



December 21, 2023

Client: Lawton (MP) PWA DW
East Lake Drive
Medicine Park, OK 73557



Requested By: -

National
Environmental
Laboratory
Accreditation
Program
ODEQ TNI Certified

Sample Project Name: UCMR5

Date Samples Received: December 06, 2023 Time: 19:15 sample temp upon arrival at lab = 5.00°C - On Ice

Matrix: Drinking Water

Lab Log Numbers: **FL06181-01** **FL06181-02** **FL06181-03** **FL06181-04**

Work Order: FL06181

Report # FL06181-1221231327

EPA Lab ID#'s: **Stillwater OK00092** **Tulsa OK00983** **OKC OK00129** **ICR OK 001**

Oklahoma Certification: Stillwater NELAP WasteWater, ODEQ 8316/ Drinking Water, DEQ D9602
NELAP Tulsa WasteWater, ODEQ 9905 / Drinking Water, DEQ D9901
Oklahoma City NELAP WasteWater ODEQ 7202 / Drinking Water, DEQ D9937

Kansas Certification: Stillwater NELAP CERT # E-10219

Method Reference: 40 CFR 136, 141, and 261 Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020, March 1983. Test Methods for Evaluating Solid Wastes, SW-846, Final Update VI. Standard Methods 2005 (21st Edition), Standard Methods 2011 (22nd Edition), Standard Methods 2017 (23rd Edition) for the Examination of Water and Wastewater.

Analysis Reference: If qualifiers present in "Prep Info" or "Analysis Info", then analysis performed as follows: @= Tulsa Lab and * = OKC Lab. If no qualifiers present, then analysis performed at Stillwater Lab.

Accurate Environmental Laboratories certify that the test results performed meet all requirements of TNI. Any exceptions to this can be found in the report notes, Quality Control section, or Method/Parameter section of the report.

- No cert. = Laboratory does not carry certification for this method/analysis.
- Non-TNI = Laboratory has state certification but method does not fall under TNI certification.

This report is to only be replicated in its entirety.

Revised or Amended reports supersede all previous reports.

Accurate Environmental sampling protocol was followed for any sampling performed by Accurate Field Services.

Field accreditation certification only applies to wastewater analysis. Field analysis for drinking water methods are not offered as part of the ODEQ's field certification program.

Sample: **TP002**

Location Code:

PWSID#:

Collection Type: Grab

Sample Time: 12/6/23 10:50

Lab Log# FL06181-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Lithium (Li) EPA 200.7 UCMR5	Lithium	BPQL ug/L		9.00	12/13/23 09:40 LF	12/15/23 14:18 LF
Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	BPQL ug/L		0.00580	12/08/23 08:36 HDM	12/11/23 23:46 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	BPQL ug/L		0.00470	12/08/23 08:36 HDM	12/11/23 23:46 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorobutanoic acid (PFBA)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	BPQL ug/L		0.00650	12/08/23 08:36 HDM	12/11/23 23:46 CHC
Perfluorinated Comps by EPA 533 UCMR5	PFMPA	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanoic acid (PFPeA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTA)	BPQL ug/L		0.00714	12/08/23 08:36 HDM	12/11/23 23:46 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorobutanesulfonic acid (PFBS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	PFMBA	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	NFDHA	BPQL ug/L		0.0179	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2FTS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorohexanoic acid (PFHxA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanesulfonic acid (PFPeS)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	hexafluoropropylene oxide dimer acid (HFPO-DA)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluoroheptanoic acid (PFHpA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorohexanesulfonic acid (PFHxS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2FTS)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorooctanoic acid (PFOA)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoroheptanesulfonic acid (PFHpS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorooctanesulfonic acid (PFOS)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorononanoic acid (PFNA)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	9Cl-PF3ONS	BPQL ug/L		0.00179	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2FTS)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 00:30 CHC

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time: 12/6/23 10:50

Lab Log# FL06181-01

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Perfluorinated Comps by EPA 533 UCMR5	perfluorodecanoic acid (PFDA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluoroundecanoic acid (PFUnA)	BPQL ug/L		0.00179	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	11Cl-PF3OUdS	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 00:30 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorododecanoic acid (PFDoA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 00:30 CHC

Sample: TP003

Location Code:

PWSID#:

Collection Type: Grab

Sample Time: 12/6/23 12:00

Lab Log# FL06181-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Lithium (Li) EPA 200.7 UCMR5	Lithium	BPQL ug/L		9.00	12/13/23 09:40 LF	12/15/23 14:31 LF
Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	BPQL ug/L		0.00580	12/08/23 08:36 HDM	12/12/23 00:14 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	BPQL ug/L		0.00470	12/08/23 08:36 HDM	12/12/23 00:14 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorobutanoic acid (PFBA)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	BPQL ug/L		0.00650	12/08/23 08:36 HDM	12/12/23 00:14 CHC
Perfluorinated Comps by EPA 533 UCMR5	PFMPA	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanoic acid (PFPeA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTA)	BPQL ug/L		0.00714	12/08/23 08:36 HDM	12/12/23 00:14 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorobutanesulfonic acid (PFBS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	PFMBA	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	NFDHA	BPQL ug/L		0.0179	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2FTS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorohexanoic acid (PFHxA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanesulfonic acid (PFPeS)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	hexafluoropropylene oxide dimer acid (HFPO-DA)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluoroheptanoic acid (PFHpA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorohexanesulfonic acid (PFHxS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2FTS)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 01:00 CHC

Sample:

Location Code:

PWSID#:

Collection Type: Grab

Sample Time: 12/6/23 12:00

Lab Log# FL06181-03

Method/Parameter	Test	Result	Notes	PQL#	Prep Info	Analysis Info
Perfluorinated Comps by EPA 533 UCMR5	Perfluorooctanoic acid (PFOA)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluoroheptanesulfonic acid (PFHpS)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorooctanesulfonic acid (PFOS)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluorononanoic acid (PFNA)	BPQL ug/L		0.00357	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	9Cl-PF3ONS	BPQL ug/L		0.00179	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2FTS)	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorodecanoic acid (PFDA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	Perfluoroundecanoic acid (PFUnA)	BPQL ug/L		0.00179	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	11Cl-PF3OUdS	BPQL ug/L		0.00446	12/15/23 08:24 HDM	12/16/23 01:00 CHC
Perfluorinated Comps by EPA 533 UCMR5	perfluorododecanoic acid (PFDoA)	BPQL ug/L		0.00268	12/15/23 08:24 HDM	12/16/23 01:00 CHC

Notes and Definitions

#52 Analyte recoveries are outside of acceptance limits for the matrix spike sample. This failure does not invalidate data reported.

MCL Analyte concentration may exceed Maximum Contaminant Limit (MCL) for EPA Primary or Secondary Drinking Water Regulations.

Analyte concentration may exceed regulatory limit.

PQL Practical Quantitation Limit - the method reporting limit (MRL) adjusted for any dilutions or other changes made to the sample to deal with interferences/matrix effects

BPQL Below Practical Quantitation Limit (if applicable).

The "Prep Date" of the QC analysis coincides with the characters of the appropriate QC Lab ID. (Example: 19 A 02 15 - BLK = 2019, Jan 2, Batch #15 - Blank)

Lab Manager



Blank Data

QC Lab #	Test Group	Test	Result	PQL	Flags
23L1323-BLK1	Lithium (Li) EPA 200.7 UCMR5	Lithium	BPQL ug/L	9.00	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	BPQL ug/L	0.00600	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	BPQL ug/L	0.00500	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluorobutanoic acid (PFBA)	BPQL ug/L	0.00500	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	BPQL ug/L	0.00700	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	PFMPA	BPQL ug/L	0.00400	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanoic acid (PFPeA)	BPQL ug/L	0.00300	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTA)	BPQL ug/L	0.00800	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorobutanesulfonic acid (PFBS)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	PFMBA	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	NFDHA	BPQL ug/L	0.0200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2FTS)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluorohexanoic acid (PFHxA)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanesulfonic acid (PFPeS)	BPQL ug/L	0.00400	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	hexafluoropropylene oxide dimer acid (HFPO-DA)	BPQL ug/L	0.00500	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluoroheptanoic acid (PFHpA)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorohexanesulfonic acid (PFHxS)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2FTS)	BPQL ug/L	0.00500	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorooctanoic acid (PFOA)	BPQL ug/L	0.00400	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluoroheptanesulfonic acid (PFHpS)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluorooctanesulfonic acid (PFOS)	BPQL ug/L	0.00400	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorononanoic acid (PFNA)	BPQL ug/L	0.00400	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	9Cl-PF3ONS	BPQL ug/L	0.00200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2FTS)	BPQL ug/L	0.00500	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluorodecanoic acid (PFDA)	BPQL ug/L	0.00300	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	Perfluoroundecanoic acid (PFUnA)	BPQL ug/L	0.00200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	11Cl-PF3OUdS	BPQL ug/L	0.00500	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	perfluorododecanoic acid (PFDoA)	BPQL ug/L	0.00300	

Laboratory Control Sample Data

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Flags
23L1323-BS1	Lithium (Li) EPA 200.7 UCMR5	Lithium	7.70	9.000	ug/L	86	85 - 115	
23L1323-BS2	Lithium (Li) EPA 200.7 UCMR5	Lithium	39.6	40.02	ug/L	99	85 - 115	
23L0816-MRL1	Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	0.00528	0.005000	ug/L	106	50 - 150	
23L0816-MRL1	Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	0.00507	0.005000	ug/L	101	50 - 150	
23L0816-MRL1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	0.00504	0.005000	ug/L	101	50 - 150	
23L0816-MRL1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTa)	0.00465	0.005000	ug/L	93	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluorobutanoic acid (PFBA)	0.00527	0.005000	ug/L	105	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	PFMPA	0.00404	0.004000	ug/L	101	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanoic acid (PFPeA)	0.00219	0.002000	ug/L	110	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorobutanesulfonic acid (PFBS)	0.00191	0.001776	ug/L	107	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	PFMBA	0.00226	0.002000	ug/L	113	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluoro(2-ethoxyethane) sulfonic acid (PFEEESA)	0.00185	0.001784	ug/L	104	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	NFDHA	0.0207	0.02000	ug/L	103	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2FTS)	0.00197	0.001876	ug/L	105	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluorohexanoic acid (PFHxA)	0.00226	0.002000	ug/L	113	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluoropentanesulfonic acid (PFPeS)	0.00196	0.001880	ug/L	104	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	hexafluoropropylene oxide dimer acid (HFPO-DA)	0.00520	0.005000	ug/L	104	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluoroheptanoic acid (PFHpA)	0.00228	0.002000	ug/L	114	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0.00197	0.001892	ug/L	104	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorohexanesulfonic acid (PFHxS)	0.00199	0.001824	ug/L	109	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2FTS)	0.00532	0.004760	ug/L	112	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorooctanoic acid (PFOA)	0.00439	0.004000	ug/L	110	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluoroheptanesulfonic acid (PFHpS)	0.00179	0.001908	ug/L	94	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluorooctanesulfonic acid (PFOS)	0.00197	0.001856	ug/L	106	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluorononanoic acid (PFNA)	0.00197	0.002000	ug/L	98	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	9CI-PF3ONS	0.00191	0.001868	ug/L	102	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2FTS)	0.00193	0.001920	ug/L	100	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluorodecanoic acid (PFDA)	0.00197	0.002000	ug/L	98	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	Perfluoroundecanoic acid (PFUnA)	0.00211	0.002000	ug/L	106	50 - 150	
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	11CI-PF3OUdS	0.00182	0.001888	ug/L	96	50 - 150	

Quality Control Data

Test results performed meet all method and TNI requirements unless otherwise noted.

Laboratory Control Sample Data (cont'd)

Lab QC#	Test Group	Test Name	LCS Result	Spike Level	Units	% Rec.	Control Limits	Flags
23L1505-MRL1	Perfluorinated Comps by EPA 533 UCMR5	perfluorododecanoic acid (PFDoA)	0.00189	0.002000	ug/L	95	50 - 150	

Matrix Spike Data

QC Lab #	Test Group	Test Name	Source Sample	Sample Result	Units	Spike Result	Spike Level	% Rec.	Acceptance Limits	Flags
23L1323-MS1	Lithium (Li) EPA 200.7 UCMR5	Lithium	FL06181-01	BPQL	ug/L	16.7	9.000	186	85 - 115	#52
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	FL06181-03	BPQL	ug/L	0.0203	0.0185 2	110	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	FL06181-03	BPQL	ug/L	0.0198	0.0185 2	107	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	FL06181-03	BPQL	ug/L	0.0181	0.0185 2	98	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTA)	FL06181-03	BPQL	ug/L	0.0176	0.0185 2	95	70 - 130	

Matrix Spike Duplicate Data

QC Lab #	Test Group	Test Name	Sample Result	Spike Result	Spike Level	Units	% Rec.	Rec. Limits	% RPD	RPD Limit	Flags
23L1323-MSD1	Lithium (Li) EPA 200.7 UCMR5	Lithium	BPQL	17.9	9.000	ug/L	199	85-115	7	20	#52
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	NMeFOSAA	BPQL	0.0191	0.0185 2	ug/L	103	70-130	6	30	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	NEtFOSAA	BPQL	0.0188	0.0185 2	ug/L	102	70-130	5	30	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotridecanoic acid (PFTrDA)	BPQL	0.0170	0.0185 2	ug/L	92	70-130	7	30	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	perfluorotetradecanoic acid (PFTA)	BPQL	0.0170	0.0185 2	ug/L	92	70-130	3	30	

Quality Control Data

Surrogate Recovery Data

QC Lab#	Test Group	Test Name	% Recovery	Recovery Limits	Flags
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] decanesulfonate (M2-8:2FTS)	94	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] hexanesulfonate (M2-4:2FTS)	102	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] octanesulfonate (M2-6:2FTS)	96	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C2-PF [1,2]dodecanoic acid (MPFDoA)	83	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[1,2,3] hexanesulfonate (M3PFHxS)	88	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[2,3,4] butanesulfonate (M3PFBS)	90	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	71	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF [1,2,3,4] heptanoic acid (M4PFHpA)	79	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF butanoic acid (MPFBA)	79	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF [1,2,3,4,6] hexanoic acid (M5PFHxA)	76	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF pentanoic acid (M5PFPeA)	81	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C6-PF [1,2,3,4,5,6] decanoic acid (M6PFDA)	83	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C7-PF [1,2,3,4,5,6,7] undecanoic acid (M7PFUdA)	87	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C8-NaPF 1-octanesulfonate (M8PFOS)	90	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C8-PF octanoic acid (M8PFOA)	81	50 - 200	
23L1505-BLK1	Perfluorinated Comps by EPA 533 UCMR5	13C9-PF nonanoic acid (M9PFNA)	84	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] decanesulfonate (M2-8:2FTS)	87	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] hexanesulfonate (M2-4:2FTS)	116	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] octanesulfonate (M2-6:2FTS)	107	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C2-PF [1,2]dodecanoic acid (MPFDoA)	68	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[1,2,3] hexanesulfonate (M3PFHxS)	98	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[2,3,4] butanesulfonate (M3PFBS)	90	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	75	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF [1,2,3,4] heptanoic acid (M4PFHpA)	84	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF butanoic acid (MPFBA)	91	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF [1,2,3,4,6] hexanoic acid (M5PFHxA)	82	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF pentanoic acid (M5PFPeA)	105	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C6-PF [1,2,3,4,5,6] decanoic acid (M6PFDA)	71	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C7-PF [1,2,3,4,5,6,7] undecanoic acid (M7PFUdA)	72	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C8-NaPF 1-octanesulfonate (M8PFOS)	93	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C8-PF octanoic acid (M8PFOA)	80	50 - 200	
FL06181-01	Perfluorinated Comps by EPA 533 UCMR5	13C9-PF nonanoic acid (M9PFNA)	74	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] decanesulfonate (M2-8:2FTS)	97	50 - 200	

Quality Control Data

Test results performed meet all method and TNI requirements unless otherwise noted.

FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] hexanesulfonate (M2-4:2FTS)	127	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C2-NaPF 1-[1,2] octanesulfonate (M2-6:2FTS)	110	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C2-PF [1,2]dodecanoic acid (MPFDoA)	74	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[1,2,3] hexanesulfonate (M3PFHxS)	105	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C3-NaPF 1-[2,3,4] butanesulfonate (M3PFBS)	89	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	74	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF [1,2,3,4] heptanoic acid (M4PFHpA)	86	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C4-PF butanoic acid (MPFBA)	93	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF [1,2,3,4,6] hexanoic acid (M5PFHxA)	83	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C5-PF pentanoic acid (M5PFPeA)	107	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C6-PF [1,2,3,4,5,6] decanoic acid (M6PFDA)	77	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C7-PF [1,2,3,4,5,6,7] undecanoic acid (M7PFUdA)	76	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C8-NaPF 1-octanesulfonate (M8PFOS)	93	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C8-PF octanoic acid (M8PFOA)	84	50 - 200	
FL06181-03	Perfluorinated Comps by EPA 533 UCMR5	13C9-PF nonanoic acid (M9PFNA)	79	50 - 200	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	95	70 - 130	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFDA	99	70 - 130	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFHxA	101	70 - 130	
23L0816-BLK1	Perfluorinated Comps by EPA 537.1 UCMR5	d5-PF N-ethyl-1-octanesulfonamidoAA (d5-N-EtFOSAA)	94	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	93	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFDA	96	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFHxA	91	70 - 130	
23L0816-MS1	Perfluorinated Comps by EPA 537.1 UCMR5	d5-PF N-ethyl-1-octanesulfonamidoAA (d5-N-EtFOSAA)	100	70 - 130	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	90	70 - 130	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFDA	93	70 - 130	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFHxA	88	70 - 130	
23L0816-MSD1	Perfluorinated Comps by EPA 537.1 UCMR5	d5-PF N-ethyl-1-octanesulfonamidoAA (d5-N-EtFOSAA)	92	70 - 130	
FL06181-01	Perfluorinated Comps by EPA 537.1 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	100	70 - 130	
FL06181-01	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFDA	103	70 - 130	
FL06181-01	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFHxA	100	70 - 130	
FL06181-01	Perfluorinated Comps by EPA 537.1 UCMR5	d5-PF N-ethyl-1-octanesulfonamidoAA (d5-N-EtFOSAA)	104	70 - 130	
FL06181-03	Perfluorinated Comps by EPA 537.1 UCMR5	13C3-PF 2-methyl-3-oxahexanoic acid (M3HFPO-DA)	88	70 - 130	
FL06181-03	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFDA	95	70 - 130	
FL06181-03	Perfluorinated Comps by EPA 537.1 UCMR5	13C-PFHxA	90	70 - 130	

Quality Control Data**Test results performed meet all method and TNI requirements unless otherwise noted.**

FL06181-03	Perfluorinated Comps by EPA 537.1 UCMR5	d5-PF N-ethyl-1-octanesulfonamidoAA (d5-N-EtFOSAA)	92	70 - 130	
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* Complete Entire COC to be in Compliance*

RUSH

Due Date



Chain of Custody

Client Name- **Lawton**
Project Name- **UCMR5**

Accurate Work Order #	Date Sample Taken	Time Sample Taken	Matrix or Source (Refer. below)	Grab (G) or Comp (C)	SP ID	SP Name	Sampling Event	Analysis Requested → # of Container ↓	500ml HNO3	250ml PP Amm Ace 4C	250ml PP Trizma 4C					
									UCMR5 Lithium	UCMR5 PFAS 533	UCMR5 PFAS 537.1					
FL06181																
-01	12-6-23	1050	DW	G	TP002	TP002	SE1	5	1	2	2					
-02	12-6-23	1050	DW	G		Field Blank for TP002	SE1	23		2	1					
-03	12-6-23	1200	DW	G	TP003	TP003	SE1	5	1	2	2					
-04	12-6-23	1200	DW	G		Field Blank for TP003	SE1	23		2	1					

MMV110323

On-Site Info

Comments -- All samples are scheduled to be disposed of in 4 weeks of receipt at Accurate.--

Certification by Company Official: I hereby certify that the above sampling occurred during a period such that the sample(s) is/are representative of a typical operating day discharge for the above facility. Signature: _____ Date/Time: _____

Sampled By: _____ Company: _____ Sample Method: _____

Relinquished By: *David A. Cordova* Date/Time: *12/6/23 1400* Received By: *[Signature]* Date/Time: *12/6/23 1400* via _____
 Relinquished to Lab By: _____ Date/Time: *12/6/23 1915* Received at Lab By: *K Franklin* Rec'd °C: *5.0* Date/Time: *12/6/23 1915*
 Rel'g'd to Log-In Fridge By: _____

Reporting Requirements (standard 10-15 working days) Compliance Reporting? Yes or No (DMR, PWS, UCMR4) PWS ID # **OK1011303** RUSH Request (if available) _____ (Working Days)

Mail Report To: _____ Address: _____ Phone #: _____ Fax #: _____
 Email: Jeffrey.dorrell@lawtonok.gov

Mail Invoice To: _____ Address: _____ Bid # - _____ PO # - _____
 Phone #: _____ Fax #: _____
 Email: Jeffrey.dorrell@lawtonok.gov