STEWART AIR NATIONAL GUARD BASE
PFOS/PFOA – INTERIM MITIGATION PROJECT

INTERIM STORM WATER TREATMENT SYSTEM
OPERATIONS, MAINTENANANCE & MONITORING REPORT

QUARTERLY OM&M REPORT NO. 2
OCTOBER TO DECEMBER 2020

Immediate Response Action, Rapid Response Program
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May 2021

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ACRONYMS AND ABBREVIATIONS

ANG	Air National Guard
AFFF	Aqueous Film Forming Foam
BWS	BERS-Weston Services JVA, LLC
GAC	granular activated carbon
GPM	gallons per minute
ISWTS	Interim Storm Water Treatment System
HA	Lifetime Health Advisory
mg/L	milligrams per liter
NTU	Nephelometric Turbidity Units
NY	New York
OM&M	Operations, Maintenance and Monitoring
PFAS	Per and Polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
ppt	parts per trillion
PSIG	Pounds per Square Inch Gauge
RCRA	Resource Conservation and Recovery Act
SANGB	Stewart Air National Guard Base
TOC	Total Organic Carbon
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1. INTRODUCTION

BERS-Weston Services JVA, LLC (BWS), under Contract, with the United States Army Corps of Engineers (USACE) is operating an Interim Storm Water Treatment System (ISWTS) on behalf of the Air National Guard (ANG) at Stewart Air National Guard Base (SANGB) in Newburgh, New York (NY). The storm water is contaminated with perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). PFOS and PFOA are two constituents of aqueous film forming foam (AFFF), that have been detected above the U.S. Environmental Protection Agency (US EPA) drinking water lifetime Health Advisory (HA) standard of 70 parts per trillion (ppt) (individually or combined) in the off-base storm water discharge into the Recreational Pond.

The ISWTS intercepts storm water from the Recreation pond and discharges treated effluent over the existing outfall weir. When weather conditions allow, the ISWTS draws down the pond level and treats all stormwater discharges. The drawdown provides a storage reservoir to prevent discharge when precipitation occurs. When precipitation events occur that exceed the ISWTS capacity and fill up the recreation pond both treated effluent and untreated stormwater go over the outfall weir.

This is the second quarterly report that summarizes Operations, Maintenance and Monitoring (OM&M) activities conducted by BWS at SANGB. This report summarizes ISWTS operations between 1 October and 31 December 2020 at SANGB.

2. GENERAL COMPLIANCE SUMMARY

The ISWTS operations began treatment of storm water on 13 July 2020 following installation and commissioning of pretreatment system improvements in June and early July 2020. This report summarizes OM&M between 1 October and 31 December 2020. During ISWTS operations the effluent discharge was monitored for PFOS and PFOA as well as other Per and Polyfluoroalkyl substances (PFAS) compounds once or twice per week. During the performance period the system influent, effluent and intra-process was monitored a total of 25 days for PFAS. Final PFAS results have been provided in Table 1. Based on validated analytical data, all effluent sample results were well below discharge criteria of 70 ppt. The highest detection of both PFOS and PFOA combined was less than 5 ppt. No HA exceedances were recorded during this reporting period.

3. ISWTS CONFIGURATION DURING PERFORMANCE PERIOD

The ISWTS maintained the following unit processes; Centrifugal Separator, Coarse Sand Filtration, Fine Sand Filtration, Primary and Secondary Bag Filtration, Primary and Secondary Granular Activated Carbon (GAC), and Ion Exchange Resin serving as a polish media. Peracetic Acid continued to be introduced prior to the Centrifugal Separator at low concentration to reduce biological growth in the system. **Figure 1** shows the system configuration during the performance period.

4. GENERAL FACILITY OPERATIONS SUMMARY

During the performance period, greater than 40,000,000 gallons of storm water was treated and discharged by the ISWTS. The following table summarizes the volume treated (Gallons), operational time (Hours) run time (% of total time) and average treatment rate during each month of system operations. As noted in the below summary, the ISWTS and Influent Pump does not run all the time. It is turned off when system maintenance is being performed and during periods when Recreation Pond drawdown resulted in low water levels that interfered with operations.

Month	Volume Treated (Gallons)	Operational Time [1] (Hours)	Run Time [2] (Percent)	Average Treatment Flow [3] (GPM)
October 2020	12,072,675	684	95%	294
November 2020	13,841,925	724	97%	319
December 2020	14,896,430	716	97%	347
Total	40,811,030	2,124		

1. Operation Time – Hours influent pump in operation during month
2. Run Time – Hours pump running divided by the total period time
3. Average GPM – Average flow total gallons divided by operational hours

There were 92 days of operation between 1 October and 31 December 2020. During this period of performance, the recreation pond was drawn down for 40 of the 92 days or 43% of the time. The Recreation pond level during the performance period is shown in **Figure 2**.

5. FACILITY PERFORMANCE MONITORING

5.1 INFLUENT AND EFFLUENT PFOS AND PFOA MONITORING

As previously noted, PFAS samples were collected 25 times during the performance period. Samples were collected on the influent, intra-process and effluent during each event. **Figure 3** shows the combined influent and effluent PFOS & PFOA concentrations based on the validated results. As shown in **Figure 3**, the combined PFOS & PFOA influent and effluent concentrations during the performance period averaged 299 ppt and 0.8 ppt , respectively.

5.2 INTRA-PROCESS PFOS AND PFOA MONITORING

Intra-process monitoring for PFOS and PFOA was performed after each GAC and after the Ion Exchange Resin to confirm media effectiveness. Based on intra-process sample results breakthrough was measured above the HA at both Primary and Secondary GAC units. As a result, the reactivated carbon media in both the Primary and Secondary GAC was replaced with virgin carbon media between 06 and 12 November 2020. Intra-Process sample results demonstrated acceptable PFOS and PFOA removal by the Ion Exchange Resin, and the resin media was left in place. To further confirm the effectiveness of GAC, the ISWTS was maintained with a Primary GAC, Secondary GAC and a polishing Ion Exchange Resin regime as shown in **Figure 1**. Following the media changeout intra-process sampling for PFOS and PFOA were continued after the Primary GAC, Secondary GAC and Ion Exchange Resin to further confirm their effectiveness.

5.3 OTHER WATER QUALITY MONITORING

Once, during the performance period additional monitoring was performed for; Total Organic Carbon (TOC) and Glycols on the influent, Secondary GAC Effluent and final Effluent. These results are shown in **Table 2**. The Ion Exchange Resin manufacturer recommends that TOC not be more than 2 milligrams per liter (mg/L), as TOC can impact treatment media life. The influent TOC was 2.8 mg/L and the Secondary GAC Effluent (influent to the Ion Exchange Resin) was 0.75 mg/L, indicating the influent TOC level to the Ion Exchange Resin was acceptable. The effluent TOC was 1.8 mg/L. As shown in **Table 2**, no glycol was detected on 21 December 2020.

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5.4 TURBIDITY MONITORING

Turbidity is a measurement that can quantify the level of solids present in the water. It is an on-site test that is helpful to measure the influent water quality and intra-process samples and helps evaluate the effectiveness of the treatment system in removing solids. During the performance period, influent and effluent turbidity averaged 5.53 Nephelometric Turbidity Units (NTU) and 0.73 NTU respectively. This indicates effective solids reduction in the system. A graph of the influent and effluent turbidity during the performance period is included in **Figure 4**.

5.5 PERACETIC ACID ADDITION

As discussed, Peracetic Acid was added to the process influent to help reduce biological growth in the system. During the performance period 18.4 gallons of Peracetic Acid were introduced and the average dose was 0.53 gallons of Peracetic Acid per Million Gallons of water treated.

6. SCHEDULED PREVENTIVE MAINTENANCE

During the performance period the following preventive maintenance activities were completed;

- Coarse & Fine Sand Filter Backwashes
- Coarse & Fine Sand Filter Cleanings
- Primary & Secondary Bag Filter Changes
- Primary & Secondary Carbon Backwashing
- Ion Exchange Resin Skimming or Backwashing
- Media Exchanges

During the performance period the Coarse and Fine Sand Filters were backwashed 467 and 466 times respectively. The number of Sand Filter cleanings, Bag Filter changes, backwash events or media skimmings are summarized in **Table 3**. As discussed previously one media exchange was completed between 06 and 12 November 2020. At that time the Sand Filter media was not replaced.

7. MATERIAL DISPOSAL

During the November 2020 media exchanges the following waste streams were generated. Copies of all signed shipping papers and all disposal certifications are included in **Attachment 1.**

- Spent Bag Filters
- Spent GAC Media.

All waste was disposed of by incineration at Covanta Environmental Solutions of Indianapolis Indiana. The table below summarizes the quantity of all wastes disposed of during the performance period.

Date Transported	Spent Treatment Media	Weight (lbs)	Date Disposed
11/7/2020	Non RCRA Spent Activated Carbon	26,080	11/16/2020
11/10/2020	Non RCRA Spent Activated Carbon	26,160	11/11/2020
11/12/2020	Non RCRA Spent Activated Carbon	24,540	11/16/2020
11/12/2020	Non RCRA Spent Bag Filters	1,000	11/16/2020
Total Non RCRA Spent Activated Carbon		**76,780**	
Total Non RCRA Spent Bag Filters		**1,000**	

8. PROJECTED ACTIVIES FOR NEXT PERFORMANCE PERIOD

During the next performance period operations will continue and additional media changes are anticipated in order to meet performance objectives. No other capital improvements are anticipated.

FIGURES

FIGURE 1

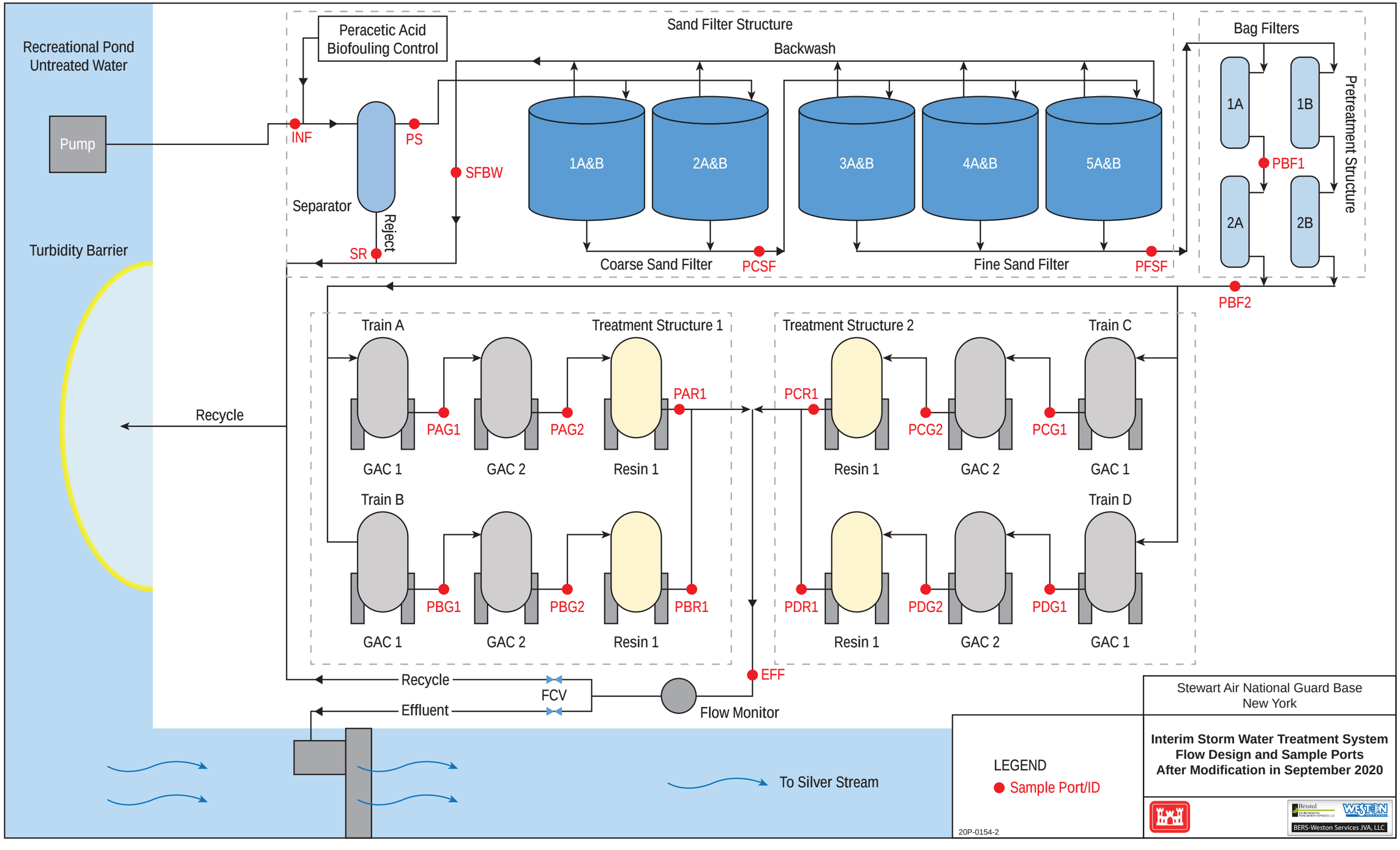

Recreational Pond
Untreated Water
Pump
Turbidity Barrier
Peracetic Acid
Biofouling Control
Sand Filter Structure
Backwash
INF
PS
SFBW
Separator
Reject
SR
1A&B
2A&B
3A&B
4A&B
5A&B
Coarse Sand Filter
PCSF
Fine Sand Filter
PFSF
Bag Filters
1A
1B
2A
2B
PBF1
Pretreatment Structure
PBF2
Train A
Treatment Structure 1
PAG1
PAG2
PAR1
GAC 1
GAC 2
Resin 1
Train B
PBG1
PBG2
PBR1
Treatment Structure 2
Train C
PCR1
PCG2
PCG1
Train D
PDR1
PDG2
PDG1
Recycle
Effluent
FCV
EFF
Flow Monitor
To Silver Stream
LEGEND
Sample Port/ID
20P-0154-2
Stewart Air National Guard Base
New York
Interim Storm Water Treatment System
Flow Design and Sample Ports
After Modification in September 2020
BERS-Weston Services JVA, LLC

FIGURE 2 - RECREATION POND LEVEL

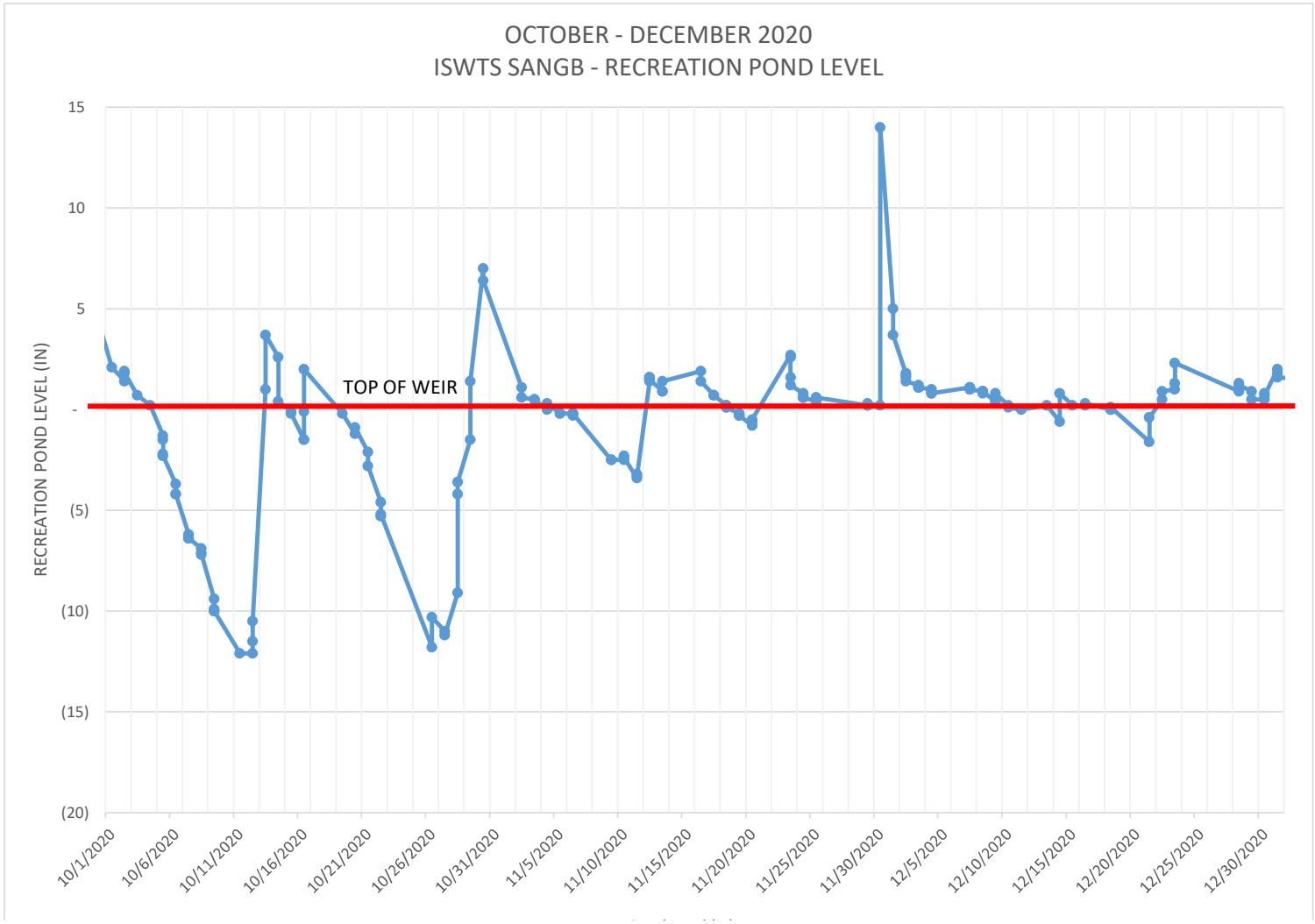
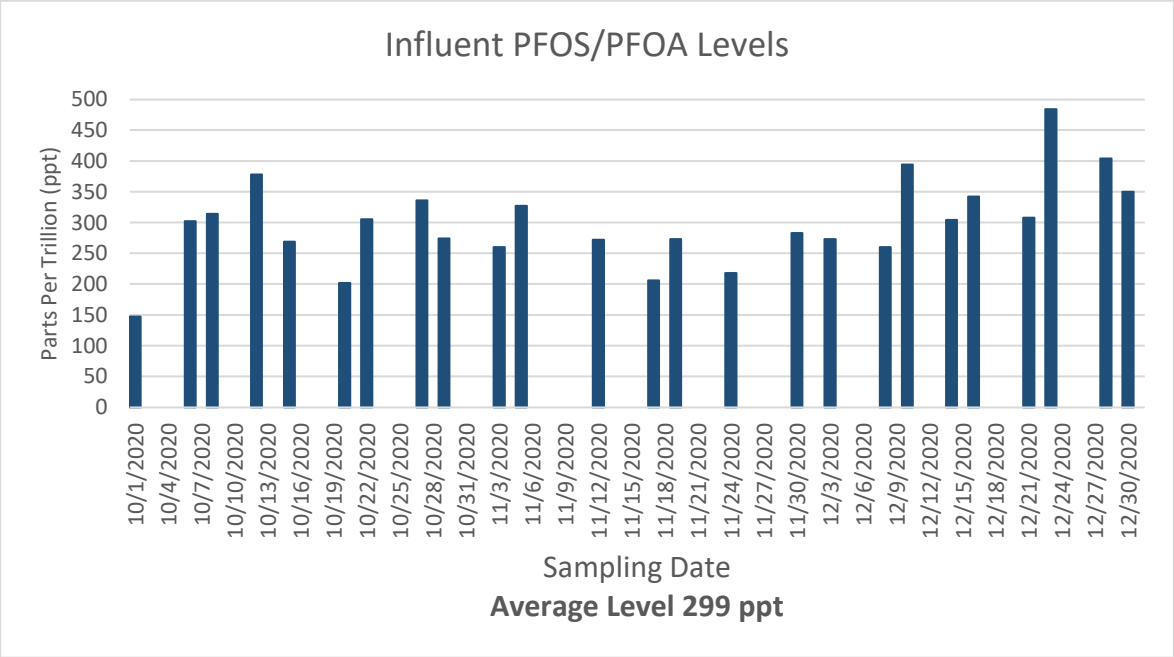


FIGURE 3 - INFLUENT AND EFFLUENT PFOS PFOA CHARTS



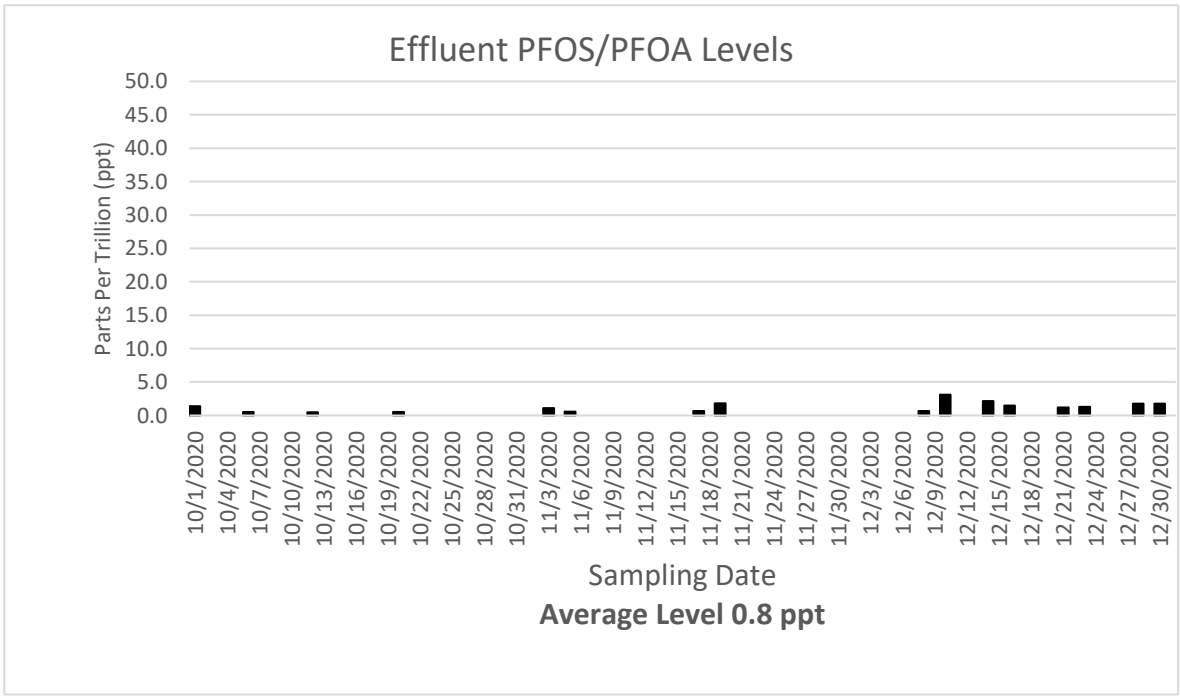
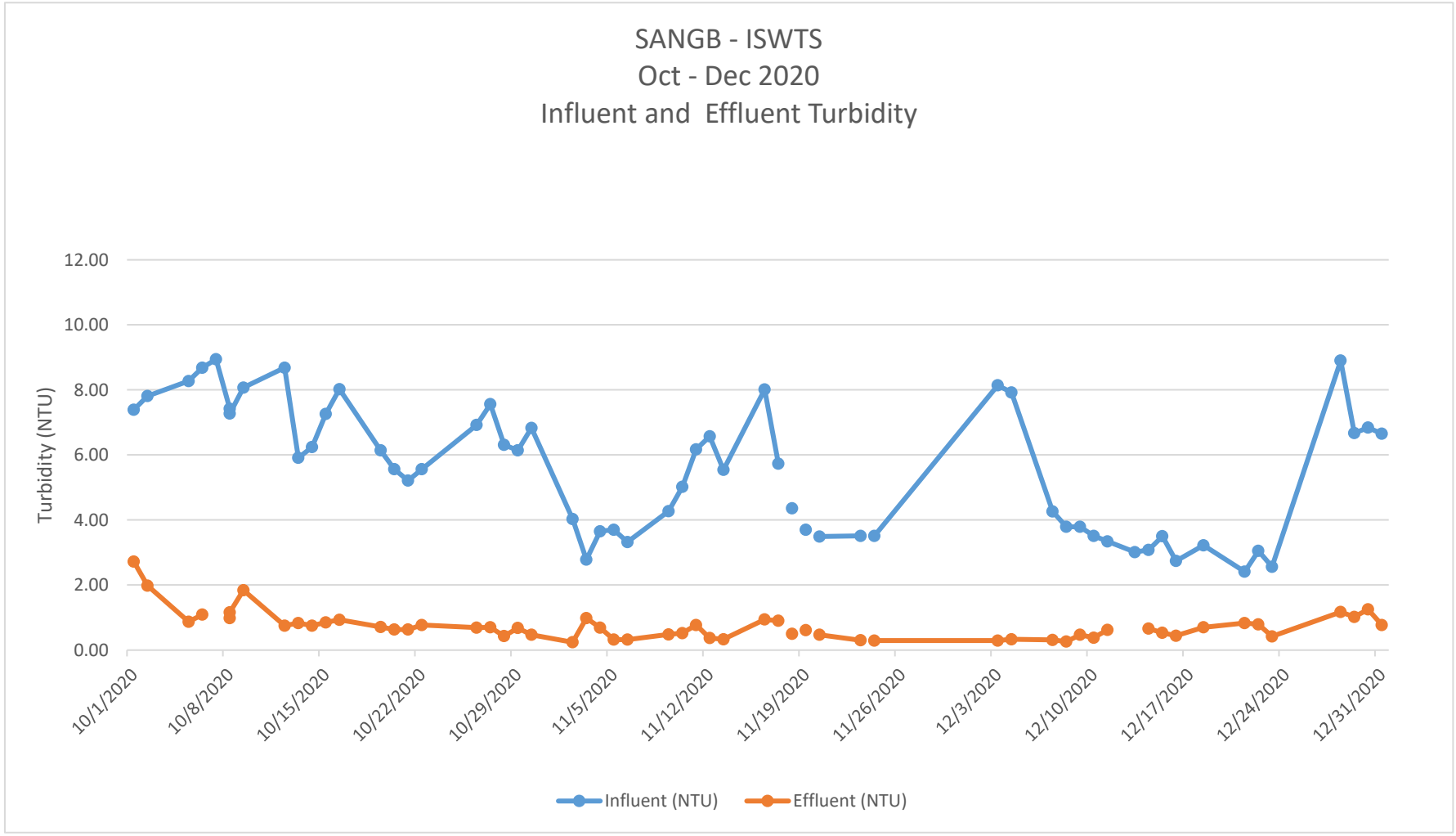


FIGURE 4 - INFLUENT AND EFFLUENT TURBIDITY CHART



TABLES

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NUD708	NUD713	NUD714	NUD712	NUD710	NUD709	NUD711	NUD715			
Sampling Date		2020/10/01 09:00	2020/10/01 09:22	2020/10/01 09:22	2020/10/01 09:18	2020/10/01 09:10	2020/10/01 09:04	2020/10/01 09:13	2020/09/30 12:00			
COC Number		na	na	na	na	na	na	na	na			
	UNITS	**SANG-FB-10012020**	**SANG-INF-10012020**	**SANG-INF-10012020D**	**SANG-PCG1-10012020**	**SANG-PCR1-10012020**	**SANG-EFF-10012020**	**SANG-PCG2-10012020**	**SANG-O010-09302020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters												
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	15	14	9.7	1.4 U	1.4 U	6.8	8.6	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	50	46	3.6	1.2 U	1.2 U	2.6	32	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	33	33	1.7 J	1.4 U	1.4 U	0.91 J	21	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	19	19	0.76 J	1.2 U	1.2 U	1.2 U	12	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	17	16	0.70 J	1.2 U	1.2 U	1.2 U	12	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	4.4	4.4	1.6 U	1.6 U	1.6 U	1.6 U	3.2	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	4.4	4.5	1.4 U	1.4 U	1.4 U	1.4 U	3.1	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	0.74 J	0.72 J	1.2 U	1.2 U	1.2 U	1.2 U	0.66 J	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	4.0	**5.2 U**	**5.1 U**	**2.0 U**	1.2 U	**0.70 U**	**0.89 U**	**8.7 U**	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	6.6	6.7	1.6 U	1.6 U	1.6 U	1.6 U	3.6	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	42	43	0.93 J	1.2 U	1.2 U	1.2 U	24	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	1.8 J	1.8 J	1.2 U	1.2 U	1.2 U	1.2 U	1.4 J	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	130 (1)	130 (1)	6.2	3.2	1.4 J	2.4	87	0.43	1.2	2.0
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	40	42	1.3 J	1.6 U	1.6 U	1.6 U	21	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	9.0	9.9	1.7 J	1.4 J	0.77 J	1.0 J	6.4	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. The compound was analytzed for but not detected.
J -Estimated value. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10012020 is a field blank.
Sample SANG-INF-10012020D is a field duplicate of SANG-INF-10012020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
Results bolded in red text are qualified based on data validation.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NVE145	NVE150	NVE151	NVE149	NVE148	NVE147	NVE146			
Sampling Date		2020/10/06 08:50	2020/10/06 09:10	2020/10/06 09:10	2020/10/06 09:06	2020/10/06 09:04	2020/10/06 09:02	2020/10/06 08:55			
	UNITS	**SANG-FB-10062020**	**SANG-INF-10062020**	**SANG-INF-10062020D**	**SANG-PDG1-10062020**	**SANG-PDG2-10062020**	**SANG-PDR1-10062020**	**SANG-EFF-10062020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	23	23	9.6	7.3	0.82 J	1.6 U	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	130 (1)	130 (1)	15	11	2.4	1.4 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	81	82	6.7	4.3	1.6 U	1.6 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	40	41	2.5	1.4 J	1.4 U	1.4 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	32	33	1.4 J	0.82 J	1.4 U	1.4 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.6	7.7	1.8 U	1.8 U	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	6.5	6.9	1.6 U	1.6 U	1.6 U	1.6 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U	1.4 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U	1.4 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U	1.4 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	13	13	0.55 J	1.4 U	1.4 U	1.4 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	16	16	1.8 U	1.8 U	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	100	100	3.3	1.4 J	1.4 U	1.4 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.6	4.7	1.4 U	1.4 U	1.4 U	1.4 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	270 (1)	290 (1)	8.3	4.2	0.65 J	0.52 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.6 U	1.5 U	1.6 U	1.6 U	1.6 U	1.6 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U	1.4 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.3 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	0.89	2.2	4.3
MeFOSAA	ng/L	3.0 U	3.5 U	3.3 U	3.5 U	3.5 U	3.5 U	3.5 U	1.3	3.3	4.3
EtFOSAA	ng/L	3.0 U	3.5 U	3.3 U	3.5 U	3.5 U	3.5 U	3.5 U	1.5	3.3	4.3
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.4 J	1.2 J	1.8 U	1.8 U	1.8 U	1.8 U	0.76	1.8	4.3
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	95	99	3.1 J	1.9 J	1.8 U	1.8 U	0.65	1.8	4.3
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	14	15	1.8 U	1.8 U	1.8 U	1.8 U	0.83	1.8	4.3
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.3 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	0.94	2.2	4.3
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.4 U	1.4 U	0.34	1.3	4.3
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.3 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	0.62	2.2	4.3
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.3 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	0.57	2.2	4.3

ng/L - nanograms per liter, or parts per trillion
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10062020 is a field blank.
Sample SANG-INF-10062020D is a field duplicate of SANG-INF-10062020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NVU886	NVU891	NVU892	NVU890	NVU889	NVU888	NVU887			
Sampling Date		2020/10/08 10:15	2020/10/08 10:30	2020/10/08 10:30	2020/10/08 10:26	2020/10/08 10:24	2020/10/08 10:22	2020/10/08 10:18			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-10082020**	**SANG-INF-10082020**	**SANG-INF-10082020D**	**SANG-PAG1-10082020**	**SANG-PAG2-10082020**	**SANG-PAR1-10082020**	**SANG-EFF-10082020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	27	28	11	9.6	1.4 U	1.4 U	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	120 (1)	120 (1)	24	16	1.2 J	1.2 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	87	87	13	7.7	1.4 U	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	42	42	5.2	3.1	1.2 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	34	35	3.8	2.1	1.2 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.9	8.2	0.94 J	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.4	7.2	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	0.79 J	0.95 J	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	14	15	1.5 J	0.70 J	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	19	20	1.3 J	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	98	100 (1)	8.5	4.3	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.3	4.4	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	280 (1)	280 (1)	24	12	1.2 U	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.7 J	1.8 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	110 (1)	110 (1)	9.0	2.0 J	1.6 U	1.6 U	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	15	14	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10082020 is a field blank.
Sample SANG-INF-10082020D is a field duplicate of SANG-INF-10082020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NWH003	NWH008	NWH009	NWH007	NWH006	NWH005	NWH004			
Sampling Date		2020/10/12 09:36	2020/10/12 10:08	2020/10/12 10:10	2020/10/12 10:01	2020/10/12 09:56	2020/10/12 09:51	2020/10/12 09:41			
COC Number		NA	NA	NA	NA	NA	NA	NA			
	UNITS	**SANG-FB-10122020**	**SANG-INF-10122020**	**SANG-INF-10122020D**	**SANG-PBG1-10122020**	**SANG-PBG2-10122020**	**SANG-PBR1-10122020**	**SANG-EFF-10122020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	31	31	12	12	1.4 U	1.4 U	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	140 (1)	140 (1)	17	18	1.1 J	1.2 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	96	92	9.1	9.3	1.4 U	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	44	43	3.4	3.6	1.2 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	38	37	2.5	2.6	1.2 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	8.5	8.4	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	6.5	6.2	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	17	17	0.82 J	0.91 J	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	20	18	1.6 U	0.85 J	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	130 (1)	130 (1)	5.4	6.1	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	5.4	5.1	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	340 (1)	350 (1)	14	14	0.59 J	0.47 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	2.0 J	2.2 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	130 (1)	140 (1)	5.2	6.2	1.6 U	1.6 U	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	15	14	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated Result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10122020 is a field blank.
Sample SANG-INF-10122020D is a field duplicate of SANG-INF-10122020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NXF220	NXF225	NXF226	NXF224	NXF223	NXF222	NXF221			
Sampling Date		2020/10/15 09:00	2020/10/15 09:22	2020/10/15 09:22	2020/10/15 09:18	2020/10/15 09:15	2020/10/15 09:12	2020/10/15 09:05			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-10152020**	**SANG-INF-10152020**	**SANG-INF-10152020D**	**SANG-PCG1-10152020**	**SANG-PCG2-10152020**	**SANG-PCR1-10152020**	**SANG-FFF-10152020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	21	19	11	14	1.4 U	1.4 U	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	110 (1)	110 (1)	24	36	1.3 U	1.2 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	72	73	13	21	1.5 U	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	35	36	5.1	9.3	1.3 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	29	29	4.2	7.1	1.3 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.0	6.8	1.0 J	1.7 J	1.8 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	6.3	7.0	1.4 J	1.5 J	1.5 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.8 U	1.8 U	1.8 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	**0.62 J**	**0.92 J**	1.3 U	1.3 U	1.3 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.3 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.3 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	11	11	1.0 J	2.2	1.3 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	13	13	1.0 J	2.1 J	1.8 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	74	74	7.4	15	1.3 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.5	3.8	0.74 J	0.89 J	1.3 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	240 (1)	200 (1)	26	47	0.50 J	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.5 U	1.5 U	1.5 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.3 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.2 U	2.2 U	2.2 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.3 U	3.3 U	3.3 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.3 U	3.3 U	3.3 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.4 J	1.5 J	1.8 U	1.8 U	1.8 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	87	87	8.3	18	1.8 U	1.6 U	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	12	14	2.5 J	2.0 J	1.8 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.2 U	2.2 U	2.2 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.3 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.2 U	2.2 U	2.2 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.2 U	2.2 U	2.2 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for but not detected.
J - Estimated result. Value may not be accurate, or precise
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Sample SANG-FB-10152020 is a field blank.
Sample SANG-INF-10152020D is a filed duplicate of SANG-INF-10152020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
Results bolded in red text are qualified based on data review.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NYH068	NYH073	NYH074	NYH072	NYH071	NYH070	NYH069			
Sampling Date		2020/10/20 09:25	2020/10/20 09:50	2020/10/20 09:50	2020/10/20 09:45	2020/10/20 09:40	2020/10/20 09:35	2020/10/20 09:30			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-10202020**	**SANG-INF-10202020**	**SANG-INF-10202020D**	**SANG-PDG1-10202020**	**SANG-PDG2-10202020**	**SANG-PDR1-10202020**	**SANG-EFF-10202020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	29	28	15	17	1.5 U	1.5 U	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	110	110	37	44	0.84 J	1.3 U	0.57	1.3	2.2
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	81	80	22	25	1.5 U	1.5 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	38	39	9.1	10	1.3 U	1.3 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	32	32	7.7	8.9	1.3 U	1.3 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.2	7.6	2.1 J	2.3	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.4	7.4	1.8 J	2.2	1.5 U	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	11	10	2.2 J	2.8	1.3 U	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	11	12	1.9 J	2.5	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	81	77	12	16	1.3 U	1.3 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.6	3.6	0.80 J	0.96 J	1.3 U	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	170 (1)	180 (1)	42	46	0.50 J	0.51 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.8 J	1.6 J	1.8 U	1.8 U	1.8 U	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	90	98	16	20	1.8 U	1.8 U	0.65	1.8	4.4
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	12	11	2.3 J	2.7 J	1.8 U	1.8 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter or parts per trillion
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated. Associated value may not be accurate, or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-INF-10202020D is a field duplicate.
Sample SANG-FB-10202020 is a field blank.
(1) Due to high concentration of the target analyte a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NZC297	NZC302	NZC303	NZC301	NZC300	NZC299	NZC298			
Sampling Date		2020/10/22 10:20	2020/10/22 10:45	2020/10/22 10:45	2020/10/22 10:40	2020/10/22 10:35	2020/10/22 10:30	2020/10/22 10:25			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-10222020**	**SANG-INF-10222020**	**SANG-INF-10222020D**	**SANG-PAG1-10222020**	**SANG-PAG2-10222020**	**SANG-PAR1-10222020**	**SANG-EFF-10222020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	2.4	48	49	26	27	**3.7 U**	**1.9 U**	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.3 U	150 (1)	150 (1)	61	62	2.2 J	1.3 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.5 U	110	110	37	39	0.81 J	1.5 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.3 U	50	51	16	16	1.3 U	1.3 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.3 U	45	45	13	13	1.3 U	1.3 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.8 U	9.8	9.4	2.3	2.4	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.5 U	7.8	8.0	1.5 J	1.9 J	1.5 U	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.3 U	16	16	3.9	4.2	1.3 U	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.8 U	19	19	3.1	3.1	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.3 U	110	110	25	26	1.3 U	1.3 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.3 U	4.3	4.6	1.3 U	1.3 U	1.3 U	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.3 U	260 (1)	270 (1)	58	58	1.3 U	1.3 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.8 U	2.5 J	2.3 J	1.8 U	0.76 J	1.8 U	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.8 U	140 (1)	140 (1)	29	31	1.8 U	1.8 U	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.8 U	11	11	1.8 J	1.9 J	1.8 U	1.8 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
SANG-FB-10222020 is a field blank.
SANG-INF-10222020 is a field duplicate of SANG-INF-10222020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
Results bolded in red text are qualified based on validation.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		NZX051	NZX059	NZX055	NZX054	NZX053	NZX058	NZX056	NZX057	NZX052			
Sampling Date		2020/10/27 09:00	2020/10/27 09:55	2020/10/27 09:28	2020/10/27 09:17	2020/10/27 09:11	2020/10/27 09:48	2020/10/27 09:34	2020/10/27 09:38	2020/10/27 09:05			
	UNITS	**SANG-FB-10272020**	**SANG-INF-10272020**	**SANG-PBG1-10272020**	**SANG-PBG2-10272020**	**SANG-PBR1-10272020**	**SANG-PCG1-10272020**	**SANG-PCR1-10272020**	**SANG-PCG2-10272020**	**SANG-EFF-10272020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters													
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	31	23	27	2.7	27	1.9 J	30	0.77 J	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	160 (1)	56	96	1.3 J	72	0.63 J	90	1.2 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	110 (1)	34	64	1.4 U	46	1.4 U	58	1.4 U	7.0	14	20
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	49	14	27	1.2 U	18	1.2 U	25	1.2 U	0.54	1.3	2.1
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	46	12	24	1.2 U	19	1.2 U	22	1.2 U	0.51	1.3	2.1
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	9.5	2.3	4.6	1.6 U	4.1	1.6 U	4.9	1.6 U	0.84	1.7	2.1
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	8.0	1.6 J	3.2	1.4 U	3.2	1.4 U	3.3	1.4 U	0.67	1.5	2.1
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.81	1.7	2.1
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.62	1.3	2.1
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.50	1.3	2.1
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.39	1.3	2.1
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	18	3.3	7.9	1.2 U	5.7	1.2 U	7.1	1.2 U	0.49	1.3	2.1
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	22	3.3	8.6	1.6 U	5.5	1.6 U	7.3	1.6 U	0.77	1.7	2.1
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	120 (1)	23	51	1.2 U	37	1.2 U	48	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	5.1	1.2 J	2.5	1.2 U	1.7 J	1.2 U	2.1	1.2 U	0.60	1.3	2.1
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	290 (1)	63	130 (1)	0.53 J	120 (1)	1.2 U	140 (1)	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.67	1.5	2.1
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.56	1.3	2.1
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.1	4.1
MeFOSAA	ng/L	3.0 U	3.2 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.3	3.2	4.1
EtFOSAA	ng/L	3.0 U	3.2 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.5	3.2	4.1
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	2.4 J	1.6 U	1.1 J	1.6 U	0.74 J	1.6 U	1.1 J	1.6 U	0.72	1.7	4.1
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	140 (1)	25	61	1.6 U	43	1.6 U	58	1.6 U	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	18	1.9 J	3.8 J	1.6 U	5.0	1.6 U	5.1	1.6 U	0.79	1.7	4.1
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.89	2.1	4.1
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.33	1.3	4.1
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.59	2.1	4.1
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.55	2.1	4.1

ng/L nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10272020 is a field blank.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OAN049	OAN054	OAN055	OAN053	OAN052	OAN051	OAN050			
Sampling Date		2020/10/29 09:00	2020/10/29 09:30	2020/10/29 09:30	2020/10/29 09:25	2020/10/29 09:20	2020/10/29 09:15	2020/10/29 09:05			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-10292020**	**SANG-INF-10292020**	**SANG-INF-10292020D**	**SANG-PCG1-10292020**	**SANG-PCG2-10292020**	**SANG-PCR1-10292020**	**SANG-EFF-10292020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	26	28	20	23	2.7	0.95 J	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	120 (1)	130 (1)	53	62	0.97 J	1.2 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	84	88	32	39	1.4 U	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	37	40	13	16	1.2 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	34	35	11	13	1.2 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.2	7.9	2.6	3.1	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.2	7.8	1.9 J	2.7	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	0.76 J	0.80 J	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	12	12	3.1	4.1	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	14	15	3.1	4.2	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	82	85	21	27	1.2 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.1	4.5	1.2 J	1.5 J	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	240 (1)	220 (1)	55	79	1.2 U	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.9 J	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	2.9 J	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.4 J	1.6 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	94	100 (1)	21	33	1.6 U	1.6 U	5.9	19	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	17	19	2.2 J	3.6 J	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-10292020 is a field blank.
Sample SANG-INF-10292020D is a field duplicate.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OBM636	OBM638	OBM637			
Sampling Date		2020/11/03 08:55	2020/11/03 09:10	2020/11/03 09:00			
COC Number		na	na	na			
	UNITS	**SANG-FB-11032020**	**SANG-INF-11032020**	**SANG-EFF-11032020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters							
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	30	3.5	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	110 (1)	1.2 U	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	91	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	43	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	40	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	8.6	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.8	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	12	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	14	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	96	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.8	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	220 (1)	1.1 J	0.43	1.2	2.0
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.3 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.3 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.4 J	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	110	1.6 U	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	22	0.85 J	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11032020 is a field blank.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER VALIDATED DATA

BV Labs ID		OCC315	OCC323	OCC320			
Sampling Date		2020/11/05 08:05	2020/11/05 08:20	2020/11/05 08:10			
COC Number		n/a	n/a	n/a			
	UNITS	**SANG-FB-11052020**	**SANG-INF-11052020**	**SANG-EFF-11052020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters							
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	38	3.7	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	130 (1)	1.3 U	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	110	1.5 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	47	1.3 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	47	1.3 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	9.5	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	10	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	14	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	18	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	100 (1)	1.3 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.9	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	280 (1)	0.59 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	0.96 J	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	120 (1)	1.8 U	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	30	1.1 J	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11052020 is a field blank.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		ODR380	ODR385	ODR386	ODR384	ODR383	ODR382	ODR381			
Sampling Date		2020/11/12 08:30	2020/11/12 08:55	2020/11/12 08:55	2020/11/12 08:52	2020/11/12 08:47	2020/11/12 08:42	2020/11/12 07:35			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-11122020**	**SANG-INF-11122020**	**SANG-INF-11122020D**	**SANG-PDG1-11122020**	**SANG-PDG2-11122020**	**SANG-PDR1-11122020**	**SANG-EFF-11122020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	19	18	1.4 U	1.4 U	5.9	6.9	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	93	94	1.2 U	1.2 U	1.3 J	0.87 J	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	72	70	1.4 U	1.4 U	1.4 U	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	31	31	1.2 U	1.2 U	1.2 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	32	33	1.2 U	1.2 U	1.2 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.3	7.1	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.2	6.9	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	8.8	8.7	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	11	11	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	77	73	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.1	3.1	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	240 (1)	220 (1)	1.2 U	1.2 U	1.2 U	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	2.9 J	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	4.1	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	0.82 J	0.92 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	92	85	1.6 U	1.6 U	1.6 U	1.6 U	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	22	22	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Compound was analyzed for, but not detected.
UJ - Not detected at an estimated LOD.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11122020 is a field blank
SANG-INF-11122020D is a field duplicate of SANG-ING-11122020
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OEQ148	OEQ153	OEQ154	OEQ152	OEQ151	OEQ150	OEQ149			
Sampling Date		2020/11/17 08:30	2020/11/17 08:55	2020/11/17 08:55	2020/11/17 08:50	2020/11/17 08:45	2020/11/17 08:42	2020/11/17 08:35			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-11172020**	**SANG-INF-11172020**	**SANG-INF-11172020D**	**SANG-PAG1-11172020**	**SANG-PAG2-11172020**	**SANG-PAR1-11172020**	**SANG-EFF-11172020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	19	19	1.4 U	1.4 U	18	12	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	71	71	1.2 U	1.2 U	8.7	1.2 J	0.57	1.3	2.2
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	53	52	1.4 U	1.4 U	1.1 J	1.4 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	25	25	1.2 U	1.2 U	1.2 U	1.2 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	26	24	1.2 U	1.2 U	1.2 U	1.2 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	5.9	5.6	1.6 U	1.6 U	1.6 U	1.6 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	4.6	4.3	1.4 U	1.4 U	1.4 U	1.4 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.6 U	1.6 U	1.6 U	1.6 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	8.5	8.3	1.2 U	1.2 U	1.2 U	1.2 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	10	9.5	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	66	69	1.2 U	1.2 U	1.2 U	1.2 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	2.4	2.6	1.2 U	1.2 U	1.2 U	1.2 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	180 (1)	170 (1)	1.4 J	1.1 J	1.1 J	0.68 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.4 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	2.0 U	2.0 U	2.0 U	2.0 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.0 U	3.0 U	3.0 U	3.0 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.0 U	3.0 U	3.0 U	3.0 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.8 U	**1.8 UJ**	1.6 U	1.6 U	1.6 U	1.6 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	69	68	1.6 U	1.6 U	1.6 U	1.6 U	0.65	1.8	4.4
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	13	13	1.2 J	1.1 J	1.6 U	1.6 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	2.0 U	2.0 U	2.0 U	2.0 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	2.0 U	2.0 U	2.0 U	2.0 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	2.0 U	2.0 U	2.0 U	2.0 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Compound was analyzed for, but not detected.
UJ - Compound was analyzed for, but not detected. Associated values is an estimated LOD.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11172020 is a field blank.
SANG-INF-11172020D is a field duplicate of SANG-ING-11172020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Results bolded in red text are qualified based on validation.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OFG229	OFG234	OFG235	OFG233	OFG232	OFG231	OFG230			
Sampling Date		2020/11/19 09:30	2020/11/19 09:55	2020/11/19 09:55	2020/11/19 09:50	2020/11/19 09:45	2020/11/19 09:43	2020/11/19 09:35			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-11192020**	**SANG-INF-11192020**	**SANG-INF-11192020D**	**SANG-PBG1-11192020**	**SANG-PBG2-11192020**	**SANG-PBR1-11192020**	**SANG-EFF-11192020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	25	26	1.4 U	1.4 U	22	16	0.70	1.5	2.1
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	92	95	1.2 U	1.2 U	16	2.1	0.55	1.3	2.1
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	68	70	1.4 U	1.4 U	2.5	1.4 U	0.74	1.5	2.1
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	31	33	1.2 U	1.2 U	1.2 U	1.2 U	0.54	1.3	2.1
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	33	32	1.2 U	1.2 U	1.2 U	1.2 U	0.51	1.3	2.1
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	6.7	6.7	1.6 U	1.6 U	1.6 U	1.6 U	0.84	1.7	2.1
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	4.7	5.2	1.4 U	1.4 U	1.4 U	1.4 U	0.67	1.5	2.1
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	0.81	1.7	2.1
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.62	1.3	2.1
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.50	1.3	2.1
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.39	1.3	2.1
	ng/L	1.2 U	12	12	1.2 U	1.2 U	1.2 U	1.2 U	0.49	1.3	2.1
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	14	15	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.7	2.1
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	88	97	1.2 U	1.2 U	1.2 U	1.2 U	0.56	1.3	2.1
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.3	3.3	1.2 U	1.2 U	1.2 U	1.2 U	0.60	1.3	2.1
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	240 (1)	220 (1)	1.8 J	1.6 J	2.6	1.8 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.4 U	0.67	1.5	2.1
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.56	1.3	2.1
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.1 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.1	4.2
MeFOSAA	ng/L	3.0 U	3.2 U	3.2 U	3.0 U	3.0 U	3.0 U	3.0 U	1.3	3.2	4.2
EtFOSAA	ng/L	3.0 U	3.2 U	3.2 U	3.0 U	3.0 U	3.0 U	3.0 U	1.5	3.2	4.2
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.7 U	0.91 J	1.6 U	1.6 U	1.6 U	1.6 U	0.72	1.7	4.2
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	96	96	1.6 U	1.6 U	1.2 J	1.6 U	0.62	1.7	4.2
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	17	18	1.4 J	1.3 J	1.3 J	1.1 J	0.79	1.7	4.2
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.1 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	0.89	2.1	4.2
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	0.33	1.3	4.2
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.1 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	0.59	2.1	4.2
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.1 U	2.1 U	2.0 U	2.0 U	2.0 U	2.0 U	0.55	2.1	4.2

ng/L - nanograms per liter, or parts per trillion.
U - Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11192020 is a field blank.
SANG-INF-11192020D is a field duplicate of SANG-ING-11192020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OGG291	OGG296	OGG297	OGG295	OGG294	OGG293	OGG292			
Sampling Date		2020/11/24 09:15	2020/11/24 09:45	2020/11/24 09:45	2020/11/24 09:38	2020/11/24 09:33	2020/11/24 09:28	2020/11/24 09:20			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-11242020**	**SANG-INF-11242020**	**SANG-INF-11242020D**	**SANG-PCG1-11242020**	**SANG-PCG2-11242020**	**SANG-PCR1-11242020**	**SANG-EFF-11242020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	21	22	3.1	6.3	14	18	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	83	84	7.6	20	8.5	2.7	0.57	1.3	2.2
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	64	64	5.2	7.2	1.6 J	1.5 U	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	28	28	2.1 J	1.5 J	1.3 U	1.3 U	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	28	29	2.1 J	0.86 J	1.3 U	1.3 U	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	6.4	6.3	1.8 U	1.8 U	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.3	5.4	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	11	11	0.83 J	1.3 U	1.3 U	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	12	12	1.8 U	1.8 U	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	73	75	2.9	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.3	3.4	1.3 U	1.3 U	1.3 U	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	190 (1)	190 (1)	9.0	1.3 U	1.3 U	1.3 U	0.47	1.3	2.2
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.1 J	1.6 J	1.8 U	1.8 U	1.8 U	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	83	84	4.2 J	3.5 J	1.8 U	1.8 U	0.65	1.8	4.4
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	16	16	1.3 J	1.8 U	1.8 U	1.8 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-11242020 is a field blank.
SANG-INF-11242020D is a field duplicate of SANG-ING-11242020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OHJ954	OHJ959	OHJ960	OHJ958	OHJ957	OHJ956	OHJ955			
Sampling Date		2020/11/30 08:10	2020/11/30 08:40	2020/11/30 08:40	2020/11/30 08:30	2020/11/30 08:25	2020/11/30 08:20	2020/11/30 08:15			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-11302020**	**SANG-INF-11302020**	**SANG-INF-11302020D**	**SANG-PDG1-11302020**	**SANG-PDG2-11302020**	**SANG-PDR1-11302020**	**SANG-EFF-11302020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	28	29	1.4 U	3.7	15	26	0.70	1.5	2.1
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	98	100	1.2 U	10	9.9	4.8	0.55	1.3	2.1
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	78	76	1.4 U	6.6	1.4 J	1.5 U	0.74	1.5	2.1
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	36	36	1.2 U	2.7	1.2 U	1.3 U	0.54	1.3	2.1
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	33	34	1.2 U	2.4	1.2 U	1.3 U	0.51	1.3	2.1
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.1	7.6	1.6 U	1.6 U	1.6 U	1.7 U	0.84	1.7	2.1
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.8	6.0	1.4 U	1.4 U	1.4 U	1.5 U	0.67	1.5	2.1
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.7 U	1.6 U	1.6 U	1.6 U	1.7 U	0.81	1.7	2.1
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	0.62	1.3	2.1
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	0.50	1.3	2.1
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	0.39	1.3	2.1
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	13	13	1.2 U	0.56 J	1.2 U	1.3 U	0.49	1.3	2.1
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	14	15	1.6 U	1.6 U	1.6 U	1.7 U	0.77	1.7	2.1
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	92	95	1.2 U	4.7	1.2 U	1.3 U	0.56	1.3	2.1
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.1	3.9	1.2 U	1.2 U	1.2 U	1.3 U	0.60	1.3	2.1
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	250 (1)	240 (1)	1.2 U	11	1.2 U	1.3 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U	0.67	1.5	2.1
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	0.56	1.3	2.1
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.1 U	0.85	2.1	4.2
MeFOSAA	ng/L	3.0 U	3.0 U	3.2 U	3.0 U	3.0 U	3.0 U	3.2 U	1.3	3.2	4.2
EtFOSAA	ng/L	3.0 U	3.0 U	3.2 U	3.0 U	3.0 U	3.0 U	3.2 U	1.5	3.2	4.2
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.2 J	1.3 J	1.6 U	1.6 U	1.6 U	1.7 U	0.72	1.7	4.2
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	93	92	1.6 U	5.0	0.61 J	1.7 U	0.62	1.7	4.2
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	18	18	1.6 U	0.97 J	1.6 U	1.7 U	0.79	1.7	4.2
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.1 U	0.89	2.1	4.2
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U	0.33	1.3	4.2
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.1 U	0.59	2.1	4.2
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.1 U	2.0 U	2.0 U	2.0 U	2.1 U	0.55	2.1	4.2

ng/L - nanograms per liter, or parts per trillion.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
J - Estimated result. Associated value may not be accurate or precise.
U - Undetected. Compound was analyzed for, but not detected.
Sample SANG-FB-11302020 is a field blank.
Sample SANG-INF-11302020D is a field duplicate of SANG-INF-11302020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OIH127	OIH132	OIH133	OIH131	OIH130	OIH129	OIH128			
Sampling Date		2020/12/03 08:30	2020/12/03 09:00	2020/12/03 09:00	2020/12/03 08:53	2020/12/03 08:48	2020/12/03 08:43	2020/12/03 08:35			
	UNITS	**SANG-FB-12032020**	**SANG-INF-12032020**	**SANG-INF-12032020D**	**SANG-PAG1-12032020**	**SANG-PAG2-12032020**	**SANG-PAR1-12032020**	**SANG-EFF-12032020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	25	25	1.4 U	1.4 U	18	25	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	84	86	1.2 U	1.2 U	15	4.1	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	66	66	1.4 U	1.4 U	2.6	1.4 U	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	36	37	1.2 U	1.2 U	1.2 U	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	33	33	1.2 U	1.2 U	1.2 U	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.9	8.0	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.5	5.6	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	11	11	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	15	14	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	97	98	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.7	3.7	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	240 (1)	260 (1)	1.2 U	1.2 U	1.2 U	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	77	79	1.6 U	1.6 U	0.68 J	1.6 U	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	21	22	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
Sample SANG-FB-12032020 is a field blank.
Sample SANG-INF-12032020D is a field duplicate of SANG-12032020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OJF879	OJF884	OJF885	OJF883	OJF882	OJF881	OJF880			
Sampling Date		2020/12/08 08:30	2020/12/08 09:08	2020/12/08 09:08	2020/12/08 09:00	2020/12/08 08:52	2020/12/08 08:45	2020/12/08 08:35			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-12082020**	**SANG-INF-12082020**	**SANG-INF-12082020D**	**SANG-PBG1-12082020**	**SANG-PBG2-12082020**	**SANG-PBR1-12082020**	**SANG-EFF-12082020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	24	24	0.85 J	1.4 U	16	24	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	83	82	1.5 J	0.62 J	16	5.2	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	64	63	1.2 J	1.4 U	3.2	0.71 J	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	31	31	0.75 J	1.2 U	0.87 J	1.2 U	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	30	30	0.61 J	1.2 U	0.60 J	1.2 U	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	7.2	7.2	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.7	5.7	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	0.68 J	0.62 J	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	11	11	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	14	14	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	85	86	1.1 J	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.2	4.2	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	230 (1)	230 (1)	2.3	1.2 U	0.96 J	0.67 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.2 J	1.1 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	4.1	98	81	**1.7 U**	**3.8 U**	**29 J+**	**2.8 U**	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	21	20	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
J + Estimated result, biased high. A more accurate result is expected to be lower.
Sample SANG-FB-12082020 is a field blank.
Sample SANG-INF-12082020D is a field duplicate of SANG-INF-12082020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
Results bolded in red text are qualified based on validation.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OJV927	OJV932	OJV933	OJV931	OJV930	OJV929	OJV928			
Sampling Date		2020/12/10 09:00	2020/12/10 09:30	2020/12/10 09:30	2020/12/10 09:25	2020/12/10 09:18	2020/12/10 09:12	2020/12/10 09:05			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-12102020**	**SANG-INF-12102020**	**SANG-INF-12102020D**	**SANG-PCG1-12102020**	**SANG-PCG2-12102020**	**SANG-PCR1-12102020**	**SANG-EFF-12102020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	34	33	1.4 U	1.4 U	19	19	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	120 (1)	110 (1)	1.2 U	1.2 U	23	42	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	95	92	1.4 U	1.4 U	4.3	10	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	48	47	1.2 U	1.2 U	1.2 U	1.8 J	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	44	44	1.2 U	1.2 U	1.2 U	1.0 J	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	10	9.8	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.3	7.0	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	16	15	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	17	17	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	130 (1)	120 (1)	1.2 U	1.2 U	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.8	4.9	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	350 (1)	320 (1)	1.2 U	1.2 U	1.1 J	2.1	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	**1.2 UJ**	**1.2 UJ**	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	0.84 J	0.75 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	120 (1)	110 (1)	1.6 U	1.6 U	3.8 J	5.4	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	30	29	1.6 U	1.6 U	1.6 U	1.1 J	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
J - Estimated result. Associated value may not be accurate or precise.
U - Undetected. Compound was analyzed for, but not detected.
UJ - Not detected at an estimated LOD.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
Sample SANG-FB-12102020 is a field blank.
Sample SANG-INF-12102020D is a field duplicate of SANG-INF-12102020.
Results bolded in red text are qualified based on validation.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OKO083	OKO087	OKO088	OKO085	OKO084			
Sampling Date		2020/12/14 12:15	2020/12/14 13:00	2020/12/14 13:00	2020/12/14 12:30	2020/12/14 12:20			
COC Number		na	na	na	na	na			
	UNITS	**SANG-FB-12142020**	**SANG-INF-12142020**	**SANG-INF-12142020D**	**SANG-PDR1-12142020**	**SANG-EFF-12142020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters									
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	32	33	31	25	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	100	110	32	53	0.57	1.3	2.2
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	77	81	7.2	15	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	35	37	0.98 J	2.0 J	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	34	34	0.89 J	1.2 J	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	8.1	7.7	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.3	5.1	1.5 U	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	13	13	1.3 U	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	17	19	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	100	100	1.3 U	1.3 U	0.58	1.3	2.2
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.7	5.0	1.3 U	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	270 (1)	260 (1)	1.1 J	0.93 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.6 J	1.7 J	1.8 U	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	96	96	2.4 J	5.4	0.65	1.8	4.4
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	20	21	0.86 J	1.8 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12142020 is a field blank.
Sample SANG-INF-12122020D is a field duplicate of SANG-INF-12142020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentrations of the associated target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OLL348	OLL353	OLL354	OLL351	OLL352	OLL350	OLL349			
Sampling Date		2020/12/16 08:18	2020/12/16 08:55	2020/12/16 08:55	2020/12/16 08:34	2020/12/16 08:45	2020/12/16 08:28	2020/12/16 08:23			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-12162020**	**SANG-INF-12162020**	**SANG-INF-12162020D**	**SANG-PAG2-12162020**	**SANG-PAG1-12162020**	**SANG-PAR1-12162020**	**SANG-EFF-12162020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	33	34	1.5 U	0.95 J	16	18	0.74	1.5	2.2
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	120 (1)	120 (1)	1.3 U	1.5 J	38	50	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	94	94	1.5 U	1.5 U	10	14	0.77	1.5	2.2
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	45	44	1.3 U	1.3 U	1.2 J	2.0 J	0.56	1.3	2.2
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	42	41	1.3 U	1.3 U	0.64 J	1.0 J	0.54	1.3	2.2
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	9.3	9.3	1.8 U	1.8 U	1.8 U	1.8 U	0.88	1.8	2.2
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	6.5	6.8	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.85	1.8	2.2
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.65	1.3	2.2
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.53	1.3	2.2
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.41	1.3	2.2
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	15	15	1.3 U	1.3 U	1.3 U	1.3 U	0.52	1.3	2.2
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	17	18	1.8 U	1.8 U	1.8 U	1.8 U	0.80	1.8	2.2
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	120 (1)	120 (1)	1.3 U	1.3 U	1.3 U	1.3 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.7	5.4	1.3 U	1.3 U	1.3 U	1.3 U	0.63	1.3	2.2
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	300 (1)	290 (1)	1.3 U	1.3 U	0.64 J	0.50 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.70	1.5	2.2
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.58	1.3	2.2
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.89	2.2	4.4
MeFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.3	3.3	4.4
EtFOSAA	ng/L	3.0 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	1.5	3.3	4.4
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.5 J	1.5 J	1.8 U	1.8 U	1.8 U	1.8 U	0.76	1.8	4.4
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	120 (1)	110	1.8 U	1.8 U	2.7 J	5.4	0.65	1.8	4.4
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	27	27	1.8 U	1.8 U	1.8 U	1.8 U	0.83	1.8	4.4
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.94	2.2	4.4
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	0.34	1.3	4.4
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.62	2.2	4.4
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.57	2.2	4.4

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12162020 is a field blank.
Sample SANG-INF-12162020D is a field duplicate of SANG-INF-12162020.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).
Compounds highlighted in gray represent the UCMR3 PFAS analytes.

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OMA020	OMA025	OMA026	OMA024	OMA023	OMA022	OMA021			
Sampling Date		2020/12/21 09:00	2020/12/21 09:33	2020/12/21 09:33	2020/12/21 09:25	2020/12/21 09:20	2020/12/21 09:13	2020/12/21 09:05			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	**SANG-FB-12212020**	**SANG-INF-12212020**	**SANG-INF-12212020D**	**SANG-PBG1-12212020**	**SANG-PBG2-12212020**	**SANG-PBR1-12212020**	**SANG-EFF-12212020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	32	32	1.2 J	1.4 U	19	16	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	120 (1)	120 (1)	1.9 J	1.2 U	43	48	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	88	89	1.0 J	1.4 U	11	15	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	40	40	1.2 U	1.2 U	1.7 J	2.0	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	38	38	1.2 U	1.2 U	0.97 J	1.2 J	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	8.2	7.9	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.8	6.0	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	14	14	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	17	17	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	99 (1)	100 (1)	1.2 U	1.2 U	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	5.1	4.9	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	270 (1)	270 (1)	1.2 U	1.2 U	0.61 J	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.6 J	1.4 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	110 (1)	100 (1)	1.6 U	1.6 U	5.4	5.7	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	23	24	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected. Associated value is the limit of detection.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12212020 is a field blank.
Sample SANG-INF-12212020D is a field duplicate of SANG-INF-12212020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OMN211	OMN216	OMN217	OMN215	OMN214	OMN213	OMN212			
Sampling Date		2020/12/23 09:00	2020/12/23 09:30	2020/12/23 09:30	2020/12/23 09:26	2020/12/23 09:18	2020/12/23 09:10	2020/12/23 09:05			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-12232020**	**SANG-INF-12232020**	**SANG-INF-12232020D**	**SANG-PCG1-12232020**	**SANG-PCG2-12232020**	**SANG-PCR1-12232020**	**SANG-EFF-12232020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	37	37	1.4 U	1.4 U	28	22	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	130 (1)	130 (1)	1.2 U	1.2 U	46	62	5.2	12	20
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	96	99	1.4 U	1.4 U	13	20	7.0	14	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	46	46	1.2 U	1.2 U	2.0	2.5	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	44	44	1.2 U	1.2 U	1.1 J	1.3 J	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	9.5	9.4	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	7.3	7.3	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	16	15	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	18	18	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	110 (1)	110 (1)	1.2 U	1.2 U	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.9	4.7	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	440 (1)	450 (1)	1.2 U	1.2 U	1.2 U	1.2 U	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.4 J	1.6 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	120 (1)	110 (1)	1.6 U	1.6 U	5.5	7.0	5.9	16	40
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	27	27	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated Result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12232020 is a field blank.
Sample SANG-INF-12232020D is a field duplicate of SANG-12232020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		OMT748	OMT753	OMT754	OMT752	OMT751	OMT750	OMT749			
Sampling Date		2020/12/28 08:20	2020/12/28 08:55	2020/12/28 08:55	2020/12/28 08:47	2020/12/28 08:40	2020/12/28 08:33	2020/12/28 08:25			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-12282020**	**SANG-INF-12282020**	**SANG-INF-12282020D**	**SANG-PDG1-12282020**	**SANG-PDG2-12282020**	**SANG-PDR1-12282020**	**SANG-EFF-12282020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	21	22	0.81 J	1.4 U	15	16	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	77	76	0.97 J	1.2 U	34	46	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	62	60	1.4 U	1.4 U	13	15	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	34	33	1.2 U	1.2 U	1.7 J	2.2	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	34	34	1.2 U	1.2 U	1.3 J	1.2 J	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	8.3	8.4	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	5.9	6.0	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	10	9.8	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	10	10	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	85	88	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	3.5	3.3	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	370 (1)	350 (1)	0.55 J	1.2 U	0.63 J	0.57 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	0.78 J	0.90 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	75	74	1.6 U	1.6 U	4.2	6.2	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	27	27	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12282020 is a field blank.
Sample SANG-INF-12282020D is a field duplicate of SANG-INF-12282020.
Compounds highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

RESULTS OF ANALYSES OF WATER **VALIDATED DATA**

BV Labs ID		ONE454	ONE459	ONE460	ONE458	ONE457	ONE456	ONE455			
Sampling Date		2020/12/30 07:30	2020/12/30 08:05	2020/12/30 08:05	2020/12/30 08:00	2020/12/30 07:52	2020/12/30 07:45	2020/12/30 07:37			
COC Number		na	na	na	na	na	na	na			
	UNITS	**SANG-FB-12302020**	**SANG-INF-12302020**	**SANG-INF-12302020D**	**SANG-PAG1-12302020**	**SANG-PAG2-12302020**	**SANG-PAR1-12302020**	**SANG-EFF-12302020**	**DL**	**LOD**	**LOQ**
Miscellaneous Parameters											
Perfluorobutanoic acid (PFBA)	ng/L	1.4 U	27	27	4.2	1.4 U	17	19	0.67	1.4	2.0
Perfluoropentanoic acid (PFPeA)	ng/L	1.2 U	94	93	6.9	1.2 U	46	53	0.52	1.2	2.0
Perfluorohexanoic acid (PFHxA)	ng/L	1.4 U	79	77	3.4	1.4 U	20	19	0.70	1.4	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	1.2 U	40	40	1.4 J	1.2 U	2.6	2.8	0.51	1.2	2.0
Perfluorooctanoic acid (PFOA)	ng/L	1.2 U	40	41	1.2 J	1.2 U	1.5 J	1.5 J	0.49	1.2	2.0
Perfluorononanoic acid (PFNA)	ng/L	1.6 U	9.7	9.5	1.6 U	1.6 U	1.6 U	1.6 U	0.80	1.6	2.0
Perfluorodecanoic acid (PFDA)	ng/L	1.4 U	6.9	6.7	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluoroundecanoic acid (PFUnA)	ng/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.77	1.6	2.0
Perfluorododecanoic acid (PFDoA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.59	1.2	2.0
Perfluorotridecanoic acid (PFTRDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.48	1.2	2.0
Perfluorotetradecanoic acid(PFTEDA)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.37	1.2	2.0
Perfluorobutanesulfonic acid (PFBS)	ng/L	1.2 U	14	14	1.2 U	1.2 U	1.2 U	1.2 U	0.47	1.2	2.0
Perfluoropentanesulfonic acid PFPes	ng/L	1.6 U	16	16	1.6 U	1.6 U	1.6 U	1.6 U	0.73	1.6	2.0
Perfluorohexanesulfonic acid(PFHxS)	ng/L	1.2 U	110 (1)	110 (1)	1.3 J	1.2 U	1.2 U	1.2 U	5.3	12	20
Perfluoroheptanesulfonic acid PFHpS	ng/L	1.2 U	4.6	4.4	1.2 U	1.2 U	1.2 U	1.2 U	0.57	1.2	2.0
Perfluorooctanesulfonic acid (PFOS)	ng/L	1.2 U	310 (1)	340 (1)	4.5	1.2 U	0.51 J	0.65 J	4.3	12	20
Perfluorononanesulfonic acid (PFNS)	ng/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.64	1.4	2.0
Perfluorodecanesulfonic acid (PFDS)	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.53	1.2	2.0
Perfluorooctane Sulfonamide (PFOSA)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.81	2.0	4.0
MeFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.2	3.0	4.0
EtFOSAA	ng/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.4	3.0	4.0
4:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	1.3 J	1.2 J	1.6 U	1.6 U	1.6 U	1.6 U	0.69	1.6	4.0
6:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	92	97	1.9 J	1.6 U	6.2	7.2	0.59	1.6	4.0
8:2 Fluorotelomer sulfonic acid	ng/L	1.6 U	32	32	1.6 U	1.6 U	1.6 U	1.6 U	0.75	1.6	4.0
Hexafluoropropyleneoxide dimer acid	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.85	2.0	4.0
4,8-Dioxa-3H-perfluorononanoic acid	ng/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.31	1.2	4.0
9Cl-PF3ONS (F-53B Major)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.56	2.0	4.0
11Cl-PF3OUdS (F-53B Minor)	ng/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.52	2.0	4.0

ng/L - nanograms per liter, or parts per trillion.
U - Undetected. Compound was analyzed for, but not detected.
J - Estimated result. Associated value may not be accurate or precise.
DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
Sample SANG-FB-12302020 is a field blank.
Sample SANG-INF-12302020D is a field duplicate of SANG-INF-12302020.
Analytes highlighted in gray represent the UCMR3 PFAS analytes.
(1) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (10x).

TABLE 2 - OTHER WATER QUALITY MONITORING RESULTS

BERS-Weston Services JVA, LLC

Glycols				
Sample Parameter	**Sampling Date**	**Influent (mg/L)**	**GAC2 Effluent (mg/L)**	**Effluent (mg/L)**
Diethylene glycol	12/21/2020	<52	<52	<52
Ethylene glycol		<10	<10	<10
Propylene glycol		<10	<10	<10
Triethylene Glycol		<54	<54	<54

Total Organic Carbon (TOC)				
Sample Parameter	**Sampling Date**	**Influent (mg/L)**	**GAC2 Effluent (mg/L)**	**Effluent (mg/L)**
TOC	12/21/2020	2.8	0.75	1.8

TABLE 3 - PREVENTIVE MAINTENANCE

Date	Primary Bag Filter Change and Type of Filters Installed	Secondary Bag Filter Change and Type of Filters Installed	Treatment Process Backwashed	Sand Filter Cleaning	Media Change Out	Resin Vessel Skimming
10/2/2020	25 Micron Pleated	10 Micron Pleated				
10/5/2020	25 Micron Regular	10 Micron Regular				
10/6/2020		10 Micron Regular				
10/7/2020		10 Micron Regular				
10/8/2020		10 Micron Regular				
10/9/2020	25 Micron Pleated	10 Micron Pleated				
10/11/2020		10 Micron Regular				
10/12/2020		10 Micron Regular				
10/13/2020	25 Micron Regular	10 Micron Regular				
10/14/2020		Remove Filters	Primary Carbon vessels A,B,C & D	Fine Sand Filters 5A / 5B		
10/16/2020	25 Micron Pleated	Empty				
10/22/2020	25 Micron Regular	Empty				
10/26/2020	25 Micron Regular	Install 10 Micron Regular				
10/27/2020		10 Micron Regular				
10/28/2020		10 Micron Regular				
10/28/2020	25 Micron Regular					
10/29/2020		10 Micron Regular				
10/30/2020	25 Micron Pleated	Remove Filters	Primary Carbon vessels A,B,C & D			
11/2/2020		Install 10 Micron Regular				

TABLE 3 - PREVENTIVE MAINTENANCE

Date	Primary Bag Filter Change and Type of Filters Installed	Secondary Bag Filter Change and Type of Filters Installed	Treatment Process Backwashed	Sand Filter Cleaning	Media Change Out	Resin Vessel Skimming
11/3/2020	25 Micron Regular	Remove Filters				
11/4/2020		Empty	Primary Carbon vessels A,B,C & D			
11/4/2020		Empty		Sand Filter Set 3 Cleaning		
11/5/2020		Empty			Train-C Off-Line - Media Changout	
11/6/2020		Empty			Train-C Off-Line - Media Changout	
11/6/2020		Empty	Train-C Primary and Secondary Carbon Vessels		Train-C Primary and Secondary Carbon Change. Train-D Off-Line Media Change	
11/6/2020	25 Micron Pleated	Empty			GAC-D Off-Line Media Change.	
11/9/2020		Empty	Train-D Primary and Secondary Carbon Vessels		Trains B & D Off-Line Media Change.	
11/9/2020		Empty			Trains A & B Off-Line Media Change.	
11/10/2020		Empty			Trains A & B Off-Line Media Change.	
11/10/2020	25 Micron Regular	Install 10 Micron Regular	Train-B Primary and Secondary Carbon Vessels		Train A Off-Line Media Change.	
11/11/2020	25 Micron Regular	10 Micron Regular	Train-A Primary and Secondary Carbon Vessels		Train A Off-Line Media Change.	

TABLE 3 - PREVENTIVE MAINTENANCE

Date	Primary Bag Filter Change and Type of Filters Installed	Secondary Bag Filter Change and Type of Filters Installed	Treatment Process Backwashed	Sand Filter Cleaning	Media Change Out	Resin Vessel Skimming
11/12/2020	25 Micron Regular	10 Micron Regular				
11/13/2020	25 Micron Pleated	Remove Filters				
11/16/2020		Install 10 Micron Regular	Primary Carbon vessels A,B,C & D			
11/17/2020	25 Micron Regular	Install 10 Micron Regular				
11/18/2020		Install 10 Micron Regular		Fine Sand Filters 5A / 5B		
11/19/2020		10 Micron Regular				
11/20/2020	25 Micron Pleated	Remove Filters	Primary Carbon vessels A,B,C & D			
11/23/2020		Install 10 Micron Regular		Fine Sand Filters 1A / 1B		
11/24/2020		10 Micron Regular				Skim 3/4 Drum of Resin from Top Layer of Each Vessel
11/25/2020	25 Micron Pleated	Remove Filters	Primary Carbon vessels A,B,C & D			
11/29/2020	25 Micron Pleated	Remove Filters				
11/30/2020		Install 10 Micron Regular				
12/1/2020			Secondary Carbon vessels A,B,C & D			
12/2/2020		10 Micron Regular		Fine Sand Filters 2A / 2B		
12/3/2020		10 Micron Regular	Primary Carbon vessels A,B,C & D			

TABLE 3 - PREVENTIVE MAINTENANCE

Date	Primary Bag Filter Change and Type of Filters Installed	Secondary Bag Filter Change and Type of Filters Installed	Treatment Process Backwashed	Sand Filter Cleaning	Media Change Out	Resin Vessel Skimming
12/4/2020	25 Micron Pleated	Remove Filters				
12/7/2020		Install 10 Micron Regular		Fine Sand Filters 3A /3B		
12/8/2020		10 Micron Regular	Primary Carbon vessels A,B,C & D			
12/9/2020			Resin Vessels			
12/13/2020	25 Micron Pleated	10 Micron Pleated				
12/14/2020				Fine Sand Filters 4A /4B		
12/15/2020				Fine Sand Filters 5A /5B		
12/16/2020		Remove Filters	Primary Carbon vessels A,B,C & D			
12/18/2020	25 Micron Pleated					
12/21/2020		Install 10 Micron Pleated				
12/22/2020				Fine Sand Filters 3A /3B		
12/23/2020	25 Micron Pleated	Remove Filters				
12/28/2020	Install 10-micron Pleated filters in secondary	Install 10 Micron Pleated	Secondary Carbon vessels A,B,C & D			
12/29/2020	After cleaning Fine Sand Filters 4A /4B			Fine Sand Filters 4A /4B		
12/30/2020	25 Micron Regular		Primary Carbon vessels A,B,C & D			
12/31/2020	25 Micron Pleated	Remove Filters				

ATTACHMENTS

ONION EQUIPMENT COMPANY

5705 W 73rd Street
Indianapolis, IN 46278
Phone: (317) 762-6007

November 29, 2020

Re: Stewart ANG November 5th Media Exchange Event

To whom it may concern,

Attached are the manifests and disposal certificates for the waste generated on the service event which occurred on and after November 5, 2020.

Our profile with Covanta required that the waste be manifested from Onion Equipment, therefore you will find the associated manifests and disposal certificates from OEC and the associated manifests from SANG.

Thank you,

Eric Patterson

Non-Hazardous Waste Manifest

GENERATOR SECTION

Non-Hazardous Waste Manifest	Generator ID Number	Waste Profile Number	Waste Tracking (Manifest) Number
20-18-2		5001074	PO-00340-5

Customer Billing Name and Mailing	Generator's Site Address
Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278	Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278
Customer Billing Phone: (317) 694-7576	Generator's Phone:

Transporter 1 Company Name	US EPA ID Number
Onion Equipment Company	
Transporter 2 Company Name	**US EPA ID Number**
Designated Facility Name and Site Address	**US EPA ID Number**
Covanta Environmental Solutions 2330 South Harding Street - Indianapolis, IN 46221 Facility's Phone: (317) 559-5694	

	Waste Shipping Name and Description	Containers No.	Containers Type	Total Quantity	Unit Wt / Vol.	Disposal Method
1	non RCRA Spent Irrigation Mix; Non DOT Regulated	6	1 CYD BAG	18,500	LB	Fuel
2						
3						
4						

Special Handling Instructions and Additional Information	24 Hour Emergency Response Phone
Profile 5001074, Origin Stuart ANG, REC Pond SO 161799	Emergency Response Guide Number

GENERATOR'S / OFFEROR'S CERTIFICATION: I hereby certify that the above-described materials are non-hazardous wastes as defined by 40 CFR 261 or any applicable state law. Further, that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Generator's Offeror's Printed / Typed Name	Signature	Month	Day	Year
Eric Patterson		November	10	2020

TRANSPORTER SECTION

Transporter's Acknowledgement of Receipt of Materials

Transporter 1 Printed / Typed Name	Signature	Month	Day	Year
Steve McPhearson		November	10	2020
Transporter 2 Printed / Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY SECTION

Discrepancy

Discrepancy Indication Space	☐ Quantity	☐ Type	☐ Residue	☐ Partial Rejection	☐ Full Rejection

Alternate Facility (or Generator)	US EPA ID Number
Facility's Phone:	

Signature of Alternate Facility (or Generator)	Month	Day	Year

Designated Facility Owner or Operator: Certification of Receipt of materials covered by the manifest except as noted in Discrepancy section

Printed / Typed Name	Signature	Month	Day	Year
S. STUMPF		11	11	20

Ticket

Ticket Number:	0	In Date:	11/11/2020
Truck ID:	ONION EQUIPMER	Tons:	0
		Is Active	
Customer:	COVANTA		
Product:	INBOUND NON BULK		
Hauler:	N/A		
Out Date:			
In Weight:	26,160		
Out Weight:	0		
Tare:	0		
Gross:	0		
Net:	0		

COVANTA
Environmental
Solutions

Certificate of Materials Management

Generator

Onion Equipment Company LLC

5705 W 73rd Street

Indianapolis Indiana 46278

Shipping Document # PO-00340-5

SO #: Sales Order #SO161799

Service Date: 11/11/2020

Line #	Profile ID	Waste Description	Cont. No.	Container Type	Total Quantity	Unit Wt./Vol.	Management Method	Disposal Site
1	5001074	Spent Irrigation Mix Treatment Material	6	CF - Fiber or plastic boxes, cartons, cases	18,500	Pounds	Energy-From-Waste	CES - Indianapolis | 2515 Holt Rd, Indianapolis, IN

This document hereby certifies that the above-described materials were managed in accordance with all required and applicable local, state and federal regulations.

Non-Hazardous Waste Manifest

GENERATOR SECTION

Non-Hazardous Waste Manifest	Generator ID Number	Waste Profile Number	Waste Tracking (Manifest) Number
20-18-1		5001074	PO-00340-4

Customer Billing Name and Mailing	Generator's Site Address
Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278	Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278
Customer Billing Phone: (317) 694-7576	Generator's Phone:

Transporter 1 Company Name Onion Equipment Company	US EPA ID Number
Transporter 2 Company Name	US EPA ID Number
Designated Facility Name and Site Address Covanta Environmental Solutions 2330 South Harding Street - Indianapolis, IN 46221 Facility's Phone: (317) 559-5694	US EPA ID Number

	Waste Shipping Name and Description	Containers No.	Containers Type	Total Quantity	Unit Wt / Vol.	Disposal Method
1	non RCRA Spent Irrigation Mix; Non DOT Regulated	6	1 CYD BAG	18,500	LB	Fuel
2						
3						
4						

Special Handling Instructions and Additional Information Profile 5001074, Origin Stuart ANG, REC Pond SO 162584	24 Hour Emergency Response Phone Emergency Response Guide Number

GENERATOR'S / OFFEROR'S CERTIFICATION: I hereby certify that the above-described materials are non-hazardous wastes as defined by 40 CFR 261 or any applicable state law. Further, that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Generator's Offeror's Printed / Typed Name	Signature	Month	Day	Year
Eric Patterson		November	7	2020

TRANSPORTER SECTION

Transporter's Acknowledgement of Receipt of Materials

Transporter 1 Printed / Typed Name	Signature	Month	Day	Year
Steve McPhearson		November	7	2020
Transporter 2 Printed / Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY SECTION

Discrepancy

Discrepancy Indication Space	☐ Quantity	☐ Type	☐ Residue	☐ Partial Rejection	☐ Full Rejection

Alternate Facility (or Generator) Facility's Phone:			US EPA ID Number
Signature of Alternate Facility (or Generator)	Month	Day	Year

Designated Facility Owner or Operator: Certification of Receipt of materials covered by the manifest except as noted in Discrepancy section

Printed / Typed Name	Signature	Month	Day	Year
J-Stumpf		11	14	20

Ticket

Ticket Number:	0	In Date:	11/16/2020
Truck ID:	ONION EQUIPMENT 20-18-1	Tons:	0
		Is Active	
Customer:	COVANTA		
Product:	INBOUND NON BULK		
Hauler:	N/A		
Out Date:			
In Weight:	26,080		
Out Weight:	0		
Tare:	0		
Gross:	0		
Net:	0		

COVANTA
Environmental
Solutions

Certificate of Materials Management

Generator

Onion Equipment Company LLC

5705 W 73rd Street

Indianapolis Indiana 46278

Shipping Document # PO-00340-4

SO #: Sales Order #SO162584

Service Date: 11/16/2020

Line #	Profile ID	Waste Description	Cont. No.	Container Type	Total Quantity	Unit Wt./Vol.	Management Method	Disposal Site
1	5001074	Spent Irrigation Mix Treatment Material	6	CF - Fiber or plastic boxes, cartons, cases	18,500	Pounds	Energy-From-Waste	CES - Indianapolis | 2515 Holt Rd, Indianapolis, IN

This document hereby certifies that the above-described materials were managed in accordance with all required and applicable local, state and federal regulations.

Non-Hazardous Waste Manifest

GENERATOR SECTION

Non-Hazardous Waste Manifest	Generator ID Number	Waste Profile Number	Waste Tracking (Manifest) Number
20-18-3		5001074	PO-00340-6

Customer Billing Name and Mailing	Generator's Site Address
Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278	Onion Equipment Company 5705 W 73rd Street - Indianapolis, IN 46278
Customer Billing Phone: (317) 694-7576	Generator's Phone:

Transporter 1 Company Name	US EPA ID Number
Onion Equipment Company	
Transporter 2 Company Name	**US EPA ID Number**
Designated Facility Name and Site Address	**US EPA ID Number**
Covanta Environmental Solutions 2330 South Harding Street - Indianapolis, IN 46221 Facility's Phone: (317) 559-5694	

Waste Shipping Name and Description	Containers		Total Quantity	Unit Wt / Vol.	Disposal Method
	No.	Type			
1 non RCRA Spent Irrigation Mix; Non DOT Regulated	5	1 CYD BAG	15,000	LB	Fuel
2 non RCRA Poly Filter Bags; Non DOT Regulated	2	1 CYD BAG	1,000	LB	Fuel
3					
4					

Special Handling Instructions and Additional Information	24 Hour Emergency Response Phone
Profile 5001074, Origin Stuart ANG, REC Pond SO 662578	Emergency Response Guide Number

GENERATOR'S / OFFEROR'S CERTIFICATION: I hereby certify that the above-described materials are non-hazardous wastes as defined by 40 CFR 261 or any applicable state law. Further, that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Generator's Offeror's Printed / Typed Name	Signature	Month	Day	Year
Eric Patterson		November	12	2020

TRANSPORTER SECTION

Transporter's Acknowledgement of Receipt of Materials

Transporter 1 Printed / Typed Name	Signature	Month	Day	Year
Steve McPhearson		November	12	2020
Transporter 2 Printed / Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY SECTION

Discrepancy

Discrepancy Indication Space	☐ Quantity	☐ Type	☐ Residue	☐ Partial Rejection	☐ Full Rejection

Alternate Facility (or Generator)	US EPA ID Number
Facility's Phone:	

Signature of Alternate Facility (or Generator)	Month	Day	Year

Designated Facility Owner or Operator: Certification of Receipt of materials covered by the manifest except as noted in Discrepancy section

Printed / Typed Name	Signature	Month	Day	Year
J. Stumpf		11	16	20

Ticket

Ticket Number:	0	In Date:	11/16/2020
Truck ID:	ONION EQUIPMENT 20-18-3	Tons:	0
		Is Active	
Customer:	COVANTA		
Product:	INBOUND NON BULK		
Hauler:	N/A		
Out Date:			
In Weight:	25,540		
Out Weight:	0		
Tare:	0		
Gross:	0		
Net:	0		

COVANTA
Environmental
Solutions

Certificate of Materials Management

Generator

Onion Equipment Company LLC

5705 W 73rd Street

Indianapolis Indiana 46278

Shipping Document # PO-00340-6

SO #: Sales Order #SO162578

Service Date: 11/16/2020

Line #	Profile ID	Waste Description	Cont. No.	Container Type	Total Quantity	Unit Wt./Vol.	Management Method	Disposal Site
1	5001074	Spent Irrigation Mix Treatment Material	7	CF - Fiber or plastic boxes, cartons, cases	16,000	Pounds	Energy-From-Waste	CES - Indianapolis | 2515 Holt Rd, Indianapolis, IN

This document hereby certifies that the above-described materials were managed in accordance with all required and applicable local, state and federal regulations.