

**MONTHLY PROGRESS REPORT #295
FOR OCTOBER 2021**

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 1 to 31 October 2021.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 29 October 2021:

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, ex-situ treatment processes 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 2.867 billion gallons of water treated and re-injected as of 29 October 2021. The following Frank Perkins Road Treatment Facility shutdowns occurred in October.

- 2140 on 26 October 2021 due to nor'easter power outage and was restarted at 1235 on 28 October 2021.

The Base Boundary MTU continues to operate at a flow rate of 65 gpm. As of 29 October 2021, over 313.6 million gallons of water was treated and re-injected. The following Base Boundary MTU shutdowns occurred in October.

- 0930 on 29 October 2021 to run upgraded wires in preparation for new VFD installation and was restarted at 1104 on 29 October 2021.

The Leading Edge system continues to operate at a flow rate of 100 gpm. As of 29 October 2021, over 273.1 million gallons of water was treated and re-injected. The following Leading Edge system shutdowns occurred in October.

- 0037 on 27 October 2021 due to nor'easter power outage and was restarted at 0800 on 29 October 2021.

The Pew Road Mobile Treatment Unit (MTU) was turned off 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, 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 29 October 2021, over 1.884 billion gallons of water have been treated and re-injected. The following MTU E and F shutdowns occurred in October.

- MTU E: 2054 on 27 October 2021 due to nor'easter power outage and was restarted at 0918 on 28 October 2021.
- MTUs E and F: 0353 on 27 October 2021 due to nor'easter power outage and were restarted at 0838 on 27 October 2021.
- MTU E: 0900 on 18 October 2021 to redevelop extraction well and upgrade J2EW0001 pump and motor, and was restarted at 1400 on 21 October 2021.
- MTUs E and F: 0910 on 01 October 2021 to inspect the J2 North MTU F infiltration gallery and were restarted at 1100 on 01 October 2021.

The Northern Treatment Building G continues to operate at a flow rate of 225 gpm. As of 29 October 2021, over 1.415 billion gallons of water have been treated and re-injected. The following Northern MTU G shutdowns occurred in October.

- 2054 on 28 October 2021 due to nor'easter power outage and was restarted at 1140 on 29 October 2021.
- 0353 on 27 October 2021 due to nor'easter power outage and was restarted at 0846 on 27 October 2021.

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 will enter the vadose zone and infiltrate 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 29 October 2021, over 1.527 billion gallons of water have been treated and re-injected. The following MTU H and I shutdowns occurred in October.

- ~0000 on 27 October 2021 due to nor'easter power outage and a downed power pole and wires on Greenway Road and remained off through 29 October 2021.
- 1230 on 19 October 2021 to perform IX resin exchange and were restarted at 1145 on 21 October 2021.
- 1540 on 14 October 2021 due to an "Overcurrent" alarm and were restarted at 0923 h on 15 October 2021.
- 0920 on 11 October 2021 to perform well maintenance and replace the pump and motor and were restarted at 1327 on 14 October 2021.

MTU J continues to operate at a flow rate of 120 gpm. As of 29 October 2021, over 710.9 million gallons of water have been treated and re-injected. The following MTU J shutdowns occurred in October.

- ~0000 on 27 October 2021 due to nor'easter power outage and remained off through 29 October 2021.
- 1020 on 15 October 2021 to replace three ball valves and a section of leaking piping on the IX resin vessels influent and was restarted at 0805 on 18 October 2021.

MTU K continues to operate at a flow rate of 125 gpm. As of 29 October 2021, over 834.2 million gallons of water have been treated and re-injected. The following MTU K shutdowns occurred in October.

- ~0000 on 27 October 2021 due to nor'easter power outage and remained off through 29 October 2021.
- 1507 on 06 October 2021 due to a power supply interruption and was restarted at 0759 on 07 October 2021.

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, ex-situ treatment process to remove explosives compounds and perchlorate from the groundwater and use of the existing Fuel Spill-12 (FS-12) infiltration gallery to return treated water to the aquifer.

The J-3 system is currently operating at 255 gpm. As of 29 October 2021, over 1.536 billion gallons of water have been treated and re-injected. The following J-3 Range system shutdowns occurred in October.

- ~0000 on 27 October 2021 due to nor'easter power outage and remained off through 29 October 2021.
- 1530 on 06 October 2021 due to a power supply interruption and was restarted at 1035 on 07 October 2021.
- 0840 on 06 October 2021 due to an FS-12 shutdown and was restarted at 1138 on 06 October 2021.

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, 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 29 October 2021, over 689.8 million gallons of water have been treated and re-injected. The following J-1 Range Southern system shutdowns occurred in October.

- ~0000 on 27 October 2021 due to nor'easter power outage and a downed power pole and wires on Greenway Road, and remained off through 29 October 2021.

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, 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 29 October 2021, over 1.022 billion gallons of water have been treated and re-injected. The following J-1 Range Northern MTU shutdowns occurred in October.

- 0725 on 28 October 2021 to repair a leak on the bag filter housings and was restarted at 0700 on 29 October 2021.
- 0145 on 27 October 2021 due to nor'easter power outage and was restarted at 0820 on 27 October 2021.
- 0940 on 18 October 2021 to perform an IX resin exchange and replace bag filter housings and was restarted 0742 on 21 October 2021.

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 (IX) resin and granular activated carbon (GAC) 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 29 October 2021, over 2.633 billion gallons of water have been treated and re-injected. The following CIA system shutdowns occurred in October.

- System 2: 1340 on 28 October 2021 due to a "VFD fault, over temp" alarm and after replacing faulty fan, was restarted at 0900 on 29 October 2021.
- System 3: 0401 on 27 October 2021 due to nor'easter power outage and was restarted at 0919 on 28 October 2021.
- System 2: 2140 on 26 October 2021 due to nor'easter power outage and was restarted at 1330 on 28 October 2021.
- System 1: 2140 on 26 October 2021 due to nor'easter power outage and was restarted at 1300 on 28 October 2021.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity as of 29 October 2021:

CIA

- Performed intrusive investigations.
- Performed cued data collection with 3 MMs.
- Performed cued data collection with 2 MMs.
- Routine check of CSS cover.
- Routine processing of MD.
- Groundwater sampling within CIA SPM.
- Bag filters exchanged.
- Performed maintenance on fire alarm panel.

Demolition Area 1

- No activity.

Demolition Area 2

- No activity.

J-1 Range

- Groundwater sampling and hydraulic monitoring within J-1 South SPM.

J-2 Range

- Groundwater sampling within J-2 East SPM.
- Groundwater sampling within J-2 North SPM.
- Groundwater sampling for PFAS within J-2 North SPM.
- Ran wiring in preparation of VFD upgrade for J2EW0005.

J-3 Range

- System process water sampling for PFAS within J-3 SPM.
- Bag filters exchanged.
- Groundwater sampling within J-3 SPM.
- Groundwater sampling for PFAS within J-3 SPM.

L Range

- No activity.

Small Arms Ranges

- No activity.

Northwest Corner

- No activity.

Training Areas

- Inspected and collected waste characterization samples from staged soil at H Range.
- Processed and shipped MDAS offsite.
- Performed BIP operations in Former E Range.
- Performed CS demolition operations at CIA CSS.

Impact Area Roads

- Performed grading and gravel installation.
- Performed UXO removal.

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.
- Groundwater samples were collected from Central Impact Area, Demolition Area 1, J-1 Range Southern, J-2 Range Eastern, and J-2 Range Northern.
- Replaced road box at MW-598 on County Road due to paving project.

JBCC IAGWSP Tech Update Meeting Minutes for 14 October 2021Project and Fieldwork Update

Since the last tech meeting, there was a carbon change out at J-1 North and a couple of electricity related shutdowns. Currently, all the systems are running with the exception of J-2 East. J-2 East H and I were taken offline to pull the pumps from EW5 to perform a redevelopment of the screen and to install an upgraded pump and motor in that well. It should be finished by the end of this week (15 October 2021) or early next week at the latest. The LTM crews continue to work in J-2; most of J-2 North is finished, and they are currently sampling in J-2 East. This sampling round includes additional PFAS sampling. Data should be available in a few weeks. J-3 well MW-218 was resampled, and data is pending.

EPA requested a copy of the tables provided by AFCEC of surface water sampling conducted by USGS in 2016 as well as FS-12 influent data. IAGWSP noted they will send these to the group. EPA also requested that IAGWSP check with AFCEC whether or not they have been seeing the short chain PFAS results in their analyses. IAGWSP explained that during their initial discussions with AFCEC, they said many of the compounds hadn't been seen before anywhere, but IAGWSP will follow up to see if AFCEC can provide any additional detail.

It was noted that a well on County Road was damaged by the Town of Bourne during a road resurfacing project. The well had been marked and our contractors had coordinated with the contractor performing the work, however despite these efforts, the well was hit. It was surficial damage and contractors will be going out to fix the road box before the town comes to pave the road. An inspection was performed on the MTU F infiltration gallery after an increase in pressure on the effluent line was observed. Roots were cleaned out of the gallery, however one of the lines remains blocked; although the gallery is accepting water, it is not operating as designed. KGS is going to work with the excavation contractor to get a quote to dig up and replace the line.

Currently KGS is grading on Spruce Camp Road. Grading has been completed on J-1 and J-2 Range Roads and Wheelock Road and is partially completed on Jefferson Road. Gravel installation has been completed on the J-2 Range Road and is currently occurring on the J-1 Range Road. Dawson performed the five demolition shots yesterday (13 October 2021) with a total of 137 items blown in the BEM. They will perform BIPs today of the Former E Range items. Next, they will start processing the MPPEH from former E Range and manage the soil staged at H Range for off-site disposal.

Weston now has three Metal Mapper teams working primarily in Survey Units 3 and 5, the priority areas. They have seven digs teams on site, working in Survey Units 1, 2, 3, and 5. They are projecting to finish the data collection by the end of the month and digs by the end of the calendar year.

Action Items

The action items were discussed and updated.

Demolition Area 1 Annual Monitoring Report Presentation

A presentation was provided on the Demolition Area 1 Annual Monitoring Report. During the reporting period (July 2020 to June 2021), three new profiles, BH-730, BH-731, and BH-732 were drilled. Profile boring BH-730 was co-located with existing monitoring well MW-533M1, BH-731 was located approximately 700 ft hydraulically upgradient of MW-533M1, and BH-732 was located approximately 900 ft hydraulically downgradient of BH-730. The maximum detected perchlorate result in any of the groundwater profile samples was 30.1 µg/L, detected in BH-730 (166-176 ft below ground surface (bgs)). The maximum RDX concentration was 2.31 µg/L, detected in BH-731 at (161-171 ft bgs). A figure with locations of the new borings was displayed and discussed.

Treatment system performance, sampling locations, groundwater monitoring results, and trends were reviewed and discussed. For Zone 1 (source to Frank Perkins Road), the maximum RDX concentration was 2.07 µg/L (MW- 31M), and the maximum perchlorate concentration was <0.1 µg/L (FPR influent). It was noted that no monitoring wells or extraction wells are being sampled for perchlorate. For Zone 2 (Frank Perkins Road to Pew Road), the maximum RDX concentration was 0.58 µg/L (MW-341M2), and the maximum perchlorate concentration was 0.43 µg/L (MW- 211M1). For Zone 3 (Pew Road to Base Boundary), the maximum RDX concentration was 1.54 µg/L (MW-533M1), and the maximum perchlorate concentration was 23.7 µg/L (MW-533M1). For Zone 4 (off-base), RDX was detected at 0.5 µg/L (MW-556M1), and the maximum perchlorate concentration was 2.44 µg/L (MW- 611M1); this was the only sample above 2 µg/L.

Results of hydraulic monitoring and a capture zone analysis were discussed. For the aquifer hydraulic monitoring, one site-wide synoptic water level round was conducted during the reporting period. Hydraulic monitoring observations were consistent with past reporting periods for zones 1 and 2. A hydraulic monitoring event was performed in October as part of the leading edge packering assessment. For the capture zone analysis, the capture zones were developed manually and later compared to model simulated capture zones. In Zone 1, RDX is adequately captured by D1-EW4 and D1-EW504; perchlorate is not applicable. Perchlorate and RDX contamination in Zone 2 is below screening levels. In Zone 3, perchlorate and RDX between Fredrickson Road and the Base Boundary are within the D1-EW-3 capture zone due to increase capture due to well packering. Portions of the plumes south of MW-341M2 and centered on MW-663D are outside well capture. The perchlorate plume within Zone 4 is within capture zone of D1-EW5 and packering efforts have expanded capture since implementation in January 2020. Contamination downgradient of County Road is predicted to attenuate and/or discharge to Buzzards Bay within 3 to 4 years.

Measured vs. model predicted mass removal statistics were reviewed and discussed. Perchlorate and RDX plume shells developed with data through 2018 were used. The total perchlorate removed for the reporting period for all systems was 0.33 pounds and RDX was 0.15 pounds. In general, mass removal continues to decline, and the most mass removal is associated with the Base Boundary Extraction Well D1-EW3.

Decision Document (DD) cleanup timelines were discussed. For perchlorate, the plume shell updated with incorporating profile data (BH-730/731/732) indicates perchlorate will attenuate below 2 µg/L by 2040 in Zone 3. For RDX, the plume shell updated with data through June 2021 using the drift function indicates cleanup in the source area to D1-EW4 by 2024, D1-EW4 to D1-EW501 by 2024.5 and west of Pew Road to the base boundary by 2034.

IAGWSP is not recommending any changes to the system operations or annual synoptic gauging program or to the chemical monitoring program in Zones 1, 2, In Zone 3, the newly installed wells MW-730 M1/M2/M3, MW-731 M1/M2/M3, and MW-732 M1/M2 were sampled in late 2021 and will be sampled in late Fall/Winter. Based on the results, the IAGWSP will recommend a sample frequency. In Zone 4, IAGWSP recommends removal and abandonment of MW-554 M1/M2 which is west of Route 28 on the Hamilton Landscaping property. The right-of-entry has expired, and MW-556 M1/M 2 serves a similar purpose. IAGWSP is recommending that a project note be developed evaluating the need for an additional extraction well and injection/recharge basin based on chemical results from newly installed wells. It will include hydraulic monitoring estimates of when the numerical remediation goals may be met. Presently, the kriging plume shell indicates approximately 2040 for Zone 3 cleanup without an extraction system.

JBCC IAGWSP Tech Update Meeting Minutes for 28 October 2021

Project and Fieldwork Update

Since the last meeting, USACE has been replacing pumps and redeveloping wells. They successfully completed that at J-2E EW-5 and J-2N EW-1. The VFDs have been delayed again, until December. Analytical results from the September sampling showed no breakthroughs. All the change outs that were done based on the August data have been completed.

There was a leak detected at J-2 E requiring a valve replacement. Tuesday's (26 October 2021) storm knocked out all systems, with the exception of the base boundary. Yesterday (27 October 2021), power was restored to J-1N and J-2N. Those systems are on the Coast Guard electrical grid that comes down Barlow Road and then goes down Wood Road. All of the systems were down yesterday. Today crews were able to get CIA-3 started. CIA-1, CIA-2, as well as the Frank Perkins Road on the base power grid are still down because there is no power going up to Frank Perkins Road, nor going down the road to CIA. FS-12 is down, which means J-3 is down. The systems that come in off of Route 130, down Wood Road and down Greenway Road, are down because utility poles along that route are down. Crews in bucket trucks responded first thing this morning to evaluate the situation with the intention to make it safe, so that when Eversource turns on the power on Route 130 there is not an issue with our poles/lines. The Route 130 power line also services J-1S and J-2E, so those systems remain down.

For groundwater sampling, the samplers are doing the semi-annual rounds at J-1S, J-1N, CIA (including the BEM well), and Demo 2. PFAS sampling has been completed at J-2 N. MW-218, which had elevated PFAS in the drive points, was also resampled.

USACE explained the differences in the ways that data was analyzed for the two samples and what the results mean.

USACE noted that the 13 August, 16 August, and 13 September sampling sets were collected following the same field sampling procedure. Both sets of samples were turbid and contained particulate/sediment. The laboratory sample preparation procedures on the two sets were different. The standard PFAS method requires extraction of the entire sample volume. For the first set of samples, the lab was trying to extract the whole sample to include the aqueous phase and the particulate phase. For the second set of samples, because there was such a known

high concentration of solids, the lab centrifuged the sample and fully separated the aqueous phase. In the second set, the sample results represent the concentrations in aqueous phase only. This helps explain the difference in results between the first set and the second set. The centrifuge procedure is also used at other sites with highly turbid water samples (e.g., Fort Devens).

MassDEP asked if there was a big difference in the concentrations in the samples from Fort Devens using the centrifuge method and if the samples were also analyzed without the centrifuge method. USACE explained they did notice a difference in the very early stages of testing the centrifuge procedure, but that difference was not as high as what was observed at JBCC.

MassDEP questioned if filtering the samples and removing the turbidity and the particulates in the field, would affect the concentration. USACE replied that it is not allowed by the PFAS method because the filters contain PFAS.

IAGWSP noted that KGS also did sampling at other points that did not have elevated PFAS levels. The turbidity seems to be the biggest factor impacting the results. USACE will provide the other sampling locations for EPA.

EPA stated that at the UMASS Soils Conference there was a presentation on aqueous samples versus the whole matrix without centrifuging. Individual PFAS seems to have different affinities for sediment particulates based on the composition of the sediment. EPA sent the MW-218 results comparison to a moderator for several of the presentations at the UMass conference. The moderator thought the high result could have been from Teflon tubing in the well. IAGWSP clarified that all of the USACE wells have Teflon tubing, so that is likely not the cause of the elevated levels.

EPA mentioned she had asked IAGWSP to contact Camp Good News to see if property structures (laundry facility, septic, etc.) could be a factor since the particle backtrack might originate from the L Range. EPA asked for additional wells to be sampled at the J-3 Range around the buildings where they had photographic film development capabilities or other wells near MW-218 that were screened similarly. IAGWSP replied that based on discussions with AFCEC, it does not appear there are other wells in the area that would meet that criteria. IAGWSP asked if this could be a false positive. USACE feels confident it is not.

EPA suggested that Textron work in the area be looked into a little more. EPA asked for an outline of "next steps." IAGWSP agreed. EPA asked for additional wells to be sampled elsewhere on the range. IAGWSP will look at key wells upgradient, at a similar depth to MW-218. Based on our conceptual site model, it would be beneficial to see if there's a connection to the J-3 RDX and perchlorate detections.

IAGWSP also noted that USGS did work in the area to determine if deeper groundwater was under flowing groundwater beneath the pond. A well on the other side that represents water under flowing the pond might be a good sampling point too. IAGWSP will reach out to USGS. IAGWSP will prepare another update and plan for next steps for the 18 November Tech Meeting.

The Five Year Review meeting has been rescheduled for 4 November 2021.

IAGWSP provided a UXO update. UXO clearance is complete on all of the roads outside the CIA Source Removal exclusions zones. The grading is complete on all roads outside of the CIA boundary. Gravel installation is complete on J-1 and J-2 range roads, including compaction, and crews are currently installing gravel on Wheelock Rd. This work is expected to be completed in December. Len Pinaud asked if anything of note was found during the excavation work. IAGWSP replied that no MEC items were found.

IAGWSP stated that the destruction of items from Former E, J-2, and J-3 ranges and CIA well pads was performed at the CIA CSS/BEM on 13 October 2021. BIPs (12 items) were performed at Former E Range on 14 October 2021. The waste characterization sample from the KD, J-2, and Former E ranges soils that were staged at H Range, was collected on 14 October 2021; offsite disposal of the soil is pending. MDAs from the ranges and roads was shipped off site on 20 October 2021.

Action Items

The action items were discussed and updated.

JBCC Cleanup Team Meeting

The next JBCC Cleanup Team (JBCCCT) meeting is scheduled for December 1, 2021. Presentation materials from previous meetings can be found on the IAGWSP web site at <http://jbcc-iagwsp.org/community/impact/presentations/>. The Cleanup Team meeting discusses late breaking news and responses to action items, as well as updates from the IAGWSP and the Installation Restoration Program (IRP). The JBCCCT meetings provide a forum for community input regarding issues related to both the IRP and the IAGWSP.

3. SUMMARY OF DATA RECEIVED

Table 1 summarizes sampling for all media from 1 to 31 October 2021. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 1 to 31 October 2021. 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 1 June 2019 to present.

The twelve OUs under investigation and cleanup at Camp Edwards are the Central Impact Area, Demolition Area 1, Demolition Area 2, Former A Range, J-1 Range, J-2 Range, J-3 Range, L Range, Northwest Corner, Small Arms Ranges, Training Area, and Western Boundary. 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:

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| • Monthly Progress Report No. 294 for September 2021 | 14 October 2021 |
| • Response to Comments on Draft Demolition Area 2 2021 Annual Environmental Monitoring Report | 21 October 2021 |
| • Final L Range 2021 Annual Environmental Monitoring Report | 25 October 2021 |
| • Draft Demolition Area 1 2021 Annual Environmental Monitoring Report | 25 October 2021 |

5. SCHEDULED ACTIONS

The following actions and/or documents are being prepared in November 2021.

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- Small Arms Ranges 2021 Final Annual Environmental Monitoring Report
- Small Arms Ranges Revised Completion of Work Report
- IRA Status and Completion Report
- Northwest Corner Demonstration of Compliance Report for agency feedback/approval
- J-2 Range, Phase-2, Addendum to Post-DD Confirmation Geophysical and Soil Investigation Findings Project Note
- J-3 Range Post-DD Confirmation Geophysical and Soil Investigation Findings Revised Final Project Note
- CIA Source Area QAPP
- J-3 Range 2021 Draft Annual Environmental Monitoring Report
- Central Impact Area 2021 Draft Annual Environmental Monitoring Report
- J-1 Range North 2021 Draft Annual Environmental Monitoring Report Response to Comments
- J-1 Range South 2021 Draft Annual Environmental Monitoring Report
- Land Use Controls Monitoring Report

TABLE 1
Sampling Progress: 1 to 31 October 2021

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-187A	N	10-07-2021	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-187A	N	10-07-2021	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-187A	N	10-07-2021	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-187A	N	10-07-2021	Process Water	0	0
J2 Range Eastern	MW-705M2	MW-705M2_F21	N	10-07-2021	Ground Water	185.9	195.9
Demolition Area 1	D1LE-EFF	D1LE-EFF-63A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-63A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-63A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1LE-INF	D1LE-INF-63A	N	10-07-2021	Process Water	0	0
J2 Range Eastern	MW-705M1	MW-705M1_F21	N	10-07-2021	Ground Water	209.7	219.7
J1 Range Southern	J1S-EFF	J1S-EFF-167A	N	10-07-2021	Process Water	0	0
J2 Range Eastern	MW-366M2	MW-366M2_F21	N	10-07-2021	Ground Water	175	185
J1 Range Southern	J1S-MID	J1S-MID-167A	N	10-07-2021	Process Water	0	0
J1 Range Southern	J1S-INF-2	J1S-INF-2-167A	N	10-07-2021	Process Water	0	0
J2 Range Eastern	MW-366M1	MW-366M1_F21	N	10-07-2021	Ground Water	215	225
Demolition Area 1	D1-EFF	D1-EFF-135A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-135A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-135A	N	10-07-2021	Process Water	0	0
Demolition Area 1	D1-INF	D1-INF-135A	N	10-07-2021	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-96A	N	10-07-2021	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-96A	N	10-07-2021	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-96A	N	10-07-2021	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-96A	N	10-07-2021	Process Water	0	0
J2 Range Eastern	MW-339M2	MW-339M2_F21	N	10-06-2021	Ground Water	213	223
J2 Range Eastern	MW-339M1	MW-339M1_F21	N	10-06-2021	Ground Water	233	243
J2 Range Eastern	MW-368M3	MW-368M3_F21	N	10-06-2021	Ground Water	155.5	165.5
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	MW-368M2	MW-368M2_F21	N	10-06-2021	Ground Water	202.73	212.73
J2 Range Eastern	MW-368M2	MW-368M2_F21D	FD	10-06-2021	Ground Water	202.73	212.73
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-1H	J2E-MID-1H-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	MW-368M1	MW-368M1_F21	N	10-06-2021	Ground Water	237.35	247.35
J2 Range Eastern	MW-368M1	MW-368M1_F21D	FD	10-06-2021	Ground Water	237.35	247.35
J2 Range Eastern	J2E-INF-I	J2E-INF-I-157A	N	10-06-2021	Process Water	0	0
J2 Range Eastern	MW-685M1	MW-685M1_F21	N	10-05-2021	Ground Water	166.2	176.2
J2 Range Eastern	J2MW-05M2	J2MW-05M2_F21	N	10-05-2021	Ground Water	185	195
Central Impact Area	CIA2-EFF	CIA2-EFF-93A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA2-MID2	CIA2-MID2-93A	N	10-05-2021	Process Water	0	0
J2 Range Eastern	J2MW-05M1	J2MW-05M1_F21	N	10-05-2021	Ground Water	225	235
Central Impact Area	CIA2-MID1	CIA2-MID1-93A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-93A	N	10-05-2021	Process Water	0	0
J2 Range Eastern	MW-665M3	MW-665M3_F21	N	10-05-2021	Ground Water	175.2	185.2
J2 Range Eastern	MW-665M3	MW-665M3_F21D	FD	10-05-2021	Ground Water	175.2	185.2
Central Impact Area	CIA1-EFF	CIA1-EFF-93A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-93A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-93A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-93A	N	10-05-2021	Process Water	0	0
J2 Range Eastern	MW-665M2	MW-665M2_F21	N	10-05-2021	Ground Water	205.2	215.2
J2 Range Eastern	MW-665M2	MW-665M2_F21D	FD	10-05-2021	Ground Water	205.2	215.2

TABLE 1
Sampling Progress: 1 to 31 October 2021

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
Central Impact Area	CIA3-EFF	CIA3-EFF-64A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-64A	N	10-05-2021	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-64A	N	10-05-2021	Process Water	0	0
J2 Range Eastern	MW-665M1	MW-665M1_F21	N	10-05-2021	Ground Water	225.2	235.2
J2 Range Eastern	MW-665M1	MW-665M1_F21D	FD	10-05-2021	Ground Water	225.2	235.2
Central Impact Area	CIA3-INF	CIA3-INF-64A	N	10-05-2021	Process Water	0	0
J2 Range Eastern	MW-668M1	MW-668M1_F21	N	10-04-2021	Ground Water	168.7	178.7
J2 Range Eastern	MW-668M1	MW-668M1_F21D	FD	10-04-2021	Ground Water	168.7	178.7
J3 Range	J3-EFF	J3-EFF-181A	N	10-04-2021	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-181A	N	10-04-2021	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-181A	N	10-04-2021	Process Water	0	0
J3 Range	J3-INF	J3-INF-181A	N	10-04-2021	Process Water	0	0
J2 Range Eastern	J2MW-04M2	J2MW-04M2_F21	N	10-04-2021	Ground Water	210	220
J2 Range Eastern	J2MW-04M1	J2MW-04M1_F21	N	10-04-2021	Ground Water	257	267
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-181A	N	10-04-2021	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-181A	N	10-04-2021	Process Water	0	0

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received October 2021

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	MW-622M1	MW-622M1_F21	245.4	255.4	09-28-2021	SW6850	Perchlorate	0.61		µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW0003	J2EW0003_F21	202	232	09-27-2021	SW6850	Perchlorate	0.28		µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW0002	J2EW0002_F21	198	233	09-27-2021	SW8330	1,3,5-Trinitrobenzene	0.085	J	µg/L	1090		0.065	0.20
J2 Range Northern	J2EW0002	J2EW0002_F21	198	233	09-27-2021	SW6850	Perchlorate	4.2		µg/L	2.0	X	0.086	0.20
J2 Range Northern	J2EW0002	J2EW0002_F21	198	233	09-27-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.086	J	µg/L	0.60		0.062	0.20
J2 Range Northern	J2EW0002	J2EW0002_F21D	198	233	09-27-2021	SW6850	Perchlorate	4.4		µg/L	2.0	X	0.086	0.20
J2 Range Northern	J2EW0001	J2EW0001_F21	179	234	09-27-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.093	J	µg/L	0.60		0.062	0.20
J2 Range Northern	J2EW0001	J2EW0001_F21	179	234	09-27-2021	SW6850	Perchlorate	0.62		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-704M2	MW-704M2_F21	217.8	227.8	09-23-2021	SW6850	Perchlorate	1.4		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-704M1	MW-704M1_F21	244	254	09-23-2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-296M2	MW-296M2_F21	214.98	224.98	09-21-2021	SW6850	Perchlorate	0.089	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-296M1	MW-296M1_F21	255.08	265.08	09-21-2021	SW6850	Perchlorate	0.21		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21	162	172	09-20-2021	SW6850	Perchlorate	0.42		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21	162	172	09-20-2021	SW8330	4-Amino-2,6-dinitrotoluene	1.3		µg/L	7.3		0.027	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21	162	172	09-20-2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.3		µg/L	400		0.036	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21	162	172	09-20-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.0		µg/L	0.60	X	0.034	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21D	162	172	09-20-2021	SW8330	1,3,5-Trinitrobenzene	0.028	J	µg/L	1090		0.023	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21D	162	172	09-20-2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.3		µg/L	400		0.036	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21D	162	172	09-20-2021	SW8330	4-Amino-2,6-dinitrotoluene	1.2		µg/L	7.3		0.027	0.20
J2 Range Northern	MW-289M2	MW-289M2_F21D	162	172	09-20-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	3.1		µg/L	0.60	X	0.034	0.20
J2 Range Northern	MW-289M1	MW-289M1_F21	305	315	09-20-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.55		µg/L	0.60		0.034	0.20
J2 Range Northern	MW-289M1	MW-289M1_F21	305	315	09-20-2021	SW6850	Perchlorate	0.090	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-289M1	MW-289M1_F21	305	315	09-20-2021	SW8330	4-Amino-2,6-dinitrotoluene	0.24		µg/L	7.3		0.027	0.20
J2 Range Northern	MW-289M1	MW-289M1_F21	305	315	09-20-2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.29		µg/L	400		0.036	0.20
J2 Range Northern	MW-345M2	MW-345M2_F21	236.62	246.62	09-20-2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-330M1	MW-330M1_F21	313.1	323.1	09-17-2021	SW6850	Perchlorate	0.76		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-327M2	MW-327M2_F21	265.01	275.01	09-16-2021	SW6850	Perchlorate	0.20		µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW2-MW2-B	J2EW2-MW2-B_F21	209.79	219.79	09-15-2021	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW2-MW2-C	J2EW2-MW2-C_F21	243.83	253.81	09-15-2021	SW6850	Perchlorate	1.1		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-703M2	MW-703M2_F21	224.1	234.1	09-14-2021	SW6850	Perchlorate	1.8		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-703M2	MW-703M2_F21D	224.1	234.1	09-14-2021	SW6850	Perchlorate	1.8		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-703M1	MW-703M1_F21	248	258	09-14-2021	SW6850	Perchlorate	0.59		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-622M2	MW-622M2_F21	220.4	230.4	09-13-2021	SW6850	Perchlorate	0.22		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-586M2	MW-586M2_F21	211	221	09-09-2021	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-586M1	MW-586M1_F21	237	247	09-09-2021	SW6850	Perchlorate	1.6		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-586M1	MW-586M1_F21D	237	247	09-09-2021	SW6850	Perchlorate	1.5		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-589M2	MW-589M2_F21	211	221	09-09-2021	SW6850	Perchlorate	3.7		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-589M2	MW-589M2_F21D	211	221	09-09-2021	SW6850	Perchlorate	3.7		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-589M1	MW-589M1_F21	240	250	09-09-2021	SW6850	Perchlorate	0.18	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-293M2	MW-293M2_F21	196.42	206.42	09-08-2021	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-621M2	MW-621M2_F21	219.4	229.4	09-08-2021	SW6850	Perchlorate	2.4		µg/L	2.0	X	0.086	0.20

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

**TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received October 2021**

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	MW-621M2	MW-621M2_F21D	219.4	229.4	09-08-2021	SW6850	Perchlorate	2.5		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-588M2	MW-588M2_F21	198	208	09-08-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.24		µg/L	0.60		0.034	0.20
J2 Range Northern	MW-588M2	MW-588M2_F21	198	208	09-08-2021	SW6850	Perchlorate	1.9		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-348M2	MW-348M2_F21	206.54	216.54	09-07-2021	SW6850	Perchlorate	1.5		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-632M1	MW-632M1_F21	254.5	264.5	09-07-2021	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-640M2	MW-640M2_F21	216	226	09-07-2021	SW6850	Perchlorate	0.59		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-640M1	MW-640M1_F21	246	256	09-07-2021	SW6850	Perchlorate	0.43		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-318M1	MW-318M1_F21	305.79	315.81	09-02-2021	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW3-MW1-C	J2EW3-MW1-C_F21	245.66	255.66	09-02-2021	SW6850	Perchlorate	0.91		µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW2-MW3-B	J2EW2-MW3-B_F21	212.65	222.65	09-02-2021	SW6850	Perchlorate	0.95		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-620M1	MW-620M1_F21	268.6	278.6	09-01-2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-702M1	MW-702M1_F21	277.5	287.5	09-01-2021	SW6850	Perchlorate	0.69		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-331M2	MW-331M2_F21	195.27	205.27	09-01-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.070	J	µg/L	0.60		0.034	0.20
J2 Range Northern	MW-331M1	MW-331M1_F21	235.41	245.41	09-01-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.065	J	µg/L	0.60		0.034	0.20
J2 Range Northern	MW-313M1	MW-313M1_F21	255.42	265.42	08-24-2021	SW6850	Perchlorate	1.4		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-587M2	MW-587M2_F21	220	230	08-24-2021	SW6850	Perchlorate	14.5		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-587M2	MW-587M2_F21D	220	230	08-24-2021	SW6850	Perchlorate	14.4		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-587M1	MW-587M1_F21	250	260	08-24-2021	SW6850	Perchlorate	16.5		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-587M1	MW-587M1_F21D	250	260	08-24-2021	SW6850	Perchlorate	15.9		µg/L	2.0	X	0.086	0.20
J2 Range Northern	MW-631M2	MW-631M2_F21	200.1	210.1	08-23-2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-631M1	MW-631M1_F21	233.1	243.1	08-23-2021	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-634M3	MW-634M3_F21	170.6	180.6	08-23-2021	SW6850	Perchlorate	0.23		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-634M2	MW-634M2_F21	200.6	210.6	08-23-2021	SW6850	Perchlorate	1.4		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-634M1	MW-634M1_F21	305.6	315.6	08-23-2021	SW6850	Perchlorate	0.16	J	µg/L	2.0		0.086	0.20
J2 Range Northern	MW-585M3	MW-585M3_F21	198.5	208.5	08-19-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
J2 Range Northern	MW-585M3	MW-585M3_F21	198.5	208.5	08-19-2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.52		µg/L	400		0.036	0.20
J2 Range Northern	MW-585M3	MW-585M3_F21	198.5	208.5	08-19-2021	SW6850	Perchlorate	0.49		µg/L	2.0		0.086	0.20
J2 Range Northern	MW-585M3	MW-585M3_F21D	198.5	208.5	08-19-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
J2 Range Northern	MW-585M3	MW-585M3_F21D	198.5	208.5	08-19-2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.53		µg/L	400		0.036	0.20
J2 Range Northern	MW-585M2	MW-585M2_F21	218.5	228.5	08-19-2021	SW6850	Perchlorate	0.29		µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW1-MW1-B	J2EW1-MW1-B_F21	205.82	215.82	08-18-2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.086	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_F21	240.8	250.8	08-18-2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.086	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_F21	240.8	250.8	08-18-2021	SW6850	Perchlorate	3.5		µg/L	2.0	X	0.086	0.20
J2 Range Northern	J2EW1-MW1-C	J2EW1-MW1-C_F21D	240.8	250.8	08-18-2021	SW6850	Perchlorate	3.4		µg/L	2.0	X	0.086	0.20

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

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2019 PFAS MW&INF
 Demolition Area 1

Location	D1-INF	FPR-2-INF	MW-258M1	MW-663D	PR-INF
Field Sample ID	D1-INF_PFAS19	FPR-2-INF_PFAS19	MW-258M1_PFAS19	MW-663D_PFAS19	PR-INF_PFAS19
Sampling Depth	0.00 - 0.00	0.00 - 0.00	109.00 - 119.00	240.60 - 250.60	0.00 - 0.00
Sampling Date	06/24/2019	06/25/2019	06/19/2019	06/24/2019	06/25/2019
SDG	320517141	320517141	320515981	320517141	320517141
Sample Type	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	20.0 U	20.0 U	20.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.10 U	9.50 U	9.80 U	9.80 U	9.80 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.10 U	9.50 U	9.80 U	9.80 U	9.80 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.10 U	9.50 U	9.80 U	9.80 U	9.80 U
Perfluorobutanesulfonic acid (PFBS)	0.910 U	0.950 U	0.980 U	0.980 U	0.980 U
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.50 U	1.50 U	1.50 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.50 U	1.50 U	1.50 U
Perfluorodecanoic acid (PFDA)	0.910 U	0.950 U	0.980 U	2.20	0.980 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.50 U	1.50 U	1.50 U
Perfluoroheptanesulfonic acid (PFHpS)	0.910 U	0.950 U	0.980 U	0.980 U	0.980 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.50 U	1.50 U	1.50 U
Perfluorohexane sulfonate (PFHxS)	0.910 U	0.950 U	0.980 U	0.980 U	2.00 U
Perfluorohexanoic acid (PFHxA)	0.910 U	0.950 U	0.980 U	0.980 U	0.980 U
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.50 U	1.00 J	1.50 U
Perfluorooctanesulfonamide (PFOSA)	2.70 U	2.80 U	2.90 U	3.00 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)	2.70 U	2.80 U	2.90 U	3.00 U	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.50 U	1.50 U	1.50 U
Perfluoropentanoic acid (PFPeA)	0.910 U	0.950 U	0.980 U	0.460 J	0.980 U
Perfluorotetradecanoic acid (PFTeDA)	2.70 U	2.80 U	2.90 U	3.00 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)	2.70 U	2.80 U	2.90 U	3.00 U	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.50 U	1.20 J	1.50 U
†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	3.20	0.00
§Sum of All Compounds Collected	0.00	0.00	0.00	4.86	0.00

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 J1 Range Northern

Location	J1N-INF2	J1N-INF2	MW-136S	MW-564M1	MW-590M2
Field Sample ID	J1N-INF2_PFA19	J1N-INF2_PFA19R	MW-136S_PFA19	MW-564M1_PFA19	MW-590M2_PFA19
Sampling Depth	0.00 - 0.00	0.00 - 0.00	107.00 - 117.00	227.00 - 237.00	238.00 - 248.00
Sampling Date	06/17/2019	07/30/2019	06/24/2019	06/24/2019	06/24/2019
SDG	320514661	320528231	320517141	320517141	320517141
Sample Type	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	20.0 U	18.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.30 U	9.60 U	9.80 U	9.20 U	9.60 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.30 U	9.60 U	9.80 U	9.20 U	9.60 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.30 U	9.60 U	9.80 U	9.20 U	9.60 U
Perfluorobutanesulfonic acid (PFBS)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluorobutanoic acid (PFBA)	1.90 U	1.40 U	0.990 J	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	0.930 U	1.90 U	2.00 U	1.80 U	0.960 U
Perfluorohexanoic acid (PFHxA)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	1.80 J	2.90 U	2.90 U	2.80 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)	4.90	2.90 U	1.40 J	2.80 U	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	2.40	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.90 U	2.90 U	2.80 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)	2.80 U	2.90 U	2.90 U	2.80 U	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
†PFOS + PFOA (EPA)	4.90	0.00	3.80	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	4.90	0.00	3.80	0.00	0.00
§Sum of All Compounds Collected	6.70	0.00	4.79	0.00	0.00

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 J2 Range Eastern

Location	J2E-INF-I	J2E-INF-J	J2E-INF-K	MW-307M3	MW-307M3	MW-368M1
Field Sample ID	J2E-INF-I_PFAS19	J2E-INF-J_PFAS19	J2E-INF-K_PFAS19	MW-307M3_PFAS19	MW-307M3_PFAS19D	MW-368M1_PFAS19
Sampling Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	125.80 - 135.82	125.80 - 135.82	237.35 - 247.35
Sampling Date	06/20/2019	06/20/2019	06/20/2019	06/18/2019	06/18/2019	06/18/2019
SDG	320515981	320515981	320515981	320514662	320514662	320514662
Sample Type	Normal	Normal	Normal	Normal	Field Duplicate	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	20.0 U	18.0 U	19.0 U	17.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.70 U	9.30 U	9.80 U	9.00 U	9.60 U	8.50 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.70 U	9.30 U	9.80 U	9.00 U	9.60 U	8.50 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.70 U	9.30 U	9.80 U	9.00 U	9.60 U	8.50 U
Perfluorobutanesulfonic acid (PFBS)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluorobutanoic acid (PFBA)	1.50 U	1.40 U	1.50 U	1.80 U	1.90 U	1.70 U
Perfluorodecanesulfonic acid (PFDS)	1.50 U	1.40 U	1.50 U	1.30 U	1.40 U	1.30 U
Perfluorodecanoic acid (PFDA)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	1.40 J
Perfluorododecanoic acid (PFDoA)	1.50 U	1.40 U	1.50 U	1.30 U	1.40 U	0.450 J
Perfluoroheptanesulfonic acid (PFHpS)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluoroheptanoic acid (PFHpA)	1.50 U	1.40 U	1.50 U	1.30 U	1.40 U	1.30 U
Perfluorohexane sulfonate (PFHxS)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluorohexanoic acid (PFHxA)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluorononanoic acid (PFNA)	1.50 U	1.40 U	1.50 U	0.880 J	0.730 J	0.650 J
Perfluorooctanesulfonamide (PFOSA)	2.90 U	2.80 U	2.90 U	2.70 U	2.90 U	2.60 U
Perfluorooctanesulfonic acid (PFOS)	2.90 U	2.80 U	2.90 U	2.70 U	2.90 U	2.60 U
Perfluorooctanoic acid (PFOA)	1.50 U	1.40 U	1.50 U	1.30 U	1.40 U	1.30 U
Perfluoropentanoic acid (PFPeA)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	2.80 U	2.90 U	2.70 U	2.90 U	2.60 U
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	2.80 U	2.90 U	2.70 U	2.90 U	2.60 U
Perfluoroundecanoic acid (PFUnA)	1.50 U	1.40 U	1.50 U	1.30 U	1.40 U	4.90
†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.880	0.730	2.05
§Sum of All Compounds Collected	0.00	0.00	0.00	0.880	0.730	7.40

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	Location	MW-368M2	MW-667M1
	Field Sample ID	MW-368M2_PFAS19	MW-667M1_PFAS19
	Sampling Depth	202.73 - 212.73	302.30 - 312.30
	Sampling Date	06/18/2019	06/17/2019
	SDG	320514662	320514661
	Sample Type	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		18.0 U	18.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		8.80 U	9.00 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		8.80 U	9.00 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		8.80 U	9.00 U
Perfluorobutanesulfonic acid (PFBS)		0.880 U	0.900 U
Perfluorobutanoic acid (PFBA)		1.30 U	1.80 U
Perfluorodecanesulfonic acid (PFDS)		1.30 U	1.40 U
Perfluorodecanoic acid (PFDA)		0.800 J	4.30
Perfluorododecanoic acid (PFDoA)		1.30 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.880 U	0.900 U
Perfluoroheptanoic acid (PFHpA)		1.30 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.880 U	0.900 U
Perfluorohexanoic acid (PFHxA)		0.880 U	0.900 U
Perfluorononanoic acid (PFNA)		1.30 U	2.80
Perfluorooctanesulfonamide (PFOSA)		2.60 U	2.70 U
Perfluorooctanesulfonic acid (PFOS)		2.60 U	2.70 U
Perfluorooctanoic acid (PFOA)		1.30 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.880 U	0.900 U
Perfluorotetradecanoic acid (PFTeDA)		2.60 U	2.70 U
Perfluorotridecanoic acid (PFTrDA)		2.60 U	2.70 U
Perfluoroundecanoic acid (PFUnA)		2.40	1.60 J
	†PFOS + PFOA (EPA)	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.800	7.10
	§Sum of All Compounds Collected	3.20	8.70

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 J2 Range Northern

Location	J2EW0001	J2EW0002	J2N-INF-E	J2N-INF-F	J2N-INF-F	J2N-INF-G
Field Sample ID	J2EW0001_PFAS19	J2EW0002_PFAS19	J2N-INF-E_PFAS19	J2N-INF-F_PFAS19	J2N-INF-F_PFAS19R	J2N-INF-G_PFAS19
Sampling Depth	179.00 - 234.00	198.00 - 233.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sampling Date	11/20/2019	11/20/2019	06/18/2019	06/18/2019	07/30/2019	07/30/2019
SDG	320565491	320565491	320514662	320514662	320528231	320528231
Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	40.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	19.0 U	20.0 U	9.30 U	9.30 U	9.60 U	9.70 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.60 U	10.0 U	9.30 U	9.30 U	9.60 U	9.70 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.60 U	10.0 U	9.30 U	9.30 U	9.60 U	9.70 U
Perfluorobutanesulfonic acid (PFBS)	0.960 U	1.00 U	0.930 U	0.930 U	0.960 U	1.40 J
Perfluorobutanoic acid (PFBA)	1.40 U	1.50 U	1.40 U	1.90 U	1.40 U	1.50 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorodecanoic acid (PFDA)	0.960 U	1.00 U	0.930 U	0.930 U	0.960 U	0.970 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluoroheptanesulfonic acid (PFHpS)	0.960 U	0.370 J	0.930 U	0.400 J	0.500 J	0.970 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.00 J	1.40 U	0.940 J	1.00 J	1.50 U
Perfluorohexane sulfonate (PFHxS)	0.960 U	11.0	0.930 U	9.90	9.00	1.90 U
Perfluorohexanoic acid (PFHxA)	0.960 U	1.30 J	0.930 U	1.20 J	1.30 J	2.30
Perfluorononanoic acid (PFNA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorooctanesulfonamide (PFOSA)	2.90 U	3.00 U	2.80 U	2.80 U	2.90 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)	2.90 U	1.30 J	2.80 U	2.80 U	1.10 J	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.50 J	1.40 U	1.70 J	1.50 J	1.50 U
Perfluoropentanoic acid (PFPeA)	0.960 U	0.910 J	0.930 U	0.840 J	1.00 J	1.20 J
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	3.00 U	2.80 U	2.80 U	2.90 U	2.90 U
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	3.00 U	2.80 U	2.80 U	2.90 U	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U
†PFOS + PFOA (EPA)	0.00	2.80	0.00	1.70	2.60	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	14.8	0.00	12.5	12.6	0.00
§Sum of All Compounds Collected	0.00	17.4	0.00	15.0	15.4	4.90

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 J2 Range Northern

	Location	MW-234M2	MW-313M1	MW-587M2
	Field Sample ID	MW-234M2_PFAS19	MW-313M1_PFAS19	MW-587M2_PFAS19
	Sampling Depth	110.00 - 120.00	255.40 - 265.40	220.00 - 230.00
	Sampling Date	06/17/2019	06/19/2019	06/19/2019
	SDG	320514661	320515981	320515981
	Sample Type	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		18.0 U	20.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		8.80 U	9.80 U	9.70 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		8.80 U	9.80 U	9.70 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		8.80 U	9.80 U	9.70 U
Perfluorobutanesulfonic acid (PFBS)		0.880 U	0.980 U	0.970 U
Perfluorobutanoic acid (PFBA)		1.80 U	0.700 J	1.50 U
Perfluorodecanesulfonic acid (PFDS)		1.30 U	1.50 U	1.50 U
Perfluorodecanoic acid (PFDA)		0.880 U	1.20 J	0.970 U
Perfluorododecanoic acid (PFDoA)		1.30 U	1.50 U	1.50 U
Perfluoroheptanesulfonic acid (PFHpS)		0.880 U	0.980 U	0.970 U
Perfluoroheptanoic acid (PFHpA)		1.30 U	1.50 U	1.50 U
Perfluorohexane sulfonate (PFHxS)		0.600 J	0.980 U	0.970 U
Perfluorohexanoic acid (PFHxA)		0.880 U	0.980 U	0.970 U
Perfluorononanoic acid (PFNA)		1.30 U	1.10 J	1.50 U
Perfluorooctanesulfonamide (PFOSA)		2.60 U	2.90 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)		1.90 J	2.90 U	2.90 U
Perfluorooctanoic acid (PFOA)		0.550 J	1.50 U	1.50 U
Perfluoropentanoic acid (PFPeA)		0.880 U	0.680 J	0.970 U
Perfluorotetradecanoic acid (PFTeDA)		2.60 U	2.90 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)		2.60 U	2.90 U	2.90 U
Perfluoroundecanoic acid (PFUnA)		1.30 U	1.40 J	1.50 U
	†PFOS + PFOA (EPA)	2.45	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	3.05	2.30	0.00
	§Sum of All Compounds Collected	3.05	5.08	0.00

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 J3 Range

Location	J3-INF	J3-INF	MW-163S	MW-163S	MW-163S	MW-227M2
Field Sample ID	J3-INF_PFAS19	J3-INF_PFAS19D	MW-163S_PFAS19	MW-163S_PFAS19D	MW-163S_PFAS19R	MW-227M2_PFAS19
Sampling Depth	0.00 - 0.00	0.00 - 0.00	38.00 - 48.00	38.00 - 48.00	38.00 - 48.00	110.00 - 120.00
Sampling Date	06/17/2019	06/17/2019	06/18/2019	06/18/2019	07/30/2019	06/19/2019
SDG	320514661	320514661	320514662	320514662	320528231	320515981
Sample Type	Normal	Field Duplicate	Normal	Field Duplicate	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	18.0 U	17.0 U	17.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.40 U	9.20 U	8.60 U	8.60 U	9.30 U	9.60 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.40 U	9.20 U	8.60 U	8.60 U	9.30 U	9.60 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.40 U	9.20 U	8.60 U	8.60 U	9.30 U	9.60 U
Perfluorobutanesulfonic acid (PFBS)	0.940 U	0.920 U	0.860 U	0.860 U	0.930 U	0.960 U
Perfluorobutanoic acid (PFBA)	1.90 U	1.80 U	1.70 U	1.70 U	0.560 J	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.940 U	0.920 U	0.860 U	0.860 U	0.930 U	0.960 U
Perfluorododecanoic acid (PFDoA)	1.70 J	1.40 U	1.30 U	1.30 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.940 U	0.920 U	0.860 U	0.860 U	0.930 U	0.960 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	1.50 J	1.50 J	0.690 J	0.610 J	1.90 U	0.540 J
Perfluorohexanoic acid (PFHxA)	0.940 U	0.920 U	0.410 J	0.860 U	0.930 U	0.960 U
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.60 U	2.60 U	2.80 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.80 U	12.0	12.0	12.0	2.90 U
Perfluorooctanoic acid (PFOA)	0.520 J	1.40 U	1.70	1.60 J	1.30 J	1.40 U
Perfluoropentanoic acid (PFPeA)	0.940 U	0.920 U	0.860 U	0.860 U	0.930 U	0.960 U
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.60 U	2.60 U	2.80 U	2.90 U
Perfluorotridecanoic acid (PFTTrDA)	1.40 J	2.80 U	2.60 U	2.60 U	2.80 U	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U	1.40 U
†PFOS + PFOA (EPA)	0.520	0.00	13.7	13.6	13.3	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	2.02	1.50	14.4	14.2	13.3	0.540
§Sum of All Compounds Collected	5.12	1.50	14.8	14.2	13.9	0.540

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2019 PFAS MW&INF
 J3 Range

Location	MW-250M2
Field Sample ID	MW-250M2_PFAS19
Sampling Depth	145.00 - 155.00
Sampling Date	06/20/2019
SDG	320515981
Sample Type	Normal
PFAS 21 Cmps	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.70 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.70 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.70 U
Perfluorobutanesulfonic acid (PFBS)	0.970 U
Perfluorobutanoic acid (PFBA)	0.710 J
Perfluorodecanesulfonic acid (PFDS)	1.40 U
Perfluorodecanoic acid (PFDA)	0.970 U
Perfluorododecanoic acid (PFDoA)	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.970 U
Perfluoroheptanoic acid (PFHpA)	1.40 U
Perfluorohexane sulfonate (PFHxS)	0.970 U
Perfluorohexanoic acid (PFHxA)	0.970 U
Perfluorononanoic acid (PFNA)	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.90 U
Perfluorooctanesulfonic acid (PFOS)	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U
Perfluoropentanoic acid (PFPeA)	0.970 U
Perfluorotetradecanoic acid (PFTeDA)	2.90 U
Perfluorotridecanoic acid (PFTrDA)	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U
†PFOS + PFOA (EPA)	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00
§Sum of All Compounds Collected	0.710

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2020 J1 Ranges SPM Fall
 J1 Range Northern

	Location	MW-136M1	MW-136M1	MW-191M2	MW-245M1	MW-245M2	MW-303M2
	Field Sample ID	MW-136M1_F20	MW-136M1_F20D	MW-191M2_F20	MW-245M1_F20	MW-245M2_F20	MW-303M2_F20
	Sampling Depth	124.00 - 134.00	124.00 - 134.00	120.00 - 130.00	244.00 - 254.00	204.00 - 214.00	235.09 - 245.10
	Sampling Date	12/07/2020	12/07/2020	12/07/2020	12/07/2020	11/10/2020	12/08/2020
	SDG	320677691	320677691	320677691	320677691	320665921	320677701
	Sample Type	Normal	Field Duplicate	Normal	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		19.0 U	18.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.60 U	9.20 U	9.70 U	9.30 U	9.30 U	9.50 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.60 U	9.20 U	15.0 J	9.30 U	9.30 U	9.50 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.60 U	9.20 U	2.90 J	9.30 U	9.30 U	9.50 U
Perfluorobutanesulfonic acid (PFBS)		0.960 U	0.920 U	0.970 U	0.930 U	0.930 U	0.950 U
Perfluorobutanoic acid (PFBA)		0.920 J	0.670 J	1.50 U	1.40 U	4.00	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)		0.960 U	0.920 U	0.970 U	0.930 U	0.930 U	0.700 J
Perfluorododecanoic acid (PFDoA)		1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	1.70 J
Perfluoroheptanesulfonic acid (PFHpS)		0.960 U	0.920 U	0.970 U	0.930 U	0.930 U	0.950 U
Perfluoroheptanoic acid (PFHpA)		1.40 U	1.40 U	1.50 U	1.40 U	0.700 J	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.360 J	0.920 U	0.970 U	0.930 U	0.930 U	0.950 U
Perfluorohexanoic acid (PFHxA)		0.960 U	0.920 U	0.970 U	0.930 U	0.850 J	0.950 U
Perfluorononanoic acid (PFNA)		1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)		2.90 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)		2.90 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U
Perfluorooctanoic acid (PFOA)		1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.960 U	0.920 U	0.970 U	0.930 U	4.00	0.410 J
Perfluorotetradecanoic acid (PFTeDA)		2.90 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U
Perfluorotridecanoic acid (PFTTrDA)		2.90 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U
Perfluoroundecanoic acid (PFUnA)		1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	2.80
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.360	0.00	0.00	0.00	0.700	0.700
	§Sum of All Compounds Collected	1.28	0.670	17.9	0.00	9.55	5.61

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2020 J1 Ranges SPM Fall
 J1 Range Northern

	Location	MW-303M3	MW-326M1	MW-326M2	MW-326M3	MW-346M1	MW-346M2
	Field Sample ID	MW-303M3_F20	MW-326M1_F20	MW-326M2_F20	MW-326M3_F20	MW-346M1_F20	MW-346M2_F20
	Sampling Depth	139.74 - 149.69	250.01 - 260.01	196.27 - 206.28	165.24 - 175.26	0.00 - 0.00	0.00 - 0.00
	Sampling Date	12/08/2020	12/09/2020	12/09/2020	12/09/2020	12/02/2020	12/02/2020
	SDG	320677701	320678771	320678771	320678771	320675551	320675551
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	20.0 U	20.0 U	19.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	8.90 U	10.0 U	10.0 U	9.50 U	9.70 U	9.30 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	8.90 U	10.0 U	10.0 U	9.50 U	9.70 U	9.30 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	8.90 U	10.0 U	10.0 U	9.50 U	9.70 U	9.30 U	
Perfluorobutanesulfonic acid (PFBS)	0.890 U	1.00 U	1.00 U	0.950 U	0.970 U	0.930 U	
Perfluorobutanoic acid (PFBA)	0.920 J	1.50 U	1.50 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.30 U	1.50 U	1.50 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	1.60 J	0.950 J	5.40	3.50	2.50	2.40	
Perfluorododecanoic acid (PFDoA)	1.30 U	1.50 U	1.20 J	0.600 J	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.890 U	1.00 U	1.00 U	0.950 U	0.970 U	0.930 U	
Perfluoroheptanoic acid (PFHpA)	1.30 U	1.50 U	1.50 U	1.40 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.890 U	1.00 U	1.00 U	0.950 U	0.970 U	0.930 U	
Perfluorohexanoic acid (PFHxA)	0.890 U	1.00 U	1.00 U	0.950 U	0.970 U	0.930 U	
Perfluorononanoic acid (PFNA)	2.60	1.50 J	1.40 J	2.70	3.40	3.50	
Perfluorooctanesulfonamide (PFOSA)	2.70 U	3.00 U	3.00 U	2.90 U	2.90 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.70 U	3.00 U	3.00 U	2.90 U	2.90 U	2.80 U	
Perfluorooctanoic acid (PFOA)	1.30 U	1.50 U	1.50 U	1.40 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	0.890 U	0.440 J	1.00 U	0.950 U	0.620 J	0.870 J	
Perfluorotetradecanoic acid (PFTeDA)	2.70 U	3.00 U	3.00 U	2.90 U	2.90 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	2.70 U	3.00 U	3.00 U	2.90 U	2.90 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.30 U	1.00 J	13.0	6.90	5.90	2.50	
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	4.20	2.45	6.80	6.20	5.90	5.90
	§Sum of All Compounds Collected	5.12	3.89	21.0	13.7	12.4	9.27

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2020 J1 Ranges SPM Fall
 J1 Range Northern

	Location	MW-346M3	MW-346M4	MW-58S
	Field Sample ID	MW-346M3_F20	MW-346M4_F20	MW-58S_F20
	Sampling Depth	0.00 - 0.00	0.00 - 0.00	100.00 - 110.00
	Sampling Date	12/02/2020	12/02/2020	12/07/2020
	SDG	320675551	320675551	320677691
	Sample Type	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		20.0 U	18.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.80 U	9.20 U	9.30 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.80 U	9.20 U	9.30 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.80 U	9.20 U	9.30 U
Perfluorobutanesulfonic acid (PFBS)		0.980 U	0.920 U	0.930 U
Perfluorobutanoic acid (PFBA)		1.50 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.50 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)		0.730 J	1.70 J	0.930 U
Perfluorododecanoic acid (PFDoA)		1.50 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.980 U	0.920 U	0.930 U
Perfluoroheptanoic acid (PFHpA)		1.50 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.980 U	0.920 U	0.930 U
Perfluorohexanoic acid (PFHxA)		0.980 U	0.920 U	0.930 U
Perfluorononanoic acid (PFNA)		2.20	0.650 J	1.40 U
Perfluorooctanesulfonamide (PFOSA)		2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)		2.90 U	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)		1.50 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.750 J	0.410 J	0.930 U
Perfluorotetradecanoic acid (PFTeDA)		2.90 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)		2.90 U	2.80 U	2.80 U
Perfluoroundecanoic acid (PFUnA)		1.00 J	6.00	1.40 U
	†PFOS + PFOA (EPA)	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	2.93	2.35	0.00
	§Sum of All Compounds Collected	4.68	8.76	0.00

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2020 J2 Ranges SPM Fall
 J2 Range Northern

Location	J2EW0002	J2EW0002	J2EW2-MW2-B	J2EW2-MW2-C	MW-293M2	MW-293M2
Field Sample ID	J2EW0002_F20	J2EW0002_F20D	J2EW2-MW2-B_F20	J2EW2-MW2-C_F20	MW-293M2_F20	MW-293M2_F20D
Sampling Depth	198.00 - 233.00	198.00 - 233.00	209.79 - 219.79	243.83 - 253.81	196.42 - 206.42	196.42 - 206.42
Sampling Date	09/10/2020	09/10/2020	09/09/2020	09/09/2020	08/27/2020	08/27/2020
SDG	320645641	320645641	320645661	320645661	320641331	320641331
Sample Type	Normal	Field Duplicate	Normal	Normal	Normal	Field Duplicate
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	20.0 U	19.0 U	19.0 U	19.0 U	18.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.90 U	9.50 U	9.40 U	9.70 U	9.20 U	9.50 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.90 U	9.50 U	9.40 U	9.70 U	9.20 U	9.50 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.90 U	9.50 U	9.40 U	9.70 U	9.20 U	9.50 U
Perfluorobutanesulfonic acid (PFBS)	0.990 U	0.950 U	0.940 U	0.970 U	3.40	3.60
Perfluorobutanoic acid (PFBA)	1.50 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.50 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.990 U	0.950 U	0.940 U	0.970 U	4.90	4.50
Perfluorododecanoic acid (PFDoA)	1.50 U	1.40 U	1.40 U	1.50 U	3.50	3.60
Perfluoroheptanesulfonic acid (PFHpS)	0.990 U	0.950 U	0.940 U	0.970 U	0.920 U	0.950 U
Perfluoroheptanoic acid (PFHpA)	0.930 J	0.910 J	1.40 U	1.50 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	9.80	9.30	0.940 U	0.970 U	0.920 U	0.950 U
Perfluorohexanoic acid (PFHxA)	1.10 J	1.10 J	0.940 U	0.970 U	0.920 U	0.950 U
Perfluorononanoic acid (PFNA)	1.50 U	1.40 U	1.40 U	1.50 U	2.00	1.50 J
Perfluorooctanesulfonamide (PFOSA)	3.00 U	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)	3.00 U	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.70 J	1.70 J	1.40 U	1.50 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)	1.10 J	1.20 J	0.940 U	0.970 U	0.460 J	0.410 J
Perfluorotetradecanoic acid (PFTeDA)	3.00 U	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	3.00 U	2.80 U	2.80 U	2.90 U	1.50 J	1.90 J
Perfluoroundecanoic acid (PFUnA)	1.50 U	1.40 U	1.40 U	1.50 U	25.0	28.0
†PFOS + PFOA (EPA)	1.70	1.70	0.00	0.00	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	12.4	11.9	0.00	0.00	6.90	6.00
§Sum of All Compounds Collected	14.6	14.2	0.00	0.00	40.8	43.5

PFAS Summary Report – Groundwater
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 KGS 2020 J2 Ranges SPM Fall
 J2 Range Northern

	Location	MW-300M1	MW-300M2	MW-300M3	MW-302M2	MW-305M1	MW-348M2
	Field Sample ID	MW-300M1_F20	MW-300M2_F20	MW-300M3_F20	MW-302M2_F20	MW-305M1_F20	MW-348M2_F20
	Sampling Depth	293.03 - 303.02	197.23 - 207.23	135.31 - 145.31	194.35 - 204.43	202.82 - 212.82	206.54 - 216.54
	Sampling Date	09/08/2020	09/08/2020	09/08/2020	08/27/2020	08/31/2020	08/31/2020
	SDG	320644781	320644781	320644781	320641331	320642421	320642421
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	18.0 U	19.0 U	18.0 U	18.0 U	20.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.50 U	9.00 U	9.40 U	9.20 U	9.10 U	9.80 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.50 U	9.00 U	9.40 U	9.20 U	9.10 U	9.80 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.50 U	9.00 U	9.40 U	9.20 U	9.10 U	9.80 U	
Perfluorobutanesulfonic acid (PFBS)	0.950 U	0.900 U	0.940 U	0.920 U	0.910 U	0.980 U	
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	0.550 J	1.40 U	1.40 U	1.00 J	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorodecanoic acid (PFDA)	3.10	3.60	1.50 J	2.80	2.40	2.50	
Perfluorododecanoic acid (PFDoA)	0.800 J	1.10 J	0.610 J	1.70 J	1.40 U	2.20	
Perfluoroheptanesulfonic acid (PFHpS)	0.950 U	0.900 U	0.940 U	0.920 U	0.910 U	0.980 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorohexane sulfonate (PFHxS)	1.90 U	0.900 U	0.940 U	0.920 U	0.910 U	0.980 U	
Perfluorohexanoic acid (PFHxA)	0.950 U	0.900 U	0.940 U	0.920 U	0.910 U	0.980 U	
Perfluorononanoic acid (PFNA)	3.90	2.30	0.960 J	1.00 J	1.40 J	1.50 U	
Perfluorooctanesulfonamide (PFOSA)	2.90 U	2.70 U	2.80 U	2.80 U	2.70 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	2.90 U	2.70 U	2.80 U	2.80 U	2.70 U	2.90 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluoropentanoic acid (PFPeA)	0.580 J	0.430 J	0.940 U	1.40 J	0.910 U	1.20 J	
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	2.70 U	2.80 U	2.80 U	2.70 U	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	0.880 J	2.80 U	2.80 U	2.70 U	2.90 U	
Perfluoroundecanoic acid (PFUnA)	8.50	9.20	4.80	22.0	1.40 J	8.10	
	+PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	#PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	7.00	5.90	2.46	3.80	3.80	2.50
	§Sum of All Compounds Collected	16.9	17.5	8.42	28.9	5.20	15.0

PFAS Summary Report – Groundwater
Joint Base Cape Cod, IAGWSP
 KGS 2020 J2 Ranges SPM Fall
 J2 Range Northern

	Location	MW-586M1	MW-586M2	MW-587M1	MW-588M1	MW-588M2	MW-589M1
	Field Sample ID	MW-586M1_F20	MW-586M2_F20	MW-587M1_F20	MW-588M1_F20	MW-588M2_F20	MW-589M1_F20
	Sampling Depth	237.00 - 247.00	211.00 - 221.00	250.00 - 260.00	238.00 - 248.00	198.00 - 208.00	240.00 - 250.00
	Sampling Date	09/02/2020	09/02/2020	09/10/2020	08/27/2020	08/27/2020	09/02/2020
	SDG	320643521	320643521	320645641	320641331	320641331	320643521
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	19.0 U	19.0 U	18.0 U	18.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.60 U	9.40 U	9.30 U	9.20 U	9.00 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.60 U	9.40 U	9.30 U	9.20 U	9.00 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.60 U	9.40 U	9.30 U	9.20 U	9.00 U	
Perfluorobutanesulfonic acid (PFBS)	0.920 U	0.960 U	0.940 U	0.930 U	3.60	0.900 U	
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.920 U	0.960 U	0.940 U	0.930 U	0.920 U	0.900 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.960 U	0.940 U	0.930 U	0.920 U	0.900 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.920 U	0.960 U	0.940 U	0.930 U	0.920 U	0.900 U	
Perfluorohexanoic acid (PFHxA)	0.920 U	0.960 U	0.940 U	0.930 U	0.920 U	0.900 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.70 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.70 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	0.600 J	
Perfluoropentanoic acid (PFPeA)	0.490 J	0.490 J	0.940 U	0.420 J	0.920 U	0.600 J	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.70 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.70 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.600
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.00	0.00	0.600
	§Sum of All Compounds Collected	0.490	0.490	0.00	0.420	3.60	1.20

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	Location	MW-589M2	MW-621M1	MW-621M2	MW-622M1	MW-622M2	MW-631M1
	Field Sample ID	MW-589M2_F20	MW-621M1_F20	MW-621M2_F20	MW-622M1_F20	MW-622M2_F20	MW-631M1_F20
	Sampling Depth	211.00 - 221.00	249.40 - 259.40	219.40 - 229.40	245.40 - 255.40	220.40 - 230.40	233.10 - 243.10
	Sampling Date	09/02/2020	08/26/2020	08/26/2020	09/01/2020	09/01/2020	08/26/2020
	SDG	320643521	320641331	320641331	320642411	320642411	320641331
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.40 U	9.60 U	9.40 U	9.30 U	9.40 U	9.60 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.40 U	9.60 U	9.40 U	9.30 U	9.40 U	9.60 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.40 U	9.60 U	9.40 U	9.30 U	9.40 U	9.60 U	
Perfluorobutanesulfonic acid (PFBS)	0.940 U	0.960 U	0.940 U	0.930 U	0.940 U	0.960 U	
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.940 U	0.960 U	0.940 U	0.930 U	0.940 U	0.960 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.940 U	0.960 U	0.940 U	0.930 U	0.940 U	0.960 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.940 U	0.960 U	0.940 U	0.930 U	0.940 U	0.960 U	
Perfluorohexanoic acid (PFHxA)	0.940 U	0.960 U	0.940 U	0.930 U	0.940 U	0.960 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.90 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	0.940 U	0.440 J	0.940 U	0.400 J	0.940 U	0.420 J	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.90 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.00	0.00	0.00
	§Sum of All Compounds Collected	0.00	0.440	0.00	0.400	0.00	0.420

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	Location	MW-631M2	MW-632M1	MW-632M2	MW-632M2	MW-640M1	MW-640M2
	Field Sample ID	MW-631M2_F20	MW-632M1_F20	MW-632M2_F20	MW-632M2_F20D	MW-640M1_F20	MW-640M2_F20
	Sampling Depth	200.10 - 210.10	254.50 - 264.50	229.50 - 239.50	229.50 - 239.50	246.00 - 256.00	216.00 - 226.00
	Sampling Date	08/26/2020	09/03/2020	09/03/2020	09/03/2020	09/03/2020	09/03/2020
	SDG	320641331	320643511	320643511	320643511	320643511	320643511
	Sample Type	Normal	Normal	Normal	Field Duplicate	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	18.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.40 U	9.00 U	9.60 U	9.40 U	9.30 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.40 U	9.00 U	9.60 U	9.40 U	9.30 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.40 U	9.00 U	9.60 U	9.40 U	9.30 U	
Perfluorobutanesulfonic acid (PFBS)	8.50	0.940 U	0.900 U	0.960 U	0.940 U	0.930 U	
Perfluorobutanoic acid (PFBA)	1.70 J	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.920 U	0.940 U	0.900 U	0.960 U	0.940 U	0.930 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.940 U	0.900 U	0.960 U	0.940 U	0.930 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	1.80 U	0.940 U	0.900 U	0.960 U	0.360 J	0.930 U	
Perfluorohexanoic acid (PFHxA)	5.40	0.940 U	0.900 U	0.960 U	0.940 U	0.930 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.70 U	2.90 U	2.80 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.80 U	2.70 U	2.90 U	2.80 U	2.80 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	1.90	0.450 J	0.900 U	0.960 U	0.630 J	0.930 U	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.70 U	2.90 U	2.80 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.80 U	2.70 U	2.90 U	2.80 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.00	0.360	0.00
	§Sum of All Compounds Collected	17.5	0.450	0.00	0.00	0.990	0.00

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	Location	MW-703M1	MW-703M2	MW-704M1	MW-704M2
	Field Sample ID	MW-703M1_F20	MW-703M2_F20	MW-704M1_F20	MW-704M2_F20
	Sampling Depth	248.00 - 258.00	224.10 - 234.10	244.00 - 254.00	217.80 - 227.80
	Sampling Date	08/31/2020	08/31/2020	09/01/2020	09/01/2020
	SDG	320642421	320642421	320642411	320642411
	Sample Type	Normal	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		18.0 U	18.0 U	19.0 U	18.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.10 U	9.20 U	9.70 U	9.20 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.10 U	9.20 U	9.70 U	9.20 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.10 U	9.20 U	9.70 U	9.20 U
Perfluorobutanesulfonic acid (PFBS)		0.910 U	0.920 U	0.970 U	0.920 U
Perfluorobutanoic acid (PFBA)		1.40 U	1.40 U	1.40 J	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.40 U	1.40 U	1.50 U	1.40 U
Perfluorodecanoic acid (PFDA)		3.20	1.60 J	1.50 J	1.90
Perfluorododecanoic acid (PFDoA)		1.40 U	1.40 U	1.50 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.910 U	0.920 U	0.970 U	0.920 U
Perfluoroheptanoic acid (PFHpA)		1.40 U	1.40 U	1.50 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.910 U	0.920 U	0.970 U	0.920 U
Perfluorohexanoic acid (PFHxA)		0.910 U	0.920 U	0.970 U	0.920 U
Perfluorononanoic acid (PFNA)		1.80	0.900 J	1.50 U	0.890 J
Perfluorooctanesulfonamide (PFOSA)		1.30 J	2.20 J	2.90 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)		2.70 U	2.70 U	2.90 U	2.80 U
Perfluorooctanoic acid (PFOA)		1.40 U	1.40 U	1.50 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.650 J	0.830 J	1.10 J	0.400 J
Perfluorotetradecanoic acid (PFTeDA)		2.70 U	2.70 U	2.90 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)		2.70 U	2.70 U	2.90 U	2.80 U
Perfluoroundecanoic acid (PFUnA)		0.650 J	1.40 U	1.00 J	1.40 U
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	5.00	2.50	1.50	2.79
	§Sum of All Compounds Collected	7.60	5.53	5.00	3.19

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	Location	MW-143M2	MW-143M3	MW-163S	MW-163S	MW-181S	MW-193M1
	Field Sample ID	MW-143M2_F20	MW-143M3_F20	MW-163S_F20	MW-163S_F20D	MW-181S_F20	MW-193M1_F20
	Sampling Depth	117.00 - 122.00	107.00 - 112.00	38.00 - 48.00	38.00 - 48.00	32.25 - 42.25	57.50 - 62.50
	Sampling Date	07/20/2020	07/21/2020	07/16/2020	07/16/2020	07/21/2020	07/16/2020
	SDG	320629171	320629171	320627321	320627321	320629171	320627321
	Sample Type	Normal	Normal	Normal	Field Duplicate	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	19.0 U	20.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.40 U	9.50 U	9.70 U	9.80 U	9.40 U	9.60 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.40 U	9.50 U	9.70 U	9.80 U	9.40 U	9.60 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.40 U	9.50 U	9.70 U	9.80 U	9.40 U	9.60 U	
Perfluorobutanesulfonic acid (PFBS)	1.20 J	0.620 J	0.970 U	0.980 U	0.940 U	0.960 U	
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.00 J	1.00 J	1.40 U	0.570 J	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.940 U	0.950 U	0.970 U	0.980 U	0.940 U	0.960 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.940 U	0.950 U	0.970 U	0.980 U	0.940 U	0.960 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	26.0	4.20	1.90 U	2.00 U	1.90 U	1.90 U	
Perfluorohexanoic acid (PFHxA)	0.940 U	0.950 U	0.970 U	0.980 U	0.940 U	0.960 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.90 U	2.90 U	2.80 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.80 U	4.90	5.00	16.0	2.90 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	0.840 J	0.940 J	0.510 J	1.40 U	
Perfluoropentanoic acid (PFPeA)	0.940 U	0.950 U	0.970 U	0.460 J	0.940 U	0.490 J	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.90 U	2.90 U	2.80 U	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.80 U	2.90 U	2.90 U	2.80 U	2.90 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	0.00	5.74	5.94	16.5	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	26.0	4.20	5.74	5.94	16.5	0.00
	§Sum of All Compounds Collected	27.2	4.82	6.74	7.40	16.5	1.06

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	Location	MW-193S	MW-196M1	MW-196S	MW-197M1	MW-197M2	MW-197M3
	Field Sample ID	MW-193S_F20	MW-196M1_F20	MW-196S_F20	MW-197M1_F20	MW-197M2_F20	MW-197M3_F20D
	Sampling Depth	32.50 - 37.50	45.00 - 50.00	32.00 - 37.00	120.00 - 125.00	80.20 - 85.20	60.20 - 65.20
	Sampling Date	07/16/2020	07/23/2020	07/23/2020	07/20/2020	07/20/2020	07/20/2020
	SDG	320627321	320630121	320630121	320629171	320629171	320629171
	Sample Type	Normal	Normal	Normal	Normal	Normal	Field Duplicate
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	18.0 U	18.0 U	19.0 U	19.0 U	18.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.20 U	9.00 U	9.40 U	9.30 U	9.20 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.20 U	9.00 U	9.40 U	9.30 U	9.20 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.20 U	9.00 U	9.40 U	9.30 U	9.20 U	
Perfluorobutanesulfonic acid (PFBS)	2.20	0.920 U	0.900 U	0.940 U	1.80 J	0.920 U	
Perfluorobutanoic acid (PFBA)	1.20 J	1.80 U	1.80 U	1.40 U	4.90	1.40 J	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.920 U	0.550 J	0.900 U	0.940 U	0.930 U	0.920 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.920 U	0.900 U	0.940 U	0.930 U	0.920 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.30 U	1.40 U	4.00	1.40 U	
Perfluorohexane sulfonate (PFHxS)	19.0	1.00 J	0.900 U	1.90 U	37.0	1.80 U	
Perfluorohexanoic acid (PFHxA)	0.830 J	0.950 J	0.510 J	0.940 U	8.40	0.450 J	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 U	1.10 J	3.80	2.80 U	10.0	2.80 U	
Perfluorooctanoic acid (PFOA)	1.40 U	2.10	1.10 J	0.550 J	3.10	1.10 J	
Perfluoropentanoic acid (PFPeA)	1.30 J	0.660 J	0.440 J	0.400 J	6.50	0.440 J	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	2.80 U	
Perfluorotridecanoic acid (PFTrDA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	3.20	4.90	0.550	13.1	1.10
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	19.0	4.75	4.90	0.550	54.1	1.10
	§Sum of All Compounds Collected	24.5	6.36	5.85	0.950	75.7	3.39

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	Location	MW-197M3	MW-198M1	MW-198M2	MW-198M3	MW-198M4	MW-232M1
	Field Sample ID	MW-197M3_F20	MW-198M1_F20	MW-198M2_F20	MW-198M3_F20	MW-198M4_F20	MW-232M1_F20
	Sampling Depth	60.20 - 65.20	150.00 - 155.00	120.00 - 125.00	100.00 - 105.00	70.00 - 75.00	77.50 - 82.50
	Sampling Date	07/20/2020	07/15/2020	07/15/2020	07/15/2020	07/15/2020	07/16/2020
	SDG	320629171	320627321	320627321	320627321	320627321	320627321
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U	9.50 U
Perfluorobutanesulfonic acid (PFBS)	0.920 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U
Perfluorobutanoic acid (PFBA)	1.50 J	1.40 U	0.740 J	0.740 J	6.50	2.20	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.920 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U	0.950 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.80 J	1.40 U	
Perfluorohexane sulfonate (PFHxS)	1.80 U	0.950 U	0.950 U	1.90 U	4.40	0.950 U	
Perfluorohexanoic acid (PFHxA)	0.920 U	0.950 U	0.950 U	0.950 U	3.70	0.950 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	1.00 J	2.80 U	2.90 U	2.80 U	2.30 J	2.90 U	
Perfluorooctanoic acid (PFOA)	0.990 J	1.40 U	1.40 U	1.40 U	2.30	0.640 J	
Perfluoropentanoic acid (PFPeA)	0.430 J	0.460 J	0.950 U	0.950 U	2.80	0.420 J	
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
	‡PFOS + PFOA (EPA)	1.99	0.00	0.00	0.00	4.60	0.640
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	1.99	0.00	0.00	0.00	10.8	0.640
	§Sum of All Compounds Collected	3.92	0.460	0.740	0.740	23.8	3.26

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 KGS 2020 J3 Range SPM Fall
 J3 Range

	Location	MW-232M2	MW-30
	Field Sample ID	MW-232M2_F20	MW-30_F20
	Sampling Depth	61.00 - 66.00	26.00 - 36.00
	Sampling Date	07/16/2020	07/21/2020
	SDG	320627321	320629171
	Sample Type	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		20.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		10.0 U	9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		10.0 U	9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		10.0 U	9.40 U
Perfluorobutanesulfonic acid (PFBS)		1.00 U	0.940 U
Perfluorobutanoic acid (PFBA)		3.20	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.50 U	1.40 U
Perfluorodecanoic acid (PFDA)		1.00 U	0.940 U
Perfluorododecanoic acid (PFDoA)		1.50 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		1.00 U	0.940 U
Perfluoroheptanoic acid (PFHpA)		1.50 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		1.00 U	0.940 U
Perfluorohexanoic acid (PFHxA)		1.00 U	0.940 U
Perfluorononanoic acid (PFNA)		1.50 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)		3.00 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)		3.00 U	15.0
Perfluorooctanoic acid (PFOA)		1.10 J	0.790 J
Perfluoropentanoic acid (PFPeA)		0.520 J	0.940 U
Perfluorotetradecanoic acid (PFTeDA)		3.00 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)		3.00 U	2.80 U
Perfluoroundecanoic acid (PFUnA)		1.50 U	1.40 U
	†PFOS + PFOA (EPA)	1.10	15.8
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	1.10	15.8
	§Sum of All Compounds Collected	4.82	15.8

PFAS Summary Report – Groundwater
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KGS 2021 J2 North SPM Fall
J2 Range Northern

Location	J2EW0002	J2EW0002	J2EW2-MW2-B	J2EW2-MW2-C	MW-293M2	MW-293M2
Field Sample ID	J2EW0002_F21	J2EW0002_F21D	J2EW2-MW2-B_F21	J2EW2-MW2-C_F21	MW-293M2_F21	MW-293M2_F21D
Sampling Depth	198.00 - 233.00	198.00 - 233.00	209.79 - 219.79	243.83 - 253.81	0.00 - 0.00	0.00 - 0.00
Sampling Date	09/27/2021	09/27/2021	09/15/2021	09/15/2021	09/08/2021	09/08/2021
SDG	320796651	320796651	320791141	320791141	320787611	320787611
Sample Type	Normal	Field Duplicate	Normal	Normal	Normal	Field Duplicate
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	6.70 J	6.70 J	19.0 U	20.0 U	18.0 U	18.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.40 U	9.00 U	9.50 U	10.0 U	9.20 U	8.90 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.40 U	9.00 U	9.50 U	10.0 U	9.20 U	8.90 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.40 U	9.00 U	9.50 U	10.0 U	9.20 U	8.90 U
Perfluorobutanesulfonic acid (PFBS)	0.940 U	0.900 U	0.950 U	1.00 U	3.90	3.80
Perfluorobutanoic acid (PFBA)	1.40 U	1.30 U	1.40 U	1.50 U	0.840 J	1.10 J
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.30 U	1.40 U	1.50 U	1.40 U	1.30 U
Perfluorodecanoic acid (PFDA)	0.940 U	0.900 U	0.950 U	1.00 U	3.20	2.80
Perfluorododecanoic acid (PFDoA)	1.40 U	1.30 U	1.40 U	1.50 U	2.40	2.30
Perfluoroheptanesulfonic acid (PFHpS)	0.940 U	0.900 U	0.950 U	1.00 U	0.920 U	0.890 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	0.550 J	1.40 U	1.50 U	1.40 U	1.30 U
Perfluorohexane sulfonate (PFHxS)	8.10	7.70	0.950 U	1.00 U	0.920 U	0.890 U
Perfluorohexanoic acid (PFHxA)	0.820 J	0.770 J	0.950 U	1.00 U	1.30 J	1.10 J
Perfluorononanoic acid (PFNA)	1.40 U	1.30 U	1.40 U	1.50 U	1.30 J	1.10 J
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.70 U	2.90 U	3.10 U	2.80 U	2.70 U
Perfluorooctanesulfonic acid (PFOS)	1.30 J	1.10 J	2.90 U	3.10 U	2.80 U	2.70 U
Perfluorooctanoic acid (PFOA)	1.80 J	1.20 J	1.40 U	1.50 U	1.40 U	1.30 U
Perfluoropentanoic acid (PFPeA)	0.680 J	0.640 J	0.950 U	1.00 U	1.10 J	1.00 J
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.70 U	2.90 U	3.10 U	2.80 U	2.70 U
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.70 U	2.90 U	3.10 U	0.760 J	2.70 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.30 U	1.40 U	1.50 U	23.0	22.0
†PFOS + PFOA (EPA)	3.10	2.30	0.00	0.00	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	11.2	10.6	0.00	0.00	4.50	3.90
§Sum of All Compounds Collected	19.4	18.7	0.00	0.00	37.8	35.2

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 KGS 2021 J2 North SPM Fall
 J2 Range Northern

	Location	MW-300M1	MW-300M1	MW-300M2	MW-300M3	MW-302M2	MW-302M2
	Field Sample ID	MW-300M1_F21	MW-300M1_F21D	MW-300M2_F21	MW-300M3_F21	MW-302M2_F21	MW-302M2_F21D
	Sampling Depth	293.03 - 303.02	293.03 - 303.02	197.23 - 207.23	135.31 - 145.31	194.35 - 204.43	194.35 - 204.43
	Sampling Date	09/21/2021	09/21/2021	09/21/2021	09/21/2021	09/13/2021	09/13/2021
	SDG	320793351	320793351	320793351	320793351	320790821	320790821
	Sample Type	Normal	Field Duplicate	Normal	Normal	Normal	Field Duplicate
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		19.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.70 U	9.60 U	9.30 U	9.50 U	9.60 U	9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.70 U	9.60 U	9.30 U	9.50 U	9.60 U	9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.70 U	9.60 U	9.30 U	9.50 U	9.60 U	9.40 U
Perfluorobutanesulfonic acid (PFBS)		0.970 U	0.960 U	0.930 U	0.950 U	0.960 U	0.940 U
Perfluorobutanoic acid (PFBA)		1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)		3.40	3.60	4.00	1.70 J	2.60	2.50
Perfluorododecanoic acid (PFDoA)		0.520 J	0.680 J	1.10 J	0.710 J	2.80	3.00
Perfluoroheptanesulfonic acid (PFHpS)		0.970 U	0.960 U	0.930 U	0.950 U	0.960 U	0.940 U
Perfluoroheptanoic acid (PFHpA)		1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.970 U	0.960 U	0.930 U	0.440 J	0.960 U	0.940 U
Perfluorohexanoic acid (PFHxA)		0.970 U	0.960 U	0.930 U	0.950 U	0.960 U	0.940 U
Perfluorononanoic acid (PFNA)		4.80	4.80	3.60	2.10	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)		2.90 U	2.90 U	2.80 U	2.90 U	2.90 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)		2.90 U	2.90 U	2.80 U	2.90 U	2.90 U	2.80 U
Perfluorooctanoic acid (PFOA)		1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.970 U	0.960 U	0.930 U	0.950 U	0.960 U	0.940 U
Perfluorotetradecanoic acid (PFTeDA)		2.90 U	2.90 U	2.80 U	2.90 U	2.90 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)		2.90 U	2.90 U	0.700 J	0.840 J	1.10 J	1.20 J
Perfluoroundecanoic acid (PFUnA)		8.30	8.60	7.80	4.40	27.0	27.0
	+PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	#PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	8.20	8.40	7.60	4.24	2.60	2.50
	§Sum of All Compounds Collected	17.0	17.7	17.2	10.2	33.5	33.7

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 KGS 2021 J2 North SPM Fall
 J2 Range Northern

	Location	MW-305M1	MW-330M1	MW-330M2	MW-330M3	MW-340D	MW-340M1
	Field Sample ID	MW-305M1_F21	MW-330M1_F21	MW-330M2_F21	MW-330M3_F21	MW-340D_F21	MW-340M1_F21
	Sampling Depth	202.82 - 212.82	313.10 - 323.13	238.01 - 248.04	154.97 - 164.99	0.00 - 0.00	0.00 - 0.00
	Sampling Date	09/14/2021	09/17/2021	09/17/2021	09/17/2021	09/23/2021	09/23/2021
	SDG	320790821	320791141	320791141	320791141	320793861	320793861
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	19.0 U	20.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.70 U	9.60 U	9.70 U	9.90 U	9.50 U	9.60 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.70 U	9.60 U	9.70 U	9.90 U	9.50 U	9.60 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.70 U	9.60 U	9.70 U	9.90 U	9.50 U	9.60 U	
Perfluorobutanesulfonic acid (PFBS)	0.970 U	0.960 U	0.970 U	0.990 U	0.950 U	0.960 U	
Perfluorobutanoic acid (PFBA)	1.50 U	1.60 J	0.890 J	1.50 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.50 U	1.40 U	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	3.60	38.0	8.90	19.0	18.0	2.30	
Perfluorododecanoic acid (PFDoA)	1.50 U	2.50	2.20	0.810 J	1.80 J	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.970 U	0.960 U	0.970 U	0.990 U	0.950 U	0.960 U	
Perfluoroheptanoic acid (PFHpA)	1.50 U	1.10 J	1.50 U	1.50 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.970 U	0.960 U	0.970 U	0.990 U	0.950 U	0.960 U	
Perfluorohexanoic acid (PFHxA)	0.970 U	0.770 J	0.970 U	0.990 U	0.950 U	0.960 U	
Perfluorononanoic acid (PFNA)	2.20	16.0	12.0	25.0	14.0	1.60 J	
Perfluorooctanesulfonamide (PFOSA)	2.90 U	2.90 U	2.90 U	3.00 U	2.80 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	2.90 U	2.90 U	2.90 U	3.00 U	2.80 U	2.90 U	
Perfluorooctanoic acid (PFOA)	1.50 U	0.660 J	0.650 J	1.50 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	0.970 U	2.50	1.20 J	0.990 U	0.950 U	0.960 U	
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	1.10 J	2.90 U	3.00 U	0.840 J	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	1.60 J	2.10 J	3.00 U	1.20 J	2.90 U	
Perfluoroundecanoic acid (PFUnA)	3.30	23.0	9.60	8.90	18.0	1.50 J	
+PFOS + PFOA (EPA)	0.00	0.660	0.650	0.00	0.00	0.00	
#PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	5.80	55.8	21.6	44.0	32.0	3.90	
§Sum of All Compounds Collected	9.10	88.8	37.5	53.7	53.8	5.40	

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 J2 Range Northern

	Location	MW-340M2	MW-345M1	MW-345M2	MW-348M2	MW-586M1	MW-586M2
	Field Sample ID	MW-340M2_F21	MW-345M1_F21	MW-345M2_F21	MW-348M2_F21	MW-586M1_F21	MW-586M2_F21
	Sampling Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	206.54 - 216.54	237.00 - 247.00	211.00 - 221.00
	Sampling Date	09/23/2021	09/20/2021	09/20/2021	09/07/2021	09/09/2021	09/09/2021
	SDG	320793861	320793351	320793351	320787611	320787751	320787751
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		19.0 U	18.0 U	20.0 U	18.0 U	19.0 U	18.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.50 U	9.20 U	9.90 U	8.90 U	9.30 U	9.10 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.50 U	9.20 U	9.90 U	8.90 U	9.30 U	9.10 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.50 U	9.20 U	9.90 U	8.90 U	9.30 U	9.10 U
Perfluorobutanesulfonic acid (PFBS)		0.950 U	0.920 U	0.990 U	0.890 U	0.930 U	0.910 U
Perfluorobutanoic acid (PFBA)		1.40 U	1.40 U	0.790 J	1.30 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.40 U	1.40 U	1.50 U	1.30 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)		1.60 J	56.0	2.90	2.40	0.930 U	0.910 U
Perfluorododecanoic acid (PFDoA)		1.40 U	3.40	0.760 J	2.40	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.950 U	0.920 U	0.990 U	0.890 U	0.930 U	0.910 U
Perfluoroheptanoic acid (PFHpA)		1.40 U	0.910 J	1.50 U	1.30 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.950 U	0.410 J	0.810 J	0.890 U	0.930 U	0.910 U
Perfluorohexanoic acid (PFHxA)		0.950 U	0.920 U	0.990 U	0.890 U	0.930 U	0.910 U
Perfluorononanoic acid (PFNA)		4.00	14.0	6.80	1.30 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)		2.80 U	2.70 U	3.00 U	2.70 U	2.80 U	2.70 U
Perfluorooctanesulfonic acid (PFOS)		2.80 U	2.70 U	1.20 J	2.70 U	2.80 U	2.70 U
Perfluorooctanoic acid (PFOA)		1.40 U	1.10 J	0.580 J	1.30 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.950 U	0.480 J	0.960 J	0.890 U	0.930 U	0.910 U
Perfluorotetradecanoic acid (PFTeDA)		2.80 U	0.930 J	3.00 U	2.70 U	2.80 U	2.70 U
Perfluorotridecanoic acid (PFTTrDA)		2.80 U	1.80 J	0.840 J	0.740 J	2.80 U	2.70 U
Perfluoroundecanoic acid (PFUnA)		1.40 U	32.0	3.60	8.70	1.40 U	1.40 U
	†PFOS + PFOA (EPA)	0.00	1.10	1.78	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	5.60	72.4	12.3	2.40	0.00	0.00
	§Sum of All Compounds Collected	5.60	111	19.2	14.2	0.00	0.00

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 J2 Range Northern

Location	MW-587M1	MW-588M1	MW-588M2	MW-589M1	MW-589M2	MW-612M1
Field Sample ID	MW-587M1_F21	MW-588M1_F21	MW-588M2_F21	MW-589M1_F21	MW-589M2_F21	MW-612M1_F21
Sampling Depth	250.00 - 260.00	238.00 - 248.00	198.00 - 208.00	240.00 - 250.00	211.00 - 221.00	297.00 - 307.00
Sampling Date	08/24/2021	09/08/2021	09/08/2021	09/09/2021	09/09/2021	09/14/2021
SDG	320781081	320787611	320787611	320787751	320787751	320790821
Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	18.0 U	19.0 U	19.0 U	20.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.30 U	9.10 U	9.40 U	9.40 U	9.80 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.30 U	9.10 U	9.40 U	9.40 U	9.80 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.30 U	9.10 U	9.40 U	9.40 U	9.80 U
Perfluorobutanesulfonic acid (PFBS)	0.920 U	0.930 U	1.70 J	0.940 U	0.940 U	0.980 U
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorodecanoic acid (PFDA)	0.920 U	0.930 U	0.910 U	0.940 U	0.940 U	0.980 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.930 U	0.910 U	0.940 U	0.940 U	0.980 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorohexane sulfonate (PFHxS)	0.920 U	0.930 U	0.910 U	0.940 U	0.940 U	0.980 U
Perfluorohexanoic acid (PFHxA)	0.920 U	0.930 U	0.910 U	0.940 U	0.940 U	0.980 U
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	3.00 U
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	3.00 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	0.570 J	1.40 U	1.50 U
Perfluoropentanoic acid (PFPeA)	0.920 U	0.930 U	0.910 U	0.940 U	0.940 U	0.980 U
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	3.00 U
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	3.00 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U
†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.570	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.570	0.00	0.00
§Sum of All Compounds Collected	0.00	0.00	1.70	0.570	0.00	0.00

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 KGS 2021 J2 North SPM Fall
 J2 Range Northern

	Location	MW-612M2	MW-613M1	MW-613M2	MW-621M1	MW-621M2	MW-622M1
	Field Sample ID	MW-612M2_F21	MW-613M1_F21	MW-613M2_F21	MW-621M1_F21	MW-621M2_F21	MW-622M1_F21
	Sampling Depth	267.00 - 277.00	267.10 - 277.10	246.10 - 256.10	249.40 - 259.40	219.40 - 229.40	245.40 - 255.40
	Sampling Date	09/14/2021	09/17/2021	09/17/2021	09/08/2021	09/08/2021	09/13/2021
	SDG	320790821	320791141	320791141	320787611	320787611	320790821
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	19.0 U	19.0 U	19.0 U	18.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.30 U	9.40 U	9.40 U	9.30 U	8.90 U	9.40 U	9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.30 U	9.40 U	9.40 U	9.30 U	8.90 U	9.40 U	9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.30 U	9.40 U	9.40 U	9.30 U	8.90 U	9.40 U	9.40 U
Perfluorobutanesulfonic acid (PFBS)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluorohexanoic acid (PFHxA)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.80 U	2.80 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)	2.80 U	2.80 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)	0.930 U	0.940 U	0.940 U	0.930 U	0.890 U	0.940 U	0.940 U
Perfluorotetradecanoic acid (PFTeDA)	2.80 U	2.80 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	2.80 U	2.80 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.40 U	1.30 U	1.40 U	1.40 U
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.00	0.00	0.00
	§Sum of All Compounds Collected	0.00	0.00	0.00	0.00	0.00	0.00

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Joint Base Cape Cod, IAGWSP
 KGS 2021 J2 North SPM Fall
 J2 Range Northern

	Location	MW-622M2	MW-631M1	MW-631M2	MW-632M1	MW-632M2	MW-640M1
	Field Sample ID	MW-622M2_F21	MW-631M1_F21	MW-631M2_F21	MW-632M1_F21	MW-632M2_F21	MW-640M1_F21
	Sampling Depth	220.40 - 230.40	233.10 - 243.10	200.10 - 210.10	254.50 - 264.50	229.50 - 239.50	246.00 - 256.00
	Sampling Date	09/13/2021	08/23/2021	08/23/2021	09/07/2021	09/07/2021	09/07/2021
	SDG	320790821	320781081	320781081	320787611	320787611	320787611
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.60 U	8.80 U	9.00 U	9.00 U	9.00 U	9.00 U	9.60 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.60 U	8.80 U	9.00 U	9.00 U	9.00 U	9.00 U	9.60 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.60 U	8.80 U	9.00 U	9.00 U	9.00 U	9.00 U	9.60 U
Perfluorobutanesulfonic acid (PFBS)	0.960 U	0.880 U	12.0	0.900 U	0.900 U	0.900 U	0.960 U
Perfluorobutanoic acid (PFBA)	1.40 U	1.30 U	2.80	1.40 U	1.30 U	1.30 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.960 U	0.880 U	0.900 U	0.900 U	0.900 U	0.900 U	0.960 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.960 U	0.880 U	0.900 U	0.900 U	0.900 U	0.900 U	0.960 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	0.960 U	0.880 U	0.900 U	0.900 U	0.900 U	0.900 U	0.960 U
Perfluorohexanoic acid (PFHxA)	0.960 U	0.880 U	23.0	0.900 U	0.900 U	0.900 U	0.960 U
Perfluorononanoic acid (PFNA)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.90 U	2.60 U	2.70 U	2.70 U	2.70 U	2.70 U	2.90 U
Perfluorooctanesulfonic acid (PFOS)	2.90 U	2.60 U	2.70 U	2.70 U	2.70 U	2.70 U	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
Perfluoropentanoic acid (PFPeA)	0.960 U	0.880 U	11.0	0.900 U	0.900 U	0.900 U	0.960 U
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	2.60 U	2.70 U	2.70 U	2.70 U	2.70 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)	2.90 U	2.60 U	2.70 U	2.70 U	2.70 U	2.70 U	2.90 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.30 U	1.40 U	1.40 U	1.30 U	1.30 U	1.40 U
	‡PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	0.00	0.00	0.00	0.00	0.00
	§Sum of All Compounds Collected	0.00	0.00	48.8	0.00	0.00	0.00

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 J2 Range Northern

	Location	MW-640M2	MW-703M1	MW-703M2	MW-704M1	MW-704M2
	Field Sample ID	MW-640M2_F21	MW-703M1_F21	MW-703M2_F21	MW-704M1_F21	MW-704M2_F21
	Sampling Depth	216.00 - 226.00	248.00 - 258.00	224.10 - 234.10	244.00 - 254.00	217.80 - 227.80
	Sampling Date	09/07/2021	09/14/2021	09/14/2021	09/13/2021	09/13/2021
	SDG	320787611	320790821	320790821	320790821	320790821
	Sample Type	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		18.0 U	20.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.10 U	9.80 U	9.70 U	9.70 U	9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.10 U	9.80 U	9.70 U	9.70 U	9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.10 U	9.80 U	9.70 U	9.70 U	9.40 U
Perfluorobutanesulfonic acid (PFBS)		0.910 U	0.980 U	0.970 U	0.970 U	0.940 U
Perfluorobutanoic acid (PFBA)		1.40 U	1.50 U	1.50 U	3.30	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.40 U	1.50 U	1.50 U	1.50 U	1.40 U
Perfluorodecanoic acid (PFDA)		0.910 U	3.90	2.00	2.00	2.20
Perfluorododecanoic acid (PFDoA)		1.40 U	1.50 U	1.50 U	1.50 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.910 U	0.980 U	0.970 U	0.970 U	0.940 U
Perfluoroheptanoic acid (PFHpA)		1.40 U	1.50 U	1.50 U	1.50 U	1.40 U
Perfluorohexane sulfonate (PFHxS)		0.910 U	0.980 U	0.970 U	0.970 U	0.940 U
Perfluorohexanoic acid (PFHxA)		0.910 U	0.980 U	0.970 U	0.900 J	0.940 U
Perfluorononanoic acid (PFNA)		1.40 U	1.60 J	0.640 J	1.10 J	0.830 J
Perfluorooctanesulfonamide (PFOSA)		2.70 U	2.90 U	2.90 U	2.90 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)		2.70 U	2.90 U	2.90 U	2.90 U	2.80 U
Perfluorooctanoic acid (PFOA)		1.40 U	1.50 U	1.50 U	1.50 U	1.40 U
Perfluoropentanoic acid (PFPeA)		0.910 U	0.700 J	0.970 U	3.20	0.940 U
Perfluorotetradecanoic acid (PFTeDA)		2.70 U	2.90 U	2.90 U	2.90 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)		2.70 U	2.90 U	2.90 U	2.90 U	2.80 U
Perfluoroundecanoic acid (PFUnA)		1.40 U	1.50 U	1.50 U	1.50 U	1.40 U
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	5.50	2.64	3.10	3.03
	§Sum of All Compounds Collected	0.00	6.20	2.64	10.5	3.03

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 KGS 2021 J2 Ranges SPM Spring
 J2 Range Northern

	Location	J2EW0002
	Field Sample ID	J2EW0002_521
	Sampling Depth	198.00 - 233.00
	Sampling Date	01/13/2021
	SDG	320689351
	Sample Type	Normal
PFAS 21 Cmps		Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		7.40 J
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.40 U
Perfluorobutanesulfonic acid (PFBS)		0.940 U
Perfluorobutanoic acid (PFBA)		1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.40 U
Perfluorodecanoic acid (PFDA)		0.940 U
Perfluorododecanoic acid (PFDoA)		1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.430 J
Perfluoroheptanoic acid (PFHpA)		0.860 J
Perfluorohexane sulfonate (PFHxS)		11.0
Perfluorohexanoic acid (PFHxA)		0.900 J
Perfluorononanoic acid (PFNA)		1.40 U
Perfluorooctanesulfonamide (PFOSA)		1.80 J
Perfluorooctanesulfonic acid (PFOS)		1.00 J
Perfluorooctanoic acid (PFOA)		1.80 J
Perfluoropentanoic acid (PFPeA)		1.90 U
Perfluorotetradecanoic acid (PFTeDA)		2.80 U
Perfluorotridecanoic acid (PFTrDA)		2.80 U
Perfluoroundecanoic acid (PFUnA)		1.40 U
	†PFOS + PFOA (EPA)	2.80
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	14.7
	§Sum of All Compounds Collected	25.2

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 KGS 2021 J3 Range SPM Fall
 J3 Range

	Location	90EW0001	90WT0004	J3-EFF	J3EW0032	J3EWIP1	J3-INF
	Field Sample ID	90EW0001_F21	90WT0004_F21	J3-EFF_F21	J3EW0032_F21	J3EWIP1_F21	J3-INF_F21
	Sampling Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	102.00 - 152.00	153.00 - 193.00	0.00 - 0.00
	Sampling Date	07/13/2021	08/10/2021	07/13/2021	07/13/2021	07/13/2021	07/13/2021
	SDG	320762631	320775331	320762631	320762631	320762631	320762631
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	18.0 U	19.0 U	20.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.20 U	9.20 U	9.50 U	9.80 U	9.40 U	9.50 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 U	9.20 U	9.50 U	9.80 U	9.40 U	9.50 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.20 U	9.20 U	9.50 U	9.80 U	9.40 U	9.50 U	
Perfluorobutanesulfonic acid (PFBS)	0.920 U	0.920 U	0.950 U	0.980 U	0.940 U	0.950 U	
Perfluorobutanoic acid (PFBA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.920 U	0.920 U	0.950 U	0.980 U	0.940 U	0.950 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.920 U	0.920 U	0.950 U	0.980 U	0.940 U	0.950 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.500 J	0.920 U	0.950 U	0.720 J	0.520 J	1.20 J	
Perfluorohexanoic acid (PFHxA)	0.920 U	0.920 U	0.950 U	0.980 U	0.940 U	0.950 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.70 U	2.80 U	2.90 U	2.90 U	2.80 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.70 U	2.80 U	2.90 U	2.90 U	2.80 U	2.80 U	
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	0.920 U	0.920 U	0.950 U	0.980 U	0.940 U	0.950 U	
Perfluorotetradecanoic acid (PFTeDA)	2.70 U	2.80 U	2.90 U	2.90 U	2.80 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	2.70 U	2.80 U	2.90 U	2.90 U	2.80 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.00	0.00	0.00	0.00	0.00	
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.500	0.00	0.00	0.720	0.520	
	§Sum of All Compounds Collected	0.500	0.00	0.00	0.720	0.520	

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 KGS 2021 J3 Range SPM Fall
 J3 Range

Location	J3EWIP2	MW-142M2	MW-142S	MW-143M1	MW-143M2	MW-143M2
Field Sample ID	J3EWIP2_F21	MW-142M2_F21	MW-142S_F21	MW-143M1_F21	MW-143M2_F21DR	MW-143M2_F21R
Sampling Depth	150.50 - 170.50	140.00 - 150.00	42.00 - 52.00	144.00 - 154.00	117.00 - 122.00	117.00 - 122.00
Sampling Date	07/13/2021	07/27/2021	07/27/2021	07/26/2021	09/16/2021	09/16/2021
SDG	320762631	320769671	320769671	320769671	320791142	320791142
Sample Type	Normal	Normal	Normal	Normal	Field Duplicate	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	20.0 U	19.0 UJ	19.0 UJ	19.0 UJ	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.80 U	9.70 UJ	9.30 UJ	9.60 UJ	9.50 U	9.40 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.80 U	9.70 UJ	9.30 UJ	9.60 UJ	9.50 U	9.40 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.80 U	9.70 UJ	9.30 UJ	9.60 UJ	9.50 U	9.40 U
Perfluorobutanesulfonic acid (PFBS)	0.980 U	0.970 UJ	0.930 UJ	0.960 UJ	0.640 J	0.700 J
Perfluorobutanoic acid (PFBA)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.980 U	0.970 UJ	0.930 UJ	0.960 UJ	0.950 U	0.940 U
Perfluorododecanoic acid (PFDoA)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.980 U	0.970 UJ	0.930 UJ	0.960 UJ	0.950 U	0.940 U
Perfluoroheptanoic acid (PFHpA)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	2.80	2.80 J	0.930 UJ	0.960 UJ	4.10	4.00
Perfluorohexanoic acid (PFHxA)	0.980 U	0.970 UJ	0.930 UJ	0.960 UJ	0.950 U	0.940 U
Perfluorononanoic acid (PFNA)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.90 U	2.90 UJ	2.80 UJ	2.90 UJ	2.80 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)	2.90 U	2.90 UJ	2.80 UJ	2.90 UJ	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.50 U	1.50 UJ	0.510 J	1.40 UJ	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)	0.980 U	0.970 UJ	0.930 UJ	0.960 UJ	0.950 U	0.940 U
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	2.90 UJ	2.80 UJ	2.90 UJ	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	2.90 UJ	2.80 UJ	2.90 UJ	2.80 U	2.80 U
Perfluoroundecanoic acid (PFUnA)	1.50 U	1.50 UJ	1.40 UJ	1.40 UJ	1.40 U	1.40 U
†PFOS + PFOA (EPA)	0.00	0.00	0.510	0.00	0.00	0.00
‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	2.80	2.80	0.510	0.00	4.10	4.00
§Sum of All Compounds Collected	2.80	2.80	0.510	0.00	4.74	4.70

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	Location	MW-144M2	MW-144S	MW-145M1	MW-145S	MW-157M1	MW-157M2
	Field Sample ID	MW-144M2_F21	MW-144S_F21R	MW-145M1_F21	MW-145S_F21	MW-157M1_F21	MW-157M2_F21
	Sampling Depth	130.00 - 140.00	26.00 - 36.00	125.00 - 135.00	30.00 - 40.00	154.00 - 164.00	110.00 - 120.00
	Sampling Date	07/27/2021	09/16/2021	08/11/2021	08/11/2021	07/14/2021	07/14/2021
	SDG	320769671	320791142	320776031	320776031	320763871	320763871
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 UJ	20.0 U	19.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.40 UJ	9.90 U	9.50 U	9.40 U	9.30 U	9.70 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.40 UJ	9.90 U	9.50 U	9.40 U	9.30 U	9.70 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.40 UJ	9.90 U	9.50 U	9.40 U	9.30 U	9.70 U	
Perfluorobutanesulfonic acid (PFBS)	0.940 UJ	0.990 U	0.950 U	0.940 U	0.930 U	9.40	
Perfluorobutanoic acid (PFBA)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorodecanoic acid (PFDA)	0.940 UJ	0.990 U	0.950 U	0.940 U	0.930 U	0.970 U	
Perfluorododecanoic acid (PFDoA)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.940 UJ	0.990 U	0.950 U	0.940 U	0.930 U	0.970 U	
Perfluoroheptanoic acid (PFHpA)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorohexane sulfonate (PFHxS)	0.940 UJ	0.990 U	0.950 U	1.50 J	0.930 U	0.720 J	
Perfluorohexanoic acid (PFHxA)	0.940 UJ	0.990 U	0.950 U	0.630 J	0.930 U	0.970 U	
Perfluorononanoic acid (PFNA)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
Perfluorooctanesulfonamide (PFOSA)	2.80 UJ	3.00 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluorooctanesulfonic acid (PFOS)	2.80 UJ	3.60 J	2.90 U	3.90	2.80 U	2.90 U	
Perfluorooctanoic acid (PFOA)	1.40 UJ	0.570 J	1.40 U	0.760 J	1.40 U	1.50 U	
Perfluoropentanoic acid (PFPeA)	0.940 UJ	0.990 U	0.950 U	0.940 U	0.930 U	0.970 U	
Perfluorotetradecanoic acid (PFTeDA)	2.80 UJ	3.00 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluorotridecanoic acid (PFTTrDA)	2.80 UJ	3.00 U	2.90 U	2.80 U	2.80 U	2.90 U	
Perfluoroundecanoic acid (PFUnA)	1.40 UJ	1.50 U	1.40 U	1.40 U	1.40 U	1.50 U	
	†PFOS + PFOA (EPA)	0.00	4.17	0.00	4.66	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.00	4.17	0.00	6.16	0.00	0.720
	§Sum of All Compounds Collected	0.00	4.17	0.00	6.79	0.00	10.1

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	Location	MW-157M3	MW-163S	MW-181S	MW-181S	MW-193S	MW-193S
	Field Sample ID	MW-157M3_F21	MW-163S_F21	MW-181S_F21	MW-181S_F21D	MW-193S_F21	MW-193S_F21D
	Sampling Depth	70.00 - 80.00	38.00 - 48.00	32.25 - 42.25	32.25 - 42.25	32.50 - 37.50	32.50 - 37.50
	Sampling Date	07/14/2021	07/14/2021	08/02/2021	08/02/2021	08/04/2021	08/04/2021
	SDG	320763871	320763871	320772471	320772471	320772871	320772871
	Sample Type	Normal	Normal	Normal	Field Duplicate	Normal	Field Duplicate
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	20.0 U	19.0 U	19.0 U	18.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	10.0 U	9.40 U	9.50 U	9.00 U	9.40 U	9.40 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	10.0 U	9.40 U	9.50 U	9.00 U	9.40 U	9.40 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	10.0 U	9.40 U	9.50 U	9.00 U	9.40 U	9.40 U	
Perfluorobutanesulfonic acid (PFBS)	1.00 U	0.940 U	0.950 U	0.900 U	0.940 U	0.940 U	
Perfluorobutanoic acid (PFBA)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	1.00 U	0.940 U	0.950 U	0.900 U	0.940 U	0.940 U	
Perfluorododecanoic acid (PFDoA)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	1.00 U	0.940 U	0.950 U	0.900 U	0.940 U	0.940 U	
Perfluoroheptanoic acid (PFHpA)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	1.50 J	0.450 J	0.950 U	0.900 U	2.80	2.60	
Perfluorohexanoic acid (PFHxA)	1.00 U	0.940 U	0.950 U	0.900 U	0.940 U	0.940 U	
Perfluorononanoic acid (PFNA)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	3.00 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	3.00 U	4.80	15.0	15.0	2.80 U	2.80 U	
Perfluorooctanoic acid (PFOA)	0.730 J	1.10 J	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	1.00 U	0.940 U	0.950 U	0.900 U	0.940 U	0.940 U	
Perfluorotetradecanoic acid (PFTeDA)	3.00 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	
Perfluorotridecanoic acid (PFTrDA)	3.00 U	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	0.730	5.90	15.0	15.0	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	2.23	6.35	15.0	15.0	2.80	2.60
	§Sum of All Compounds Collected	2.23	6.35	15.0	15.0	2.80	2.60

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	Location	MW-196M1	MW-196S	MW-197M2	MW-197M2	MW-197M3	MW-198M4
	Field Sample ID	MW-196M1_F21	MW-196S_F21	MW-197M2_F21	MW-197M2_F21D	MW-197M3_F21	MW-198M4_F21
	Sampling Depth	45.00 - 50.00	32.00 - 37.00	80.20 - 85.20	80.20 - 85.20	60.20 - 65.20	70.00 - 75.00
	Sampling Date	08/11/2021	08/11/2021	08/02/2021	08/02/2021	08/02/2021	08/05/2021
	SDG	320776031	320776031	320772471	320772471	320772471	320773351
	Sample Type	Normal	Normal	Normal	Field Duplicate	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	19.0 U	20.0 U	19.0 U	18.0 U	19.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.60 U	10.0 U	9.60 U	9.20 U	9.40 U	9.30 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.60 U	10.0 U	9.60 U	9.20 U	9.40 U	9.30 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.60 U	10.0 U	9.60 U	9.20 U	9.40 U	9.30 U	
Perfluorobutanesulfonic acid (PFBS)	0.960 U	1.00 U	0.450 J	0.460 J	0.940 U	0.930 U	
Perfluorobutanoic acid (PFBA)	0.900 J	1.50 U	2.60	2.60	1.30 J	1.40 J	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	0.960 U	1.00 U	0.960 U	0.920 U	0.940 U	0.930 U	
Perfluorododecanoic acid (PFDoA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.960 U	1.00 U	0.960 U	0.920 U	0.940 U	0.930 U	
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.50 U	3.00	3.00	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.960 U	0.440 J	15.0	15.0	2.40	8.50	
Perfluorohexanoic acid (PFHxA)	0.760 J	0.480 J	5.00	5.50	0.590 J	0.930 U	
Perfluorononanoic acid (PFNA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.90 U	3.00 U	2.90 U	2.80 U	2.80 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.90 U	5.30 J	4.90	4.80	2.80 U	1.70 J	
Perfluorooctanoic acid (PFOA)	1.40 J	0.700 J	2.70	2.90	1.00 J	0.870 J	
Perfluoropentanoic acid (PFPeA)	0.960 U	1.00 U	4.20	4.20	0.940 U	0.930 U	
Perfluorotetradecanoic acid (PFTeDA)	2.90 U	3.00 U	2.90 U	2.80 U	2.80 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	2.90 U	3.00 U	2.90 U	2.80 U	2.80 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.50 U	1.40 U	1.40 U	1.40 U	1.40 U	
	†PFOS + PFOA (EPA)	1.40	6.00	7.60	7.70	1.00	2.57
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	1.40	6.44	25.6	25.7	3.40	11.1
	§Sum of All Compounds Collected	3.06	6.92	37.9	38.5	5.29	12.5

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	Location	MW-218M1	MW-218M1	MW-218M2	MW-218M2	MW-218M3	MW-218M3
	Field Sample ID	MW-218M1_F21	MW-218M1_F21R	MW-218M2_F21	MW-218M2_F21R	MW-218M3_F21	MW-218M3_F21R
	Sampling Depth	128.00 - 133.00	128.00 - 133.00	98.00 - 103.00	98.00 - 103.00	78.00 - 83.00	78.00 - 83.00
	Sampling Date	08/16/2021	09/30/2021	08/16/2021	09/30/2021	08/16/2021	09/30/2021
	SDG	320778561	320797671	320778561	320797671	320778561	320797671
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	19.0 U	19.0 U	20.0 U	18.0 U	19.0 U	
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.10 U	9.50 U	9.40 U	10.0 U	9.10 U	9.30 U	
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.10 U	9.50 U	9.40 U	10.0 U	9.10 U	9.30 U	
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.10 U	9.50 U	9.40 U	10.0 U	9.10 U	9.30 U	
Perfluorobutanesulfonic acid (PFBS)	0.420 J	0.950 U	0.940 U	1.00 U	0.910 U	0.930 U	
Perfluorobutanoic acid (PFBA)	400	1.40 U	64.0	3.00	1.40 U	1.40 U	
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U	1.40 U	
Perfluorodecanoic acid (PFDA)	42.0	5.60	10.0	5.10	0.910 U	0.930 U	
Perfluorododecanoic acid (PFDoA)	32.0	1.40 U	2.30	0.600 J	1.40 U	1.40 U	
Perfluoroheptanesulfonic acid (PFHpS)	0.910 U	0.950 U	0.940 U	1.00 U	0.910 U	0.930 U	
Perfluoroheptanoic acid (PFHpA)	360	1.40 U	100	2.10	1.40 U	1.40 U	
Perfluorohexane sulfonate (PFHxS)	0.910 U	0.950 U	0.940 U	1.00 U	0.910 U	0.930 U	
Perfluorohexanoic acid (PFHxA)	350	0.950 U	57.0	1.90 J	0.910 U	0.930 U	
Perfluorononanoic acid (PFNA)	75.0	6.20	35.0	6.20	1.40 U	1.40 U	
Perfluorooctanesulfonamide (PFOSA)	2.70 U	2.80 U	2.80 U	3.00 U	2.70 U	2.80 U	
Perfluorooctanesulfonic acid (PFOS)	2.70 U	2.80 U	2.80 U	3.00 U	2.70 U	2.80 U	
Perfluorooctanoic acid (PFOA)	120	5.70	49.0	2.10	1.40 U	1.40 U	
Perfluoropentanoic acid (PFPeA)	770	0.950 U	110	5.00	0.910 U	0.930 U	
Perfluorotetradecanoic acid (PFTeDA)	35.0	2.80 U	2.00 J	3.00 U	2.70 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	49.0	2.80 U	2.60 J	3.00 U	2.70 U	2.80 U	
Perfluoroundecanoic acid (PFUnA)	48.0	3.60	6.80	3.50	1.40 U	1.40 U	
	‡PFOS + PFOA (EPA)	120	5.70	49.0	2.10	0.00	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	597	17.5	194	15.5	0.00	0.00
	§Sum of All Compounds Collected	2280	21.1	439	29.5	0.00	0.00

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	Location	MW-250M1	MW-250M3	MW-30	MW-576M2	MW-636M1	MW-636M2
	Field Sample ID	MW-250M1_F21	MW-250M3_F21	MW-30_F21	MW-576M2_F21	MW-636M1_F21	MW-636M2_F21
	Sampling Depth	185.00 - 195.00	95.00 - 105.00	26.00 - 36.00	133.90 - 143.90	141.60 - 151.60	110.50 - 120.50
	Sampling Date	07/15/2021	07/15/2021	08/02/2021	08/10/2021	07/29/2021	07/29/2021
	SDG	320763871	320763871	320772471	320775331	320769861	320769861
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PFAS 21 Cmps	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)	18.0 U	18.0 U	18.0 U	19.0 U	19.0 U	19.0 U	19.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)	9.00 U	9.00 U	9.00 U	9.40 U	9.50 U	9.30 U	9.30 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.00 U	9.00 U	9.00 U	9.40 U	9.50 U	9.30 U	9.30 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	9.00 U	9.00 U	9.00 U	9.40 U	9.50 U	9.30 U	9.30 U
Perfluorobutanesulfonic acid (PFBS)	0.900 U	0.900 U	0.900 U	0.940 U	0.950 U	1.20 J	1.40 U
Perfluorobutanoic acid (PFBA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorodecanesulfonic acid (PFDS)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorodecanoic acid (PFDA)	0.900 U	0.900 U	0.900 U	0.940 U	0.950 U	0.930 U	0.930 U
Perfluorododecanoic acid (PFDoA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)	0.900 U	0.900 U	0.900 U	0.940 U	0.950 U	0.930 U	0.930 U
Perfluoroheptanoic acid (PFHpA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorohexane sulfonate (PFHxS)	0.550 J	1.90	0.900 U	0.470 J	0.950 U	4.80	0.930 U
Perfluorohexanoic acid (PFHxA)	0.900 U	0.900 U	0.900 U	0.940 U	0.460 J	0.570 J	0.930 U
Perfluorononanoic acid (PFNA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)	2.70 U	2.70 U	2.70 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonic acid (PFOS)	2.70 U	1.00 J	7.00	2.80 U	2.90 U	1.60 J	2.80 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPeA)	0.900 U	0.900 U	0.900 U	0.940 U	0.950 U	0.930 U	0.930 U
Perfluorotetradecanoic acid (PFTeDA)	2.70 U	2.70 U	2.70 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	2.70 U	2.70 U	2.70 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluoroundecanoic acid (PFUnA)	1.40 U	1.30 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
	†PFOS + PFOA (EPA)	0.00	1.00	7.00	0.00	0.00	1.60
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	0.550	2.90	7.00	0.470	0.00	6.40
	§Sum of All Compounds Collected	0.550	2.90	7.00	0.470	0.460	8.17

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 J3 Range

	Location	MW-653M1	MW-653M2
	Field Sample ID	MW-653M1_F21	MW-653M2_F21
	Sampling Depth	147.50 - 157.50	59.30 - 69.30
	Sampling Date	07/29/2021	07/29/2021
	SDG	320769861	320769861
	Sample Type	Normal	Normal
PFAS 21 Cmps		Results (ng/L)	Results (ng/L)
6:2 Fluorotelomer sulfonate (6:2 FTS)		20.0 U	18.0 U
8:2 Fluorotelomer sulfonate (8:2 FTS)		9.80 U	9.10 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)		9.80 U	9.10 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)		9.80 U	9.10 U
Perfluorobutanesulfonic acid (PFBS)		3.50	0.910 U
Perfluorobutanoic acid (PFBA)		1.20 J	1.40 U
Perfluorodecanesulfonic acid (PFDS)		1.50 U	1.40 U
Perfluorodecanoic acid (PFDA)		0.980 U	0.910 U
Perfluorododecanoic acid (PFDoA)		1.50 U	1.40 U
Perfluoroheptanesulfonic acid (PFHpS)		0.980 U	0.910 U
Perfluoroheptanoic acid (PFHpA)		2.50	1.40 U
Perfluorohexane sulfonate (PFHxS)		83.0	0.910 U
Perfluorohexanoic acid (PFHxA)		5.80	0.910 U
Perfluorononanoic acid (PFNA)		1.50 U	1.40 U
Perfluorooctanesulfonamide (PFOSA)		2.90 U	2.70 U
Perfluorooctanesulfonic acid (PFOS)		5.30	2.70 U
Perfluorooctanoic acid (PFOA)		1.80 J	1.40 U
Perfluoropentanoic acid (PFPeA)		3.30	0.910 U
Perfluorotetradecanoic acid (PFTeDA)		2.90 U	2.70 U
Perfluorotridecanoic acid (PFTrDA)		2.90 U	2.70 U
Perfluoroundecanoic acid (PFUnA)		1.50 U	1.40 U
	†PFOS + PFOA (EPA)	7.10	0.00
	‡PFOS + PFOA + PFDA + PFHpA + PFHxS + PFNA (MassDEP)	92.6	0.00
	§Sum of All Compounds Collected	106	0.00

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Notes:

ng/L = nanograms per liter; ug/kg = micrograms per kilogram; U = not detected; J = estimated; UJ = estimated non detect

The LOQ value will be used to report non-detects when blank contamination occurs

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

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

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

§ PFAS compounds used in the summation of all analytes are listed in the above table