod PFAS, IAGWSP

KGS 2023 J1N INF PFAS - J1 Range Northern

Location	J1N-INF2
Field Sample ID	J1N-INF_JUL23
Sampling Depth	0.00 - 0.00
Sampling Date	07/11/2023
SDG	320-102401-1
Sample Type	**Normal**

PFAS Eurofins	**Screening Limit♦**	Results (ng/L)	LOD (ng/L)	Qualifer
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		ND	2.70	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)		ND	18.0	U
3-Perfluoroheptyl propanoic acid (7:3FTCA)		ND	18.0	U
3-Perfluoropropyl propanoic acid (3:3FTCA)		ND	3.60	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		ND	4.30	U
4:2 Fluorotelomer sulfonic acid (4:2 FTS)		ND	4.30	U
6:2 Fluorotelomer sulfonic acid (6:2 FTS)		ND	2.70	U
8:2 Fluorotelomer sulfonic acid (8:2 FTS)		ND	2.70	U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		ND	2.70	U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6	ND	4.60	U
N-Ethyl perfluorooctanesulfonamide (NEtFOSA)		ND	0.710	U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		ND	1.10	U
N-Ethyl perfluorooctanesulfonamidoethanol (NEtFOSE)		ND	7.10	U
N-Methyl heptadecafluorooctanesulfonamide (NMeFOSA)		ND	1.10	U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		ND	1.40	U
N-Methyl perfluorooctanesulfonamidoethanol (NMeFOSE)		ND	7.10	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		ND	1.40	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)		ND	2.00	U
Perfluoro-3-methoxypropanoic acid (PFMPA)		ND	1.40	U
Perfluoro-4-methoxybutanoic acid (PFMBA)		ND	1.40	U
Perfluorobutanesulfonic acid (PFBS)	600	ND	0.630	U
Perfluorobutanoic acid (PFBA)	1800	ND	2.90	U

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Location	J1N-INF2
Field Sample ID	J1N-INF_JUL23
Sampling Depth	0.00 - 0.00
Sampling Date	07/11/2023
SDG	320-102401-1
Sample Type	**Normal**

PFAS Eurofins	**Screening Limit♦**	Results (ng/L)	LOD (ng/L)	Qualifer
Perfluorodecanesulfonic acid (PFDS)		ND	0.690	U
Perfluorodecanoic acid (PFDA)		ND	2.10	U
Perfluorododecanesulfonic acid (PFDoS)		ND	1.10	U
Perfluorododecanoic acid (PFDoA)		ND	1.10	U
Perfluoroheptanesulfonic acid (PFHpS)		ND	1.10	U
Perfluoroheptanoic acid (PFHpA)		ND	1.10	U
Perfluorohexanesulfonic acid (PFHxS)	39	ND	1.00	U
Perfluorohexanoic acid (PFHxA)	990	ND	1.10	U
Perfluorononanesulfonic acid (PFNS)		ND	1.10	U
Perfluorononanoic acid (PFNA)	5.9	ND	1.40	U
Perfluorooctanesulfonamide (PFOSA)		ND	0.710	U
Perfluorooctanesulfonic acid (PFOS)	4	ND	1.10	U
Perfluorooctanoic acid (PFOA)	6	ND	0.710	U
Perfluoropentanesulfonic acid (PFPeS)		ND	0.670	U
Perfluoropentanoic acid (PFPeA)		ND	1.40	U
Perfluorotetradecanoic acid (PFTeDA)		ND	1.10	U
Perfluorotridecanoic acid (PFTrDA)		ND	1.10	U
Perfluoroundecanoic acid (PFUnA)		ND	1.10	U
†PFOS + PFOA (EPA)		**0.00**		
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)		**0.0**		
§Sum of All Compounds Detected		**0.00**		

PFAS Summary Report – Groundwater
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KGS 2023 J2 North PFAS Sampling - J2 Range Northern

	Location	J2N-EFF-F			J2N-INF-F		
	Field Sample ID	J2N-EFF-F_JUL23			J2N-INF-F_JUL23		
	Sampling Depth	0.00 - 0.00			0.00 - 0.00		
	Sampling Date	07/11/2023			07/11/2023		
	SDG	320-102401-2			320-102401-2		
	Sample Type	**Normal**			**Normal**		
PFAS Eurofins	**Screening Limit♦**	Results (ng/L)	LOD (ng/L)	Qualifer	Results (ng/L)	LOD (ng/L)	Qualifer
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		ND	2.60	U	ND	2.70	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)		ND	17.0	U	ND	18.0	U
3-Perfluoroheptyl propanoic acid (7:3FTCA)		ND	17.0	U	ND	18.0	U
3-Perfluoropropyl propanoic acid (3:3FTCA)		ND	3.50	U	ND	3.50	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		ND	4.20	U	ND	4.30	U
4:2 Fluorotelomer sulfonic acid (4:2 FTS)		ND	4.20	U	ND	4.30	U
6:2 Fluorotelomer sulfonic acid (6:2 FTS)		**9.60**	2.60		**28.0**	2.70	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)		ND	2.70	U	ND	2.70	U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		ND	2.60	U	ND	2.60	U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6	ND	4.50	U	ND	4.50	U
N-Ethyl perfluorooctanesulfonamide (NEtFOSA)		ND	0.700	U	ND	0.710	U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		ND	1.10	U	ND	1.10	U
N-Ethyl perfluorooctanesulfonamidoethanol (NEtFOSE)		ND	7.00	U	ND	7.10	U
N-Methyl heptadecafluorooctanesulfonamide (NMeFOSA)		ND	1.10	U	ND	1.10	U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		ND	1.40	U	ND	1.40	U
N-Methyl perfluorooctanesulfonamidoethanol (NMeFOSE)		ND	7.00	U	ND	7.10	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		ND	1.40	U	ND	1.40	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)		ND	2.00	U	ND	2.00	U
Perfluoro-3-methoxypropanoic acid (PFMPA)		ND	1.40	U	ND	1.40	U
Perfluoro-4-methoxybutanoic acid (PFMBA)		ND	1.40	U	ND	1.40	U
Perfluorobutanesulfonic acid (PFBS)	600	ND	0.620	U	ND	0.630	U
Perfluorobutanoic acid (PFBA)	1800	ND	2.80	U	ND	2.80	U

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	Location	J2N-INF-F		
	Field Sample ID	J2N-INF-F_JUL23-D		
	Sampling Depth	0.00 - 0.00		
	Sampling Date	07/11/2023		
	SDG	320-102401-2		
	Sample Type	**Field Duplicate**		
PFAS Eurofins	**Screening Limit♦**	Results (ng/L)	LOD (ng/L)	Qualifer
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		ND	2.70	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)		ND	18.0	U
3-Perfluoroheptyl propanoic acid (7:3FTCA)		ND	18.0	U
3-Perfluoropropyl propanoic acid (3:3FTCA)		ND	3.60	U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)		ND	4.30	U
4:2 Fluorotelomer sulfonic acid (4:2 FTS)		ND	4.30	U
6:2 Fluorotelomer sulfonic acid (6:2 FTS)		**25.0**	2.70	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)		ND	2.80	U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)		ND	2.70	U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6	ND	4.60	U
N-Ethyl perfluorooctanesulfonamide (NEtFOSA)		ND	0.720	U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		ND	1.20	U
N-Ethyl perfluorooctanesulfonamidoethanol (NEtFOSE)		ND	7.20	U
N-Methyl heptadecafluorooctanesulfonamide (NMeFOSA)		ND	1.20	U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		ND	1.40	U
N-Methyl perfluorooctanesulfonamidoethanol (NMeFOSE)		ND	7.20	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)		ND	1.40	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)		ND	2.10	U
Perfluoro-3-methoxypropanoic acid (PFMPA)		ND	1.40	U
Perfluoro-4-methoxybutanoic acid (PFMBA)		ND	1.40	U
Perfluorobutanesulfonic acid (PFBS)	600	ND	0.640	U
Perfluorobutanoic acid (PFBA)	1800	ND	2.90	U

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	Location	J2N-EFF-F			J2N-INF-F		
	Field Sample ID	J2N-EFF-F_JUL23			J2N-INF-F_JUL23		
	Sampling Depth	0.00 - 0.00			0.00 - 0.00		
	Sampling Date	07/11/2023			07/11/2023		
	SDG	320-102401-2			320-102401-2		
	Sample Type	**Normal**			**Normal**		
PFAS Eurofins	**Screening Limit♦**	Results (ng/L)	LOD (ng/L)	Qualifer	Results (ng/L)	LOD (ng/L)	Qualifer
Perfluorodecanesulfonic acid (PFDS)		ND	0.670	U	ND	0.680	U
Perfluorodecanoic acid (PFDA)		ND	2.10	U	ND	2.10	U
Perfluorododecanesulfonic acid (PFDoS)		ND	1.10	U	ND	1.10	U
Perfluorododecanoic acid (PFDoA)		ND	1.10	U	ND	1.10	U
Perfluoroheptanesulfonic acid (PFHpS)		ND	1.10	U	**1.00**	1.10	J
Perfluoroheptanoic acid (PFHpA)		ND	1.10	U	**1.10**	1.10	J
Perfluorohexanesulfonic acid (PFHxS)	39	ND	1.00	U	**19.0**	1.00	
Perfluorohexanoic acid (PFHxA)	990	**0.920**	1.10	J	**1.30**	1.10	J
Perfluorononanesulfonic acid (PFNS)		ND	1.10	U	ND	1.10	U
Perfluorononanoic acid (PFNA)	5.9	ND	1.40	U	ND	1.40	U
Perfluorooctanesulfonamide (PFOSA)		ND	0.700	U	ND	0.710	U
Perfluorooctanesulfonic acid (PFOS)	4	ND	1.00	U	**3.90**	1.00	J
Perfluorooctanoic acid (PFOA)	6	**0.700**	0.700	J	**6.50**	0.710	
Perfluoropentanesulfonic acid (PFPeS)		ND	0.650	U	**0.320**	0.670	J
Perfluoropentanoic acid (PFPeA)		ND	1.40	U	**1.00**	1.40	J
Perfluorotetradecanoic acid (PFTeDA)		ND	1.10	U	ND	1.10	U
Perfluorotridecanoic acid (PFTrDA)		ND	1.10	U	ND	1.10	U
Perfluoroundecanoic acid (PFUnA)		ND	1.10	U	ND	1.10	U
†PFOS + PFOA (EPA)		**0.700**			**10.4**		
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)		**0.0**			**29**		
§Sum of All Compounds Detected		**11.2**			**62.1**		

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Location	J2N-INF-F
Field Sample ID	J2N-INF-F_JUL23-D
Sampling Depth	0.00 - 0.00
Sampling Date	07/11/2023
SDG	320-102401-2
Sample Type	**Field Duplicate**

PFAS Eurofins	Screening Limit♦	Results (ng/L)	LOD (ng/L)	Qualifer
Perfluorodecanesulfonic acid (PFDS)		ND	0.690	U
Perfluorodecanoic acid (PFDA)		ND	2.20	U
Perfluorododecanesulfonic acid (PFDoS)		ND	1.10	U
Perfluorododecanoic acid (PFDoA)		ND	1.20	U
Perfluoroheptanesulfonic acid (PFHpS)		**1.10**	1.10	J
Perfluoroheptanoic acid (PFHpA)		**0.990**	1.20	J
Perfluorohexanesulfonic acid (PFHxS)	39	**19.0**	1.00	
Perfluorohexanoic acid (PFHxA)	990	**1.10**	1.20	J
Perfluorononanesulfonic acid (PFNS)		ND	1.10	U
Perfluorononanoic acid (PFNA)	5.9	ND	1.40	U
Perfluorooctanesulfonamide (PFOSA)		ND	0.720	U
Perfluorooctanesulfonic acid (PFOS)	4	**3.60**	1.10	J
Perfluorooctanoic acid (PFOA)	6	**6.10**	0.720	
Perfluoropentanesulfonic acid (PFPeS)		ND	0.670	U
Perfluoropentanoic acid (PFPeA)		**1.00**	1.40	J
Perfluorotetradecanoic acid (PFTeDA)		ND	1.20	U
Perfluorotridecanoic acid (PFTrDA)		ND	1.20	U
Perfluoroundecanoic acid (PFUnA)		ND	1.20	U
†PFOS + PFOA (EPA)		**9.70**		
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)		**29**		
§Sum of All Compounds Detected		**57.9**		

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Notes:

ng/L = nanograms per liter; ug/kg = micrograms per kilogram; U = not detected; J = estimated; UJ = estimated non detect, ND = not detected
Non detects are calculated as zero in the summations.

Bolded results indicate detections of PFAS

Bolded and highlighted results indicate detection of PFAS above the EPA Lifetime Health Advisory: PFOS + PFOA > 70 ng/L.

Bolded and highlighted results indicate detection of PFAS6 above the MassDEP MCL: PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA > 20 ng/L

Bolded and highlighted results indicate detection of PFAS above the 2023 May EPA Tapwater (TR 1E-06 THQ 0.1)

♦ 2023 May EPA Tapwater (TR 1E-06 THQ 0.1)

† Lifetime Health Advisory, US Environmental Protection Agency, May 2016

The PFOS and PFOA summation includes all detections at and above the DL.

‡ PFAS Maximum Contaminant Level (MCL) Final Amendments ("MCL", 310 CMR 22.00 PFAS MCL Amendments), Massachusetts Department of Environmental Protection, October 2, 2020

The MassDEP PFAS summation includes all quantifiable results reported at and above the LOQ.

PFHxS represents the reported presence of Perfluorohexanesulfonic acid or Perfluorohexane sulfonate as reported for the project.

§ Sum of All Compounds Detected includes all detections at and above the DL.