

**MONTHLY PROGRESS REPORT #287
FOR FEBRUARY 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 February to 28 February 2021.

1. SUMMARY OF REMEDIATION ACTIONS

Remediation Actions (RA) Underway at Camp Edwards as of 26 February 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, Pew 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 2.805 billion gallons of water treated and re-injected as of 26 February 2021. No Frank Perkins Road Treatment Facility shutdowns occurred in February.

The Pew Road Mobile Treatment Unit (MTU) continues to operate at a flow rate of 65 GPM. As of 26 February 2021, over 672 million gallons of water was treated and re-injected. No Pew Road MTU shutdowns occurred in February.

The Base Boundary MTU continues to operate at a flow rate of 65 gpm. As of 26 February 2021, over 290.7 million gallons of water was treated and re-injected. No Base Boundary MTU shutdowns occurred in February.

The Leading Edge system continues to operate at a flow rate of 100 gpm. As of 26 February 2021, over 238.2 million gallons of water was treated and re-injected. No Leading Edge system shutdowns occurred in February.

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 Treatment Building G continues to operate at a flow rate of 225 gpm. As of 26 February 2021, over 1.336 billion gallons of water have been treated and re-injected. No Northern Treatment Building G shutdowns occurred in February.

The Northern MTUs E and F continue to operate at a flow rate of 250 gpm. As of 26 February 2021, over 1.797 billion gallons of water have been treated and re-injected. No Northern MTU shutdowns occurred in February.

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 26 February 2021, over 1.445 billion gallons of water have been treated and re-injected. The following MTU H and I shutdowns occurred in February.

- MTU H turned off at 1120 on 27 January 2021 due to repairs and media maintenance of the carbon and resin vessels, plumbing and floor repairs, and was restarted at 0930 on 26 February 2021.
- MTU H and I at 1125 on 26 February 2021 to perform mechanical maintenance and were restarted at 1210 on 26 February 2021.
- MTU I at 1723 on 07 February 2021 due to a snowstorm-related power interruption and was restarted at 0835 on 08 February 2021.

MTU J continues to operate at a flow rate of 120 gpm. As of 26 February 2021, over 670.1 million gallons of water have been treated and re-injected. No MTU J shutdowns occurred in February.

MTU K continues to operate at a flow rate of 125 gpm. As of 26 February 2021, over 791.2 million gallons of water have been treated and re-injected. No MTU K shutdowns occurred in February.

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 26 February 2021, over 1.456 billion gallons of water have been treated and re-injected. The following J-3 Range system shutdowns occurred in February:

- 1628 on 29 January 2021 due to an FS-12 shutdown and was restarted at 0742 on 01 February 2021, but 90EW0001 pumped 10 gpm instead of its previous 30 gpm.
- Well 90EW0001 was turned off at 0742 01 February 2021 due to low flow. Pump and pipe string were removed 17 February 2021, and blind flange installed.
- J3EW0032 was turned off at 0820 on 17 February and J3EWIP1 and J3EWIP2 were turned off at 1110 on 17 February 2021 due to water back feeding to 90EW0001. All three were restarted at 0900 on 18 February 2021. 90EW0001 remained off.

- 1112 on 23 February 2021 due to an FS-12 shutdown and was restarted at 1237 on 23 February 2021. 90EW0001 remained off.

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 26 February 2021, over 648.9 million gallons of water have been treated and re-injected. No J-1 Range Southern system shutdowns occurred in February.

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 26 February 2021, over 923.7 million gallons of water have been treated and re-injected. No J-1 Range Northern MTU shutdowns occurred in February.

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 26 February 2021, over 2.374 billion gallons of water have been treated and re-injected. No CIA system shutdowns occurred in February.

2. SUMMARY OF ACTIONS TAKEN

Operable Unit (OU) Activity As of 26 February 2021

CIA

- Perform intrusive investigations.
- Perform demo operation.
- Perform CSS ISM sampling.
- Perform routine check of the BEM cover.
- Perform routine MD processing.
- CIA SPM program groundwater sampling.
- CIA2 and CIA3 bag filters were replaced on 25 February 2021.

Demolition Area 1

- No activity.

Demolition Area 2

- No activity

J-1 Range

- No activity.

J-2 Range

- J2 East SPM program groundwater sampling.

J-3 Range

- GW RA bag filters were replaced on 12 February 2021.

L Range

- No activity.

Small Arms Ranges

No activity.

Training Areas

- No activity.

Other

- Collected process water samples from the Central Impact Area (Systems 1 ,2, and 3), Demolition Area 1 (including Pew Road MID-1 port recollect on 08 February 2021), J1 Range Northern, J1 Range Southern, J2 Range Eastern, J2 Range Northern, and J3 Range treatment systems.
- Frank Perkins treatment facility parking lot plowed on 07 and 19 February 2021.
- Wood Road from Greenway Road to and around J-2 Range GW RA MTUs H and I was plowed on 12 February 2021.
- J3 Range GW RA area was plowed on 12 February 2021

JBCC IAGWSP Tech Update Meeting Minutes for 11 February 2021Project and Fieldwork Update

All treatment systems are up and running except for J-2 North Unit H and one J-3 system extraction well. As reported at the last tech meeting, J-2 North Unit H was taken off-line January 27th. Carbon Filtration Systems brought ion exchange vessel #1 back to their facility to repair it. It is anticipated to return to the site on Tuesday, weather permitting. The J-3 system extraction well EW0001 on Camp Good News went down due to a power outage. When the system came back online, the pump was not functioning properly. The system is currently operating at 225 gallons per minute with the other three wells operational. In order to access the well to repair the pump, the crews will need to plow snow and they will coordinate with Camp Good News in order to schedule access. The sampling crews are working in the CIA will continue through mid-April.

Dawson de-mobbed on December 18th and they are scheduled to return in early March. In the Central Impact Area, there are two dig teams working and the snow has not impeded their progress. Survey Units 8 and 9 are underway and ~40-62% complete, respectively. Yesterday

they sampled at the consolidated shot structure as specified in the project note. They are still on track to complete their digs by April and then finish with demolition operations, scrap management and field cleanup prior to their final de-mob. The new UXO contractor, IE-Weston, will mobilize early April. A virtual “meet and greet” is being scheduled for Friday, February 26. An invitation and meeting materials will be forwarded to the team. EPA and MassDEP will work to get new grids to the group by mid-March.

Action Items

The action items were discussed and updated.

JBCC IAGWSP Tech Update Meeting Minutes for 25 February 2021

Project and Fieldwork Update

All treatment systems are up and running with the exception of J-2 North Unit H and one J-3 system extraction well. As reported at the last tech meeting, J-2 North Unit H was taken off-line January 27th. Carbon Filtration Systems brought ion exchange vessel #1 back to their facility to repair it. It was repaired, converted to be a carbon vessel and returned to the site on February 16. When it was restarted on February 18, it began leaking. CFS returned on February 23 and as they were fixing the leak a vent valve broke. Unfortunately, it could not be repaired and a new valve had to be ordered. Therefore, Unit H continues to be offline and Unit I is pumping at 125 gallons per minute. The J-3 system extraction well EW0001 on Camp Good News which originally went down due to a power outage, continues to be offline. When the system came back online, the pump was not functioning properly. The system is currently operating at 225 gallons per minute (gpm) with the other three wells operational. When the pump was removed, it was determined that it was 21 feet deeper than it should be. USACE was able to check the pump elevation against the original rapid response action design and the well installation materials to determine that it has been pumping at the correct elevation and all modeling was performed at the correct elevation. It will take three weeks for the new pump to get installed and come back online. In the interim, USACE will evaluate whether there are any minor modifications that would be beneficial to make to the pump while it is out of the hole. The sampling crews are working in the CIA will continue through mid-April and are ahead of schedule. Coordination with UXO teams has been going well. They will move to the J-1 Range south after they finish in the CIA.

Dawson de-mobbed on December 18th and they are scheduled to return March 22nd to finish the Former E Range work. They also might work on unimproved road sections of Jefferson, Spruce Swamp and Wheelock Roads, likely in mid to late summer. IAGWSP is coordinating with Camp Edwards to determine what Roads can be done under restrictions in place to protect the clam shrimp populations. The CIA BEM ISM soil sample results were forwarded to the team, all concentrations were relatively low, below action levels.

In the Central Impact Area, there are two dig teams working and the snow has not impeded their progress. Survey Units 8 and 9 are underway and ~52-71% complete, respectively. They are still on track to finish in April with demolition operations, scrap management and field cleanup prior to their final de-mob. They will leave approximately 1,000 for the new UXO contractor, IE-Weston. They will mobilize April 12th and a virtual “meet and greet” is scheduled for tomorrow. An invitation and meeting materials has been forwarded to the team.

Parsons is still working on developing the plan for disposal of the items in the CDC bunker. It was reiterated that if during the process of removing the items from the CDC bunker that need to be destroyed they come across items that are unsafe to move, they will have to re-evaluate and Army EOD may be needed to destroy the unsafe items. IAGWSP will coordinate closely with Army EOD if they are called in.

Demo 1 Pew Road Extraction Well Shut Down Project Note and Drilling Discussion

A presentation was provided on the Demolition Area 1 Pew Road extraction well shut down and proposed new drilling. It was explained that IAGWSP submitted a project note recommending shut-down of the Pew Road system on January 29th. EPA and MassDEP commented that before the project note was finalized and before shutting down Pew Road, they would like to see: a model run with Pew Road off to see what happens to mass between Pew Road and Base Boundary well (especially in the vicinity of MW-231), a model run to determine the pumping rate needed at the base boundary well to obtain better mass capture of mass near MW-231, and if additional treatment capacity is needed, it is recommended to move Pew Road mobile treatment unit to base boundary.

Figures showing capture zones for Pew Road pumping at 65 gpm and Base Boundary at 65 gpm, compared to without Pew Road pumping and Base Boundary at 65 gpm were displayed and discussed. It was noted that if Pew Road was off and Base Boundary was operating at 100 gpm, it would require a treatment system upgrade and possibly expansion of the infiltration gallery. If the Pew Road system was off and Base Boundary was operating at 125 gpm, it would require treatment system upgrade and infiltration gallery expansion.

Model simulations show no difference with and without Pew Road pumping with respect to mass as the plume has passed Pew Road. Continuing pumping at Pew Road at 65 gpm does not change cleanup times. Model simulations under future expansion of the Base Boundary system does not change time of remediation, but at 125 gpm capture zone expands out to MW-533M1.

IAGWSP submitted a new project note that outlines three profile borings, one at MW-533M1 to fulfill the requirements of the final 2020 annual report in order to delineate the vertical extent of contamination, and two additional profile borings one upgradient of MW-533M1 between MW-231/MW-663D and one downgradient of MW-533M1 and the base boundary to delineate the extent of contamination. Travel time from MW-231M1 to MW-533M1 about 4 years (-50 to -60 ft msl) and 7 years from MW-663D (-80 to -90 ft msl) to MW-533 location.

It was noted that with expansion of the base boundary system to 100 gpm and installation of a new system at MW-533M1 pumping at 100 gpm, the perchlorate/RDX plumes upgradient and downgradient of MW-533M1 would be within system capture zones and seems to reduce total cleanup time by 3+ years if it is installed by July 2022.

Next steps were discussed. IAGWSP would like to get approval on the project notes to shut down the Pew Road system and perform additional delineation (3 profile borings). In addition, determine the costs to move the Pew Road system to the Base Boundary and test if existing infiltration system could handle 100 gpm+ and also determine costs and practicality to install new treatment system at MW 533-M1. EPA and MassDEP stated that they agreed with the approach and would like to see the presentation included as part of the final project note.

Action Items

The action items were discussed and updated.

JBCC Cleanup Team Meeting

The next meeting of the JBCC Cleanup Team (JBCCCT) will be conducted virtually on March 24, 2021. The previous meeting was held on October 28, 2020, and the materials can be found on the IAGWSP web site at <https://jbcc-iagwsp.org/iagwsp/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 February to 28 February 2021. Table 2 summarizes the validated detections of explosives compounds and perchlorate for all groundwater results received from 1 February to 28 February 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. 286 for January 2021 | 13 February 2021 |
| • Draft Final-Uniform Federal Policy-Quality Assurance Project Plan for Source Response for Unexploded Ordinance at the Central Impact Area | 02 February 2021 |
| • Draft 2020 Central Impact Area Source Removal Annual Report | 09 February 2021 |
| • Final Central Impact Area 2020 Annual Environmental Monitoring Report, | 10 February 2021 |

5. SCHEDULED ACTIONS

The following actions and/or documents were being prepared or revised in February 2021 and will be in progress in February 2021.

- Central Impact Area 2020 Annual Environmental Monitoring Final Report
- Central Impact Area Source Removal Draft Annual Report
- Central Impact Area Uniform Federal Policy-Quality Assurance Project Plan for Source Response for Unexploded Ordinance Draft
- Demolition Area 1 Pew Road Extraction Well Shutdown Draft Project Note
- IRA Status and Completion Reports
- J-2 2020 Annual Environmental Monitoring Draft Report response to comments
- J-2 Range Phase 2 Post-DD Geo. & Soil Investigation Findings Addendum Draft Project Note
- J-3 2020 Range Annual Environmental Monitoring Draft Report response to comments
- J-3 Range Post-DD Confirmation Geophysical and Soil Investigation Findings Revised Draft Project Note
- Northwest Corner Demonstration of Compliance Draft Report MOR to RCL
- Small Arms Ranges Completion of Work Draft Report response to comments

TABLE 1
Sampling Progress: 1 through 28 February 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	MW-98S	MW-98S_S21	N	02/27/2021	Ground Water	137	147
Central Impact Area	MW-98M1	MW-98M1_S21	N	02/27/2021	Ground Water	164	174
Central Impact Area	MW-99S	MW-99S_S21	N	02/27/2021	Ground Water	133	143
Central Impact Area	MW-99M1	MW-99M1_S21	N	02/27/2021	Ground Water	195	205
Central Impact Area	MW-105M1	MW-105M1_S21	N	02/27/2021	Ground Water	205	215
Central Impact Area	MW-112M2	MW-112M2_S21	N	02/26/2021	Ground Water	165	175
Central Impact Area	MW-112M1	MW-112M1_S21	N	02/26/2021	Ground Water	195	205
Central Impact Area	MW-02M2	MW-02M2_S21	N	02/26/2021	Ground Water	170	175
Central Impact Area	MW-02M1	MW-02M1_S21	N	02/26/2021	Ground Water	212	217
Central Impact Area	MW-727M1	MW-727M1_S21	N	02/26/2021	Ground Water	145.4	155.4
Central Impact Area	MW-727M1	MW-727M1_S21D	FD	02/26/2021	Ground Water	145.4	155.4
Central Impact Area	MW-39M1	MW-39M1_S21	N	02/25/2021	Ground Water	220	230
Central Impact Area	MW-87M2	MW-87M2_S21	N	02/25/2021	Ground Water	169	179
Central Impact Area	MW-87M1	MW-87M1_S21	N	02/25/2021	Ground Water	194	204
Central Impact Area	MW-42M3	MW-42M3_S21	N	02/25/2021	Ground Water	165.8	176
Central Impact Area	MW-42M2	MW-42M2_S21	N	02/25/2021	Ground Water	185.8	196
Central Impact Area	MW-42M1	MW-42M1_S21	N	02/25/2021	Ground Water	205.8	216
Former A Range	MW-42M1	MW-42M1_S21	N	02/25/2021	Ground Water	205.8	216
Central Impact Area	MW-111M1	MW-111M1_S21	N	02/24/2021	Ground Water	224	234
Central Impact Area	MW-184M1	MW-184M1_S21	N	02/24/2021	Ground Water	186	196
Central Impact Area	MW-184M1	MW-184M1_S21D	FD	02/24/2021	Ground Water	186	196
Central Impact Area	MW-728M1	MW-728M1_S21	N	02/24/2021	Ground Water	153.4	163.4
Central Impact Area	MW-179M1	MW-179M1_S21	N	02/24/2021	Ground Water	187	197
Central Impact Area	MW-726S	MW-726S_S21	N	02/20/2021	Ground Water	135.5	145.5
Central Impact Area	MW-100M2	MW-100M2_S21	N	02/20/2021	Ground Water	164	174
Central Impact Area	MW-100M1	MW-100M1_S21	N	02/20/2021	Ground Water	179	189
Central Impact Area	MW-101S	MW-101S_S21	N	02/20/2021	Ground Water	131	141
Central Impact Area	MW-101M1	MW-101M1_S21	N	02/20/2021	Ground Water	158	168
Central Impact Area	MW-101M1	MW-101M1_S21D	FD	02/20/2021	Ground Water	158	168
Central Impact Area	MW-38M4	MW-38M4_S21	N	02/18/2021	Ground Water	132	142
Central Impact Area	MW-38M3	MW-38M3_S21	N	02/18/2021	Ground Water	170	180
Central Impact Area	MW-25	MW-25_S21	N	02/18/2021	Ground Water	108	118
Central Impact Area	MW-113M2	MW-113M2_S21	N	02/17/2021	Ground Water	190	200
Central Impact Area	MW-113M1	MW-113M1_S21	N	02/17/2021	Ground Water	240	250
Central Impact Area	MW-725M1	MW-725M1_S21	N	02/17/2021	Ground Water	145.2	155.2
Central Impact Area	MW-725M1	MW-725M1_S21D	FD	02/17/2021	Ground Water	145.2	155.2
Central Impact Area	MW-85S	MW-85S_S21	N	02/17/2021	Ground Water	116	126
Central Impact Area	MW-695S	MW-695S_S21	N	02/16/2021	Ground Water	130	140
Central Impact Area	MW-695S	MW-695S_S21D	FD	02/16/2021	Ground Water	130	140
Central Impact Area	MW-44M1	MW-44M1_S21	N	02/16/2021	Ground Water	182	192
Central Impact Area	MW-487M2	MW-487M2_S21	N	02/16/2021	Ground Water	195.84	205.84
J1 Range Northern	MW-487M2	MW-487M2_S21	N	02/16/2021	Ground Water	195.84	205.84
Central Impact Area	MW-487M1	MW-487M1_S21	N	02/16/2021	Ground Water	240.29	250.29
J1 Range Northern	MW-487M1	MW-487M1_S21	N	02/16/2021	Ground Water	240.29	250.29
Central Impact Area	MW-93M2	MW-93M2_S21	N	02/11/2021	Ground Water	145	155
Central Impact Area	MW-93M1	MW-93M1_S21	N	02/11/2021	Ground Water	185	195
Central Impact Area	MW-115S	MW-115S_S21	N	02/11/2021	Ground Water	116	126
Central Impact Area	MW-115M1	MW-115M1_S21	N	02/11/2021	Ground Water	138	148
Central Impact Area	MW-235M1	MW-235M1_S21	N	02/10/2021	Ground Water	154	164
Central Impact Area	MW-91S	MW-91S_S21	N	02/10/2021	Ground Water	124	134
Central Impact Area	MW-91S	MW-91S_S21D	FD	02/10/2021	Ground Water	124	134
Central Impact Area	MW-91M1	MW-91M1_S21	N	02/10/2021	Ground Water	170	180
Central Impact Area	OW-1	OW-1_S21	N	02/10/2021	Ground Water	126	136
Central Impact Area	OW-1	OW-1_S21D	FD	02/10/2021	Ground Water	126	136

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 through 28 February 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	OW-2	OW-2_S21	N	02/10/2021	Ground Water	175	185
Central Impact Area	MW-486M1	MW-486M1_S21	N	02/09/2021	Ground Water	185.7	195.7
Central Impact Area	MW-207M1	MW-207M1_S21	N	02/09/2021	Ground Water	254	264
Central Impact Area	MW-176M2	MW-176M2_S21	N	02/09/2021	Ground Water	229	239
Central Impact Area	MW-176M1	MW-176M1_S21	N	02/09/2021	Ground Water	270	280
Central Impact Area	MW-90S	MW-90S_S21	N	02/08/2021	Ground Water	118	128
Central Impact Area	MW-90S	MW-90S_S21D	FD	02/08/2021	Ground Water	118	128
Central Impact Area	CIA2-EFF	CIA2-EFF-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	MW-90M1	MW-90M1_S21	N	02/08/2021	Ground Water	145	155
Central Impact Area	MW-01S	MW-01S_S21	N	02/08/2021	Ground Water	114	124
Central Impact Area	MW-01M2	MW-01M2_S21	N	02/08/2021	Ground Water	160	165
Central Impact Area	MW-212M1	MW-212M1_S21	N	02/04/2021	Ground Water	333	343
Central Impact Area	CIA2-MID2	CIA2-MID2-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA2-MID1	CIA2-MID1-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA2-INF	CIA2-INF-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA1-EFF	CIA1-EFF-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA1-MID2	CIA1-MID2-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA1-MID1	CIA1-MID1-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA1-INF	CIA1-INF-85A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA3-EFF	CIA3-EFF-56A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA3-MID2	CIA3-MID2-56A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA3-MID1	CIA3-MID1-56A	N	02/02/2021	Process Water	0	0
Central Impact Area	CIA3-INF	CIA3-INF-56A	N	02/02/2021	Process Water	0	0
Central Impact Area	MW-223M2	MW-223M2_S21	N	02/04/2021	Ground Water	185	195
Demolition Area 1	PR-MID-1	PR-MID-1-179A	N	02/08/2021	Process Water	0	0
Demolition Area 1	PR-EFF	PR-EFF-179A	N	02/04/2021	Process Water	0	0
Demolition Area 1	PR-MID-2	PR-MID-2-179A	N	02/04/2021	Process Water	0	0
Demolition Area 1	PR-INF	PR-INF-179A	N	02/04/2021	Process Water	0	0
Central Impact Area	MW-223M1	MW-223M1_S21	N	02/04/2021	Ground Water	211	221
Central Impact Area	MW-223D	MW-223D_S21	N	02/04/2021	Ground Water	260	270
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-179A	N	02/04/2021	Process Water	0	0
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-179A	N	02/04/2021	Process Water	0	0
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-179A	N	02/04/2021	Process Water	0	0
Demolition Area 1	FPR-2-INF	FPR-2-INF-179A	N	02/04/2021	Process Water	0	0
Central Impact Area	MW-485M1	MW-485M1_S21	N	02/03/2021	Ground Water	125.32	135.32
Central Impact Area	MW-485M1	MW-485M1_S21D	FD	02/03/2021	Ground Water	125.32	135.32
Demolition Area 1	D1LE-EFF	D1LE-EFF-55A	N	02/04/2021	Process Water	0	0
Demolition Area 1	D1LE-MID2	D1LE-MID2-55A	N	02/04/2021	Process Water	0	0
Demolition Area 1	D1LE-MID1	D1LE-MID1-55A	N	02/04/2021	Process Water	0	0
Central Impact Area	MW-27	MW-27_S21	N	02/03/2021	Ground Water	117	127
Demolition Area 1	D1LE-INF	D1LE-INF-55A	N	02/04/2021	Process Water	0	0
Demolition Area 1	D1-EFF	D1-EFF-127A	N	02/04/2021	Process Water	0	0
Demolition Area 1	D1-MID-2	D1-MID-2-127A	N	02/04/2021	Process Water	0	0
Demolition Area 1	D1-MID-1	D1-MID-1-127A	N	02/04/2021	Process Water	0	0
Central Impact Area	MW-477M2	MW-477M2_S21	N	02/03/2021	Ground Water	145.62	155.62
Central Impact Area	MW-477M2	MW-477M2_S21D	FD	02/03/2021	Ground Water	145.62	155.62
Demolition Area 1	D1-INF	D1-INF-127A	N	02/04/2021	Process Water	0	0
J1 Range Northern	J1N-EFF	J1N-EFF-88A	N	02/03/2021	Process Water	0	0
J1 Range Northern	J1N-MID2	J1N-MID2-88A	N	02/03/2021	Process Water	0	0
J1 Range Northern	J1N-MID1	J1N-MID1-88A	N	02/03/2021	Process Water	0	0
J1 Range Northern	J1N-INF2	J1N-INF2-88A	N	02/03/2021	Process Water	0	0
Central Impact Area	MW-477M1	MW-477M1_S21	N	02/03/2021	Ground Water	187.53	197.53
J1 Range Southern	J1S-EFF	J1S-EFF-159A	N	02/03/2021	Process Water	0	0
J1 Range Southern	J1S-MID	J1S-MID-159A	N	02/03/2021	Process Water	0	0

N = Normal Sample
FD = Field Duplicate

TABLE 1
Sampling Progress: 1 through 28 February 2021

Area Of Concern	Location	Field Sample ID	Sample Type	Date Sampled	Matrix	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
J1 Range Southern	J1S-INF-2	J1S-INF-2-159A	N	02/03/2021	Process Water	0	0
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-149A	N	02/02/2021	Process Water	0	0
Central Impact Area	MW-37M2	MW-37M2_S21	N	02/02/2021	Ground Water	145	155
Central Impact Area	MW-40S	MW-40S_S21	N	02/02/2021	Ground Water	115.5	126
J2 Range Eastern	J2E-MID-1K	J2E-MID-1K-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-INF-K	J2E-INF-K-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-149A	N	02/02/2021	Process Water	0	0
Central Impact Area	MW-40M1	MW-40M1_S21	N	02/02/2021	Ground Water	132.5	142.5
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-INF-J	J2E-INF-J-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-EFF-I	J2E-EFF-I-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-MID-1I	J2E-MID-1I-149A	N	02/02/2021	Process Water	0	0
J2 Range Eastern	J2E-INF-I	J2E-INF-I-149A	N	02/02/2021	Process Water	0	0
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-MID-2G	J2N-MID-2G-173A	N	02/03/2021	Process Water	0	0
Central Impact Area	MW-107M2	MW-107M2_S21	N	02/02/2021	Ground Water	125	135
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-INF-G	J2N-INF-G-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-MID-2E	J2N-MID-2E-173A	N	02/03/2021	Process Water	0	0
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-173A	N	02/03/2021	Process Water	0	0
J3 Range	J3-EFF	J3-EFF-173A	N	02/04/2021	Process Water	0	0
J3 Range	J3-MID-2	J3-MID-2-173A	N	02/04/2021	Process Water	0	0
J3 Range	J3-MID-1	J3-MID-1-173A	N	02/04/2021	Process Water	0	0
J3 Range	J3-INF	J3-INF-173A	N	02/04/2021	Process Water	0	0
J2 Range Eastern	MW-393D	MW-393D_S21	N	02/01/2021	Ground Water	313.56	323.56
J2 Range Eastern	J2MW-04M2	J2MW-04M2_S21	N	02/01/2021	Ground Water	210	220
J2 Range Eastern	J2MW-04M1	J2MW-04M1_S21	N	02/01/2021	Ground Water	257	267

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
J3 Range	J3-EFF	J3-EFF-173A	0	0	02/04/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.089	J	µg/L	400		0.036	0.20
J3 Range	J3-EFF	J3-EFF-173A	0	0	02/04/2021	SW6850	Perchlorate	0.15	J	µg/L	2.0		0.030	0.20
J3 Range	J3-EFF	J3-EFF-173A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.19	J	µg/L	0.60		0.034	0.20
J3 Range	J3-MID-2	J3-MID-2-173A	0	0	02/04/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.12	J	µg/L	400		0.036	0.20
J3 Range	J3-MID-2	J3-MID-2-173A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J3 Range	J3-MID-1	J3-MID-1-173A	0	0	02/04/2021	SW6850	Perchlorate	0.20	J	µg/L	2.0		0.030	0.20
J3 Range	J3-INF	J3-INF-173A	0	0	02/04/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.20		µg/L	400		0.036	0.20
J3 Range	J3-INF	J3-INF-173A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26		µg/L	0.60		0.034	0.20
J3 Range	J3-INF	J3-INF-173A	0	0	02/04/2021	SW6850	Perchlorate	0.60		µg/L	2.0		0.030	0.20
Demolition Area 1	PR-EFF	PR-EFF-179A	0	0	02/04/2021	SW6850	Perchlorate	0.034	J	µg/L	2.0		0.030	0.20
Demolition Area 1	PR-MID-2	PR-MID-2-179A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.067	J	µg/L	0.60		0.034	0.20
Demolition Area 1	PR-INF	PR-INF-179A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.084	J	µg/L	0.60		0.034	0.20
Demolition Area 1	PR-INF	PR-INF-179A	0	0	02/04/2021	SW6850	Perchlorate	0.24		µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-179A	0	0	02/04/2021	SW6850	Perchlorate	0.099	J	µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-179A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.034	0.20
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-179A	0	0	02/04/2021	SW6850	Perchlorate	0.053	J	µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-179A	0	0	02/04/2021	SW6850	Perchlorate	0.046	J	µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-179A	0	0	02/04/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.12	J	µg/L	400		0.036	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-179A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.16	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1LE-INF	D1LE-INF-55A	0	0	02/04/2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-EFF	D1-EFF-127A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.048	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1-MID-2	D1-MID-2-127A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.046	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1-MID-1	D1-MID-1-127A	0	0	02/04/2021	SW6850	Perchlorate	0.050	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-INF	D1-INF-127A	0	0	02/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.041	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1-INF	D1-INF-127A	0	0	02/04/2021	SW6850	Perchlorate	0.62		µg/L	2.0		0.030	0.20
J1 Range Southern	J1S-EFF	J1S-EFF-159A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.034	0.20
J1 Range Southern	J1S-MID	J1S-MID-159A	0	0	02/03/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.054	J	µg/L	400		0.036	0.20
J1 Range Southern	J1S-MID	J1S-MID-159A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.23		µg/L	0.60		0.034	0.20
J1 Range Southern	J1S-INF-2	J1S-INF-2-159A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-EFF-G	J2N-EFF-G-173A	0	0	02/03/2021	SW6850	Perchlorate	0.037	J	µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-MID-1G	J2N-MID-1G-173A	0	0	02/03/2021	SW6850	Perchlorate	0.041	J	µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-INF-G	J2N-INF-G-173A	0	0	02/03/2021	SW6850	Perchlorate	0.29		µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-173A	0	0	02/03/2021	SW6850	Perchlorate	0.035	J	µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-173A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.069	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-173A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.076	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-MID-1F	J2N-MID-1F-173A	0	0	02/03/2021	SW6850	Perchlorate	0.043	J	µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-173A	0	0	02/03/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.043	J	µg/L	400		0.036	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-173A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.073	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-173A	0	0	02/03/2021	SW6850	Perchlorate	2.2		µg/L	2.0	X	0.030	0.20
J2 Range Northern	J2N-MID-1E	J2N-MID-1E-173A	0	0	02/03/2021	SW6850	Perchlorate	0.082	J	µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-88A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-88A	0	0	02/03/2021	SW6850	Perchlorate	0.26		µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-MID2	J1N-MID2-88A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-MID1	J1N-MID1-88A	0	0	02/03/2021	SW6850	Perchlorate	0.27		µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-INF2	J1N-INF2-88A	0	0	02/03/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11	J	µg/L	0.60		0.034	0.20

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
J1 Range Northern	J1N-INF2	J1N-INF2-88A	0	0	02/03/2021	SW6850	Perchlorate	0.65		µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.050	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-149A	0	0	02/02/2021	SW6850	Perchlorate	0.088	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-149A	0	0	02/02/2021	SW6850	Perchlorate	0.10	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.25		µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.098	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.23		µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-149A	0	0	02/02/2021	SW6850	Perchlorate	0.094	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.084	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.14	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-149A	0	0	02/02/2021	SW6850	Perchlorate	0.92		µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-EFF-I	J2E-EFF-I-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.053	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-EFF-I	J2E-EFF-I-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-149A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.12	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-149A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-149A	0	0	02/02/2021	SW6850	Perchlorate	0.98		µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-MID1	CIA2-MID1-85A	0	0	02/02/2021	SW6850	Perchlorate	0.17	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-INF	CIA2-INF-85A	0	0	02/02/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
Central Impact Area	CIA2-INF	CIA2-INF-85A	0	0	02/02/2021	SW6850	Perchlorate	0.32		µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-INF	CIA2-INF-85A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.034	0.20
Central Impact Area	CIA1-MID2	CIA1-MID2-85A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.18	J	µg/L	0.60		0.034	0.20
Central Impact Area	CIA1-MID1	CIA1-MID1-85A	0	0	02/02/2021	SW6850	Perchlorate	0.069	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA1-INF	CIA1-INF-85A	0	0	02/02/2021	SW6850	Perchlorate	0.48		µg/L	2.0		0.030	0.20
Central Impact Area	CIA1-INF	CIA1-INF-85A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.73		µg/L	0.60	X	0.034	0.20
Central Impact Area	CIA3-MID2	CIA3-MID2-56A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.25		µg/L	0.60		0.034	0.20
Central Impact Area	CIA3-INF	CIA3-INF-56A	0	0	02/02/2021	SW6850	Perchlorate	0.13	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA3-INF	CIA3-INF-56A	0	0	02/02/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.79		µg/L	0.60	X	0.034	0.20
J2 Range Northern	J2EW0001	J2EW0001_S21	179	234	01/13/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.090	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2EW0001	J2EW0001_S21	179	234	01/13/2021	SW6850	Perchlorate	0.75		µg/L	2.0		0.030	0.20
J2 Range Northern	J2EW0003	J2EW0003_S21	202	232	01/13/2021	SW6850	Perchlorate	0.30		µg/L	2.0		0.030	0.20
J2 Range Northern	J2EW0002	J2EW0002_S21	198	233	01/13/2021	SW6850	Perchlorate	4.7		µg/L	2.0	X	0.030	0.20
Lima Range	MW-242M1	MW-242M1_S21	235	245	01/12/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.089	J	µg/L	0.60		0.034	0.20
Lima Range	MW-650M1	MW-650M1_S21	260	270	01/12/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.29		µg/L	0.60		0.034	0.20
Lima Range	MW-651M1	MW-651M1_S21	242.3	252.3	01/12/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.057	J	µg/L	400		0.036	0.20
Lima Range	MW-651M1	MW-651M1_S21	242.3	252.3	01/12/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.57		µg/L	0.60		0.034	0.20
Lima Range	90MW0031	90MW0031_S21	195.32	200.22	01/12/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.075	J	µg/L	400		0.036	0.20
Lima Range	90MW0031	90MW0031_S21	195.32	200.22	01/12/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.23		µg/L	0.60		0.034	0.20
Lima Range	MW-595M1	MW-595M1_S21	255.3	265.3	01/11/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.4		µg/L	0.60	X	0.034	0.20
Lima Range	MW-595M1	MW-595M1_S21D	255.3	265.3	01/11/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2.5		µg/L	0.60	X	0.034	0.20

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
J3 Range	J3EWIP1	J3EWIP1_S21	153	193	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.061	J	µg/L	0.60		0.034	0.20
J3 Range	J3EWIP1	J3EWIP1_S21	153	193	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.083	J	µg/L	400		0.036	0.20
J3 Range	J3EWIP1	J3EWIP1_S21	153	193	01/07/2021	SW6850	Perchlorate	0.20		µg/L	2.0		0.030	0.20
Demolition Area 1	PR-EFF	PR-EFF-178A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.048	J	µg/L	0.60		0.034	0.20
Demolition Area 1	PR-MID-2	PR-MID-2-178A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
Demolition Area 1	PR-INF	PR-INF-178A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.10	J	µg/L	0.60		0.034	0.20
Demolition Area 1	PR-INF	PR-INF-178A	0	0	01/07/2021	SW6850	Perchlorate	0.24		µg/L	2.0		0.030	0.20
J3 Range	J3EWIP2	J3EWIP2_S21	149.5	169.5	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.32		µg/L	400		0.036	0.20
J3 Range	J3EWIP2	J3EWIP2_S21	149.5	169.5	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.36		µg/L	0.60		0.034	0.20
J3 Range	J3EWIP2	J3EWIP2_S21	149.5	169.5	01/07/2021	SW6850	Perchlorate	1.5		µg/L	2.0		0.030	0.20
J3 Range	J3EWIP2	J3EWIP2_S21D	149.5	169.5	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.31		µg/L	400		0.036	0.20
J3 Range	J3EWIP2	J3EWIP2_S21D	149.5	169.5	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.36		µg/L	0.60		0.034	0.20
J3 Range	J3EWIP2	J3EWIP2_S21D	149.5	169.5	01/07/2021	SW6850	Perchlorate	1.4		µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-EFF-A	FPR-2-EFF-A-178A	0	0	01/07/2021	SW6850	Perchlorate	0.11	J	µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-GAC-MID1A	FPR-2-GAC-MID1A-178A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
Demolition Area 1	FPR2-POST-IX-A	FPR2-POST-IX-A-178A	0	0	01/07/2021	SW6850	Perchlorate	0.076	J	µg/L	2.0		0.030	0.20
J3 Range	J3EW0032	J3EW0032_S21	102	152	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.27		µg/L	400		0.036	0.20
J3 Range	J3EW0032	J3EW0032_S21	102	152	01/07/2021	SW6850	Perchlorate	0.51		µg/L	2.0		0.030	0.20
J3 Range	J3EW0032	J3EW0032_S21	102	152	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.51		µg/L	0.60		0.034	0.20
J3 Range	J3EW0032	J3EW0032_S21D	102	152	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.28		µg/L	400		0.036	0.20
J3 Range	J3EW0032	J3EW0032_S21D	102	152	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.49		µg/L	0.60		0.034	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-178A	0	0	01/07/2021	SW6850	Perchlorate	0.058	J	µg/L	2.0		0.030	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-178A	0	0	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.13	J	µg/L	400		0.036	0.20
Demolition Area 1	FPR-2-INF	FPR-2-INF-178A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1LE-INF	D1LE-INF-54A	0	0	01/07/2021	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-EFF	D1-EFF-126A	0	0	01/07/2021	SW6850	Perchlorate	0.044	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-EFF	D1-EFF-126A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.052	J	µg/L	0.60		0.034	0.20
J3 Range	90EW0001	90EW0001_S21	83.1	143.83	01/07/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.070	J	µg/L	400		0.036	0.20
J3 Range	90EW0001	90EW0001_S21	83.1	143.83	01/07/2021	SW6850	Perchlorate	0.17	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-MID-2	D1-MID-2-126A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.054	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1-MID-1	D1-MID-1-126A	0	0	01/07/2021	SW6850	Perchlorate	0.048	J	µg/L	2.0		0.030	0.20
Demolition Area 1	D1-INF	D1-INF-126A	0	0	01/07/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.042	J	µg/L	0.60		0.034	0.20
Demolition Area 1	D1-INF	D1-INF-126A	0	0	01/07/2021	SW6850	Perchlorate	0.66		µg/L	2.0		0.030	0.20
J3 Range	J3-EFF	J3-EFF-172A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.092	J	µg/L	400		0.036	0.20
J3 Range	J3-EFF	J3-EFF-172A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
J3 Range	J3-EFF	J3-EFF-172A	0	0	01/06/2021	SW6850	Perchlorate	0.19	J	µg/L	2.0		0.030	0.20
J3 Range	J3-MID-2	J3-MID-2-172A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.13	J	µg/L	400		0.036	0.20
J3 Range	J3-MID-2	J3-MID-2-172A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.19	J	µg/L	0.60		0.034	0.20
J3 Range	J3-MID-1	J3-MID-1-172A	0	0	01/06/2021	SW6850	Perchlorate	0.16	J	µg/L	2.0		0.030	0.20
J3 Range	J3-INF	J3-INF-172A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.17	J	µg/L	400		0.036	0.20
J3 Range	J3-INF	J3-INF-172A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.19	J	µg/L	0.60		0.034	0.20
J3 Range	J3-INF	J3-INF-172A	0	0	01/06/2021	SW6850	Perchlorate	0.58		µg/L	2.0		0.030	0.20
J1 Range Southern	J1S-EFF	J1S-EFF-158A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
J1 Range Southern	J1S-MID	J1S-MID-158A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J1 Range Southern	J1S-INF-2	J1S-INF-2-158A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.19	J	µg/L	0.60		0.034	0.20

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
J3 Range	MW-637M2	MW-637M2_S21	214.1	224.1	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
J3 Range	MW-637M2	MW-637M2_S21	214.1	224.1	01/06/2021	SW6850	Perchlorate	2.8		µg/L	2.0	X	0.030	0.20
J3 Range	MW-637M2	MW-637M2_S21D	214.1	224.1	01/06/2021	SW6850	Perchlorate	2.9		µg/L	2.0	X	0.030	0.20
J2 Range Eastern	J2E-EFF-K	J2E-EFF-K-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2K	J2E-MID-2K-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.18	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-148A	0	0	01/06/2021	SW6850	Perchlorate	0.093	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-INF-K	J2E-INF-K-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.16	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-148A	0	0	01/06/2021	SW6850	Perchlorate	0.088	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-EFF-J	J2E-EFF-J-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.28		µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2J	J2E-MID-2J-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.24		µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-1J	J2E-MID-1J-148A	0	0	01/06/2021	SW6850	Perchlorate	0.10	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.096	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.15	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-INF-J	J2E-INF-J-148A	0	0	01/06/2021	SW6850	Perchlorate	0.89		µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.046	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-EFF-IH	J2E-EFF-IH-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.051	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-2H	J2E-MID-2H-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.034	0.20
J3 Range	90PLT01006	90PLT01006_S21	0	0	01/06/2021	SW6850	Perchlorate	0.062	J	µg/L	2.0		0.030	0.20
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-MID-2I	J2E-MID-2I-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-148A	0	0	01/06/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-148A	0	0	01/06/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J2 Range Eastern	J2E-INF-I	J2E-INF-I-148A	0	0	01/06/2021	SW6850	Perchlorate	1.0		µg/L	2.0		0.030	0.20
J3 Range	MW-636M2	MW-636M2_S21	110.5	120.5	01/05/2021	SW6850	Perchlorate	0.066	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-MID2	CIA2-MID2-84A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.057	J	µg/L	0.60		0.034	0.20
Central Impact Area	CIA2-MID1	CIA2-MID1-84A	0	0	01/05/2021	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-INF	CIA2-INF-84A	0	0	01/05/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.13	J	µg/L	400		0.036	0.20
Central Impact Area	CIA2-INF	CIA2-INF-84A	0	0	01/05/2021	SW6850	Perchlorate	0.29		µg/L	2.0		0.030	0.20
Central Impact Area	CIA2-INF	CIA2-INF-84A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.034	0.20
Central Impact Area	CIA1-MID2	CIA1-MID2-84A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
J3 Range	MW-653M2	MW-653M2_S21	59.3	69.3	01/05/2021	SW6850	Perchlorate	0.077	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA1-INF	CIA1-INF-84A	0	0	01/05/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.079	J	µg/L	400		0.036	0.20
Central Impact Area	CIA1-INF	CIA1-INF-84A	0	0	01/05/2021	SW6850	Perchlorate	0.46		µg/L	2.0		0.030	0.20
Central Impact Area	CIA1-INF	CIA1-INF-84A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.82		µg/L	0.60	X	0.034	0.20
J3 Range	MW-653M1	MW-653M1_S21	147.5	157.5	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.071	J	µg/L	0.60		0.034	0.20
J3 Range	MW-653M1	MW-653M1_S21	147.5	157.5	01/05/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
J3 Range	MW-653M1	MW-653M1_S21	147.5	157.5	01/05/2021	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA3-EFF	CIA3-EFF-55A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.17	J	µg/L	0.60		0.034	0.20
Central Impact Area	CIA3-MID2	CIA3-MID2-55A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.25		µg/L	0.60		0.034	0.20
Central Impact Area	CIA3-INF	CIA3-INF-55A	0	0	01/05/2021	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.053	J	µg/L	400		0.036	0.20
Central Impact Area	CIA3-INF	CIA3-INF-55A	0	0	01/05/2021	SW6850	Perchlorate	0.12	J	µg/L	2.0		0.030	0.20
Central Impact Area	CIA3-INF	CIA3-INF-55A	0	0	01/05/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.86		µg/L	0.60	X	0.034	0.20

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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	J2N-MID-1G	J2N-MID-1G-172A	0	0	01/04/2021	SW6850	Perchlorate	0.052	J	µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-INF-G	J2N-INF-G-172A	0	0	01/04/2021	SW6850	Perchlorate	0.35		µg/L	2.0		0.030	0.20
J2 Range Northern	J2N-EFF-EF	J2N-EFF-EF-172A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.074	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-MID-2F	J2N-MID-2F-172A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.081	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-172A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.083	J	µg/L	0.60		0.034	0.20
J2 Range Northern	J2N-INF-EF	J2N-INF-EF-172A	0	0	01/04/2021	SW6850	Perchlorate	2.2		µg/L	2.0	X	0.030	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-87A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-EFF	J1N-EFF-87A	0	0	01/04/2021	SW6850	Perchlorate	0.21		µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-MID2	J1N-MID2-87A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.16	J	µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-MID1	J1N-MID1-87A	0	0	01/04/2021	SW6850	Perchlorate	0.22		µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-INF2	J1N-INF2-87A	0	0	01/04/2021	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-INF2	J1N-INF2-87A	0	0	01/04/2021	SW6850	Perchlorate	0.61		µg/L	2.0		0.030	0.20
Demolition Area 1	MW-544M3	MW-544M3_F20	77.5	87.5	12/30/2020	SW6850	Perchlorate	0.057	J	µg/L	2.0		0.030	0.20
Demolition Area 1	MW-544M2	MW-544M2_F20	112	122	12/30/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.075	J	µg/L	0.60		0.034	0.20
Demolition Area 1	MW-544M2	MW-544M2_F20	112	122	12/30/2020	SW6850	Perchlorate	0.33		µg/L	2.0		0.030	0.20
Demolition Area 1	MW-544M1	MW-544M1_F20	162	172	12/30/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.50	J	µg/L	0.60		0.034	0.20
Demolition Area 1	MW-544M1	MW-544M1_F20	162	172	12/30/2020	SW6850	Perchlorate	6.3		µg/L	2.0	X	0.030	0.20
Demolition Area 1	MW-659M1	MW-659M1_F20	120	130	12/30/2020	SW6850	Perchlorate	0.22		µg/L	2.0		0.030	0.20
Demolition Area 1	MW-341M3	MW-341M3_F20	209.5	219.5	12/29/2020	SW6850	Perchlorate	0.32	J	µg/L	2.0		0.030	0.20
Demolition Area 1	MW-341M2	MW-341M2_F20	264.5	269.5	12/29/2020	SW6850	Perchlorate	0.40		µg/L	2.0		0.030	0.20
Demolition Area 1	MW-341M2	MW-341M2_F20	264.5	269.5	12/29/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.40		µg/L	0.60		0.034	0.20
Demolition Area 1	MW-19S	MW-19S_F20	52.7	62.7	12/29/2020	SW8330	4-Amino-2,6-dinitrotoluene	0.11	J	µg/L	7.3		0.027	0.20
Demolition Area 1	MW-19S	MW-19S_F20	52.7	62.7	12/29/2020	SW8330	2-Amino-4,6-dinitrotoluene	0.12	J	µg/L	7.3		0.020	0.20
Demolition Area 1	MW-19S	MW-19S_F20	52.7	62.7	12/29/2020	SW8330	2,4,6-Trinitrotoluene	0.13	J	µg/L	2.0		0.041	0.20
Demolition Area 1	MW-19S	MW-19S_F20	52.7	62.7	12/29/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.4		µg/L	400		0.036	0.20
Demolition Area 1	MW-19S	MW-19S_F20	52.7	62.7	12/29/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.7		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-73S	MW-73S_F20	52.2	61.7	12/29/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.13	J	µg/L	0.60		0.034	0.20
Demolition Area 1	EW-658	EW-658_F20	96	136	12/28/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.11	J	µg/L	400		0.036	0.20
Demolition Area 1	EW-658	EW-658_F20	96	136	12/28/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.034	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	1,3,5-Trinitrobenzene	0.15	J	µg/L	1090		0.023	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	2-Amino-4,6-dinitrotoluene	0.21	J	µg/L	7.3		0.020	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	4-Amino-2,6-dinitrotoluene	0.32		µg/L	7.3		0.027	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	2,4,6-Trinitrotoluene	0.85		µg/L	2.0		0.041	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-31S	MW-31S_F20	98	103	12/28/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.0		µg/L	400		0.036	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	1,3,5-Trinitrobenzene	0.12	J	µg/L	1090		0.023	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	2-Amino-4,6-dinitrotoluene	0.21	J	µg/L	7.3		0.020	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	4-Amino-2,6-dinitrotoluene	0.31		µg/L	7.3		0.027	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	2,4,6-Trinitrotoluene	0.87		µg/L	2.0		0.041	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-31S	MW-31S_F20D	98	103	12/28/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2.0		µg/L	400		0.036	0.20
Demolition Area 1	MW-533M1	MW-533M1_F20	160	170	12/28/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.0		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-533M1	MW-533M1_F20	160	170	12/28/2020	SW6850	Perchlorate	21.8		µg/L	2.0	X	0.15	1.0
Demolition Area 1	MW-533M1	MW-533M1_F20D	160	170	12/28/2020	SW6850	Perchlorate	21.5		µg/L	2.0	X	0.15	1.0
Demolition Area 1	MW-545M4	MW-545M4_F20	72	82	12/23/2020	SW6850	Perchlorate	0.33		µg/L	2.0		0.030	0.20

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TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
Demolition Area 1	MW-545M3	MW-545M3_F20	101.5	111.5	12/23/2020	SW6850	Perchlorate	0.59		µg/L	2.0		0.030	0.20
Demolition Area 1	MW-545M2	MW-545M2_F20	142	152	12/23/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.21		µg/L	0.60		0.034	0.20
Demolition Area 1	MW-545M2	MW-545M2_F20	142	152	12/23/2020	SW6850	Perchlorate	3.1		µg/L	2.0	X	0.030	0.20
Demolition Area 1	MW-545M1	MW-545M1_F20	162	172	12/23/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
Demolition Area 1	MW-545M1	MW-545M1_F20	162	172	12/23/2020	SW6850	Perchlorate	1.2		µg/L	2.0		0.030	0.20
Demolition Area 1	XX9514	XX9514_F20	102	112	12/23/2020	SW6850	Perchlorate	2.7		µg/L	2.0	X	0.030	0.20
Demolition Area 1	MW-431	MW-431_F20	88	188	12/22/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.13	J	µg/L	400		0.036	0.20
Demolition Area 1	MW-431	MW-431_F20	88	188	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.20		µg/L	0.60		0.034	0.20
Demolition Area 1	MW-77M2	MW-77M2_F20	120	130	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
Demolition Area 1	MW-77M2	MW-77M2_F20	120	130	12/22/2020	SW8330	4-Amino-2,6-dinitrotoluene	0.20		µg/L	7.3		0.027	0.20
Demolition Area 1	MW-77M2	MW-77M2_F20	120	130	12/22/2020	SW8330	2-Amino-4,6-dinitrotoluene	0.23		µg/L	7.3		0.020	0.20
Demolition Area 1	MW-77M2	MW-77M2_F20	120	130	12/22/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.32		µg/L	400		0.036	0.20
Demolition Area 1	MW-663D	MW-663D_F20	240.6	250.6	12/22/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.046	J	µg/L	400		0.036	0.20
Demolition Area 1	MW-663D	MW-663D_F20	240.6	250.6	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-663D	MW-663D_F20	240.6	250.6	12/22/2020	SW6850	Perchlorate	7.3		µg/L	2.0	X	0.030	0.20
Demolition Area 1	MW-663D	MW-663D_F20D	240.6	250.6	12/22/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.046	J	µg/L	400		0.036	0.20
Demolition Area 1	MW-663D	MW-663D_F20D	240.6	250.6	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.034	0.20
Demolition Area 1	MW-231M1	MW-231M1_F20	210.5	220.5	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.058	J	µg/L	0.60		0.034	0.20
Demolition Area 1	MW-231M1	MW-231M1_F20	210.5	220.5	12/22/2020	SW6850	Perchlorate	0.19	J	µg/L	2.0		0.030	0.20
Demolition Area 2	MW-380M2	MW-380M2_F20	205.66	215.66	12/22/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14	J	µg/L	0.60		0.034	0.20
Demolition Area 2	MW-404M2	MW-404M2_F20	200.04	210.04	12/21/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.17	J	µg/L	400		0.036	0.20
Demolition Area 2	MW-404M2	MW-404M2_F20	200.04	210.04	12/21/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.94		µg/L	0.60	X	0.034	0.20
Demolition Area 2	MW-404M2	MW-404M2_F20D	200.04	210.04	12/21/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.17	J	µg/L	400		0.036	0.20
Demolition Area 2	MW-404M2	MW-404M2_F20D	200.04	210.04	12/21/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.96		µg/L	0.60	X	0.034	0.20
Demolition Area 2	MW-573M2	MW-573M2_F20	155.4	165.4	12/21/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.27		µg/L	0.60		0.034	0.20
Demolition Area 2	MW-161S	MW-161S_F20	145.5	155.5	12/16/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.15	J	µg/L	400		0.036	0.20
Demolition Area 2	MW-161S	MW-161S_F20	145.5	155.5	12/16/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.2		µg/L	0.60	X	0.034	0.20
Demolition Area 2	MW-160S	MW-160S_F20	137.5	147.5	12/16/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.043	J	µg/L	400		0.036	0.20
Demolition Area 2	MW-160S	MW-160S_F20	137.5	147.5	12/16/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.30		µg/L	0.60		0.034	0.20
Demolition Area 2	MW-572M1	MW-572M1_F20	164.9	174.9	12/16/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.082	J	µg/L	0.60		0.034	0.20
J1 Range Northern	MW-540M1	MW-540M1_F20	258	268	12/15/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12	J	µg/L	0.60		0.034	0.20
J1 Range Northern	MW-370M3	MW-370M3_F20	174.96	184.96	12/15/2020	SW6850	Perchlorate	0.053	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-370M2	MW-370M2_F20	215.54	225.54	12/15/2020	SW6850	Perchlorate	0.078	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-370M1	MW-370M1_F20	245	255	12/15/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.71		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-370M1	MW-370M1_F20	245	255	12/15/2020	SW6850	Perchlorate	9.2		µg/L	2.0	X	0.030	0.20
J1 Range Northern	MW-370M1	MW-370M1_F20D	245	255	12/15/2020	SW6850	Perchlorate	9.1		µg/L	2.0	X	0.030	0.20
J1 Range Northern	MW-369M1	MW-369M1_F20	254.07	264.07	12/14/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.16	J	µg/L	400		0.036	0.20
J1 Range Northern	MW-369M1	MW-369M1_F20	254.07	264.07	12/14/2020	SW6850	Perchlorate	0.18	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-369M1	MW-369M1_F20	254.07	264.07	12/14/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.40		µg/L	0.60		0.034	0.20
J1 Range Northern	MW-315M2	MW-315M2_F20	195.72	205.72	12/14/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.075	J	µg/L	400		0.036	0.20
J1 Range Northern	MW-315M2	MW-315M2_F20	195.72	205.72	12/14/2020	SW6850	Perchlorate	0.10	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-315M2	MW-315M2_F20	195.72	205.72	12/14/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.27		µg/L	0.60		0.034	0.20
J1 Range Northern	MW-315M1	MW-315M1_F20	245.49	255.49	12/14/2020	SW6850	Perchlorate	0.82		µg/L	2.0		0.030	0.20
J1 Range Northern	J1N-INF1B	J1N-INF1B_F20	200	250	12/14/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.22		µg/L	0.60		0.034	0.20
J1 Range Northern	J1N-INF1B	J1N-INF1B_F20	200	250	12/14/2020	SW6850	Perchlorate	1.1		µg/L	2.0		0.030	0.20

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

TABLE 2
VALIDATED EXPLOSIVE AND PERCHLORATE RESULTS
Data Received February 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
J1 Range Northern	J1N-INF1A	J1N-INF1A_F20	217	257	12/14/2020	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-306M2	MW-306M2_F20	164.69	174.69	12/10/2020	SW6850	Perchlorate	0.034	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-349M1	MW-349M1_F20	229	239	12/09/2020	SW6850	Perchlorate	0.29		µg/L	2.0		0.030	0.20
J1 Range Northern	MW-349M1	MW-349M1_F20	229	239	12/09/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	1.6		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-326M3	MW-326M3_F20	165.24	175.26	12/09/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.15	J	µg/L	0.60		0.034	0.20
J1 Range Northern	MW-326M3	MW-326M3_F20	165.24	175.26	12/09/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.19	J	µg/L	400		0.036	0.20
J1 Range Northern	MW-326M2	MW-326M2_F20	196.27	206.28	12/09/2020	SW6850	Perchlorate	0.14	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-326M2	MW-326M2_F20	196.27	206.28	12/09/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.72		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-326M2	MW-326M2_F20	196.27	206.28	12/09/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.2		µg/L	400		0.036	0.20
J1 Range Northern	MW-326M2	MW-326M2_F20D	196.27	206.28	12/09/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.75		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-326M2	MW-326M2_F20D	196.27	206.28	12/09/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1.2		µg/L	400		0.036	0.20
J1 Range Northern	MW-326M1	MW-326M1_F20	250.01	260.01	12/09/2020	SW6850	Perchlorate	1.7		µg/L	2.0		0.030	0.20
J1 Range Northern	MW-253M1	MW-253M1_F20	265.4	275.4	12/08/2020	SW6850	Perchlorate	0.047	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-303M3	MW-303M3_F20	139.74	149.69	12/08/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.24		µg/L	400		0.036	0.20
J1 Range Northern	MW-303M3	MW-303M3_F20	139.74	149.69	12/08/2020	SW8330	4-Amino-2,6-dinitrotoluene	0.26		µg/L	7.3		0.027	0.20
J1 Range Northern	MW-303M3	MW-303M3_F20	139.74	149.69	12/08/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.51		µg/L	0.60		0.034	0.20
J1 Range Northern	MW-303M2	MW-303M2_F20	235.09	245.1	12/08/2020	SW6850	Perchlorate	0.059	J	µg/L	2.0		0.030	0.20
J1 Range Northern	MW-303M2	MW-303M2_F20	235.09	245.1	12/08/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	3.9		µg/L	400		0.036	0.20
J1 Range Northern	MW-303M2	MW-303M2_F20	235.09	245.1	12/08/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.2		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-303M2	MW-303M2_F20D	235.09	245.1	12/08/2020	SW8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	4.0		µg/L	400		0.036	0.20
J1 Range Northern	MW-303M2	MW-303M2_F20D	235.09	245.1	12/08/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.4		µg/L	0.60	X	0.034	0.20
J1 Range Northern	MW-245M1	MW-245M1_F20	244	254	12/07/2020	SW8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.39		µg/L	0.60		0.034	0.20
J1 Range Northern	MW-245M1	MW-245M1_F20	244	254	12/07/2020	SW6850	Perchlorate	1.1		µg/L	2.0		0.030	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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.70 U	2.80 U	2.90 U	3.00 U	2.90 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.910 U	0.950 U	0.980 U	0.460 J	0.980 U
Perfluorotetradecanoic acid (PFTA)	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_PFAS19	J1N-INF2_PFAS19R	MW-136S_PFAS19	MW-564M1_PFAS19	MW-590M2_PFAS19
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	4.90	2.90 U	1.40 J	2.80 U	2.90 U
Perfluorooctanesulfonamide (FOSA)	1.80 J	2.90 U	2.90 U	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 (PFPA)	0.930 U	0.960 U	0.980 U	0.920 U	0.960 U
Perfluorotetradecanoic acid (PFTA)	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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.90 U	2.80 U	2.90 U	2.70 U	2.90 U	2.60 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.970 U	0.930 U	0.980 U	0.900 U	0.960 U	0.850 U
Perfluorotetradecanoic acid (PFTA)	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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J2 Range Eastern

	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
Perfluorohexanesulfonic acid (PFHxS)		0.880 U	0.900 U
Perfluorohexanoic acid (PFHxA)		0.880 U	0.900 U
Perfluorononanoic acid (PFNA)		1.30 U	2.80
Perfluorooctane sulfonate (PFOS)		2.60 U	2.70 U
Perfluorooctanesulfonamide (FOSA)		2.60 U	2.70 U
Perfluorooctanoic acid (PFOA)		1.30 U	1.40 U
Perfluoropentanoic acid (PFPA)		0.880 U	0.900 U
Perfluorotetradecanoic acid (PFTA)		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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.90 U	1.30 J	2.80 U	2.80 U	1.10 J	2.90 U
Perfluorooctanesulfonamide (FOSA)	2.90 U	3.00 U	2.80 U	2.80 U	2.90 U	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 (PFPA)	0.960 U	0.910 J	0.930 U	0.840 J	1.00 J	1.20 J
Perfluorotetradecanoic acid (PFTA)	2.90 U	3.00 U	2.80 U	2.80 U	2.90 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)	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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KGS 2019 PFAS MW&INF
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)		1.90 J	2.90 U	2.90 U
Perfluorooctanesulfonamide (FOSA)		2.60 U	2.90 U	2.90 U
Perfluorooctanoic acid (PFOA)		0.550 J	1.50 U	1.50 U
Perfluoropentanoic acid (PFPA)		0.880 U	0.680 J	0.970 U
Perfluorotetradecanoic acid (PFTA)		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

PFAS Summary Report – Groundwater
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KGS 2019 PFAS MW&INF
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	2.80 U	12.0	12.0	12.0	2.90 U
Perfluorooctanesulfonamide (FOSA)	2.80 U	2.80 U	2.60 U	2.60 U	2.80 U	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 (PFPA)	0.940 U	0.920 U	0.860 U	0.860 U	0.930 U	0.960 U
Perfluorotetradecanoic acid (PFTA)	2.80 U	2.80 U	2.60 U	2.60 U	2.80 U	2.90 U
Perfluorotridecanoic acid (PFTrDA)	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

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 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
Perfluorohexanesulfonic acid (PFHxS)	0.970 U
Perfluorohexanoic acid (PFHxA)	0.970 U
Perfluorononanoic acid (PFNA)	1.40 U
Perfluorooctane sulfonate (PFOS)	2.90 U
Perfluorooctanesulfonamide (FOSA)	2.90 U
Perfluorooctanoic acid (PFOA)	1.40 U
Perfluoropentanoic acid (PFPA)	0.970 U
Perfluorotetradecanoic acid (PFTA)	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
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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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.90 U	2.80 U	2.90 U	2.80 U	2.80 U	2.90 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.960 U	0.920 U	0.970 U	0.930 U	4.00	0.410 J
Perfluorotetradecanoic acid (PFTA)	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
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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)
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.70 U	3.00 U	3.00 U	2.90 U	2.90 U	2.80 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.890 U	0.440 J	1.00 U	0.950 U	0.620 J	0.870 J
Perfluorotetradecanoic acid (PFTA)	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
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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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonamide (FOSA)	2.90 U	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.50 U	1.40 U	1.40 U
Perfluoropentanoic acid (PFPA)	0.750 J	0.410 J	0.930 U
Perfluorotetradecanoic acid (PFTA)	2.90 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	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
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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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	3.00 U	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	1.10 J	1.20 J	0.940 U	0.970 U	0.460 J	0.410 J
Perfluorotetradecanoic acid (PFTA)	3.00 U	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTrDA)	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

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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)
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.90 U	2.70 U	2.80 U	2.80 U	2.70 U	2.90 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.580 J	0.430 J	0.940 U	1.40 J	0.910 U	1.20 J
Perfluorotetradecanoic acid (PFTA)	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

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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)
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.70 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.490 J	0.490 J	0.940 U	0.420 J	0.920 U	0.600 J
Perfluorotetradecanoic acid (PFTA)	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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KGS 2020 J2 Ranges SPM Fall
J2 Range Northern

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)
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)	9.40 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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	2.90 U	2.80 U	2.80 U	2.80 U	2.90 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	0.940 U	0.440 J	0.940 U	0.400 J	0.940 U	0.420 J
Perfluorotetradecanoic acid (PFTA)	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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J2 Range Northern

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)
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
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	2.80 U	2.70 U	2.90 U	2.80 U	2.80 U
Perfluorooctanesulfonamide (FOSA)	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 (PFPA)	1.90	0.450 J	0.900 U	0.960 U	0.630 J	0.930 U
Perfluorotetradecanoic acid (PFTA)	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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KGS 2020 J2 Ranges SPM Fall
J2 Range Northern

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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.70 U	2.70 U	2.90 U	2.80 U
Perfluorooctanesulfonamide (FOSA)	1.30 J	2.20 J	2.90 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.40 U	1.40 U	1.50 U	1.40 U
Perfluoropentanoic acid (PFPA)	0.650 J	0.830 J	1.10 J	0.400 J
Perfluorotetradecanoic acid (PFTA)	2.70 U	2.70 U	2.90 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	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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KGS 2020 J3 Range SPM Fall
J3 Range

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)
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	2.80 U	4.90	5.00	16.0	2.90 U
Perfluorooctanesulfonamide (FOSA)	2.80 U	2.80 U	2.90 U	2.90 U	2.80 U	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 (PFPA)	0.940 U	0.950 U	0.970 U	0.460 J	0.940 U	0.490 J
Perfluorotetradecanoic acid (PFTA)	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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KGS 2020 J3 Range SPM Fall
J3 Range

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)
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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	2.80 U	1.10 J	3.80	2.80 U	10.0	2.80 U
Perfluorooctanesulfonamide (FOSA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	2.80 U
Perfluorooctanoic acid (PFOA)	1.40 U	2.10	1.10 J	0.550 J	3.10	1.10 J
Perfluoropentanoic acid (PFPA)	1.30 J	0.660 J	0.440 J	0.400 J	6.50	0.440 J
Perfluorotetradecanoic acid (PFTA)	2.80 U	2.80 U	2.70 U	2.80 U	2.80 U	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	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

PFAS Summary Report – Groundwater
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KGS 2020 J3 Range SPM Fall
J3 Range

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)
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
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
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	9.20 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
Perfluorobutanesulfonic acid (PFBS)	0.920 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
Perfluorodecanoic acid (PFDA)	0.920 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
Perfluoroheptanesulfonic acid (PFHpS)	0.920 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
Perfluorohexanesulfonic acid (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
Perfluorooctane sulfonate (PFOS)	1.00 J	2.80 U	2.90 U	2.80 U	2.30 J	2.90 U
Perfluorooctanesulfonamide (FOSA)	2.80 U	2.80 U	2.90 U	2.80 U	2.80 U	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 (PFPA)	0.430 J	0.460 J	0.950 U	0.950 U	2.80	0.420 J
Perfluorotetradecanoic acid (PFTA)	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	
Perfluorohexanesulfonic acid (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	
Perfluorooctane sulfonate (PFOS)	3.00 U	15.0	
Perfluorooctanesulfonamide (FOSA)	3.00 U	2.80 U	
Perfluorooctanoic acid (PFOA)	1.10 J	0.790 J	
Perfluoropentanoic acid (PFPA)	0.520 J	0.940 U	
Perfluorotetradecanoic acid (PFTA)	3.00 U	2.80 U	
Perfluorotridecanoic acid (PFTTrDA)	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
Joint Base Cape Cod, IAGWSP
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
Perfluorohexanesulfonic acid (PFHxS)	11.0
Perfluorohexanoic acid (PFHxA)	0.900 J
Perfluorononanoic acid (PFNA)	1.40 U
Perfluorooctane sulfonate (PFOS)	1.00 J
Perfluorooctanesulfonamide (FOSA)	1.80 J
Perfluorooctanoic acid (PFOA)	1.80 J
Perfluoropentanoic acid (PFPA)	1.90 U
Perfluorotetradecanoic acid (PFTA)	2.80 U
Perfluorotridecanoic acid (PFTTrDA)	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

PFAS Summary Report – Groundwater Joint Base Cape Cod, IAGWSP

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