



ANALYSIS REPORT

Prepared by:

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Prepared for:

Suez Water Pennsylvania
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Report Date: August 16, 2019 12:02

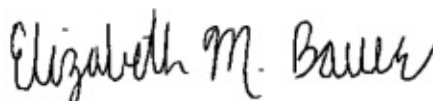
Project: Newberry System

Account #: 44297
Group Number: 2054690
State of Sample Origin: PA

Electronic Copy To Suez Water Pennsylvania
Electronic Copy To Suez Water Pennsylvania

Attn: Penny Bumbarger
Attn: Shawn Wiley

Respectfully Submitted,



Elizabeth M. Bauer
Project Manager

(717) 556-7290

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SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
7670061 002 - Coppersmith Well	07/18/2019 08:55	1106276
7670061 FB 002 - Coppersmith Well	07/18/2019 08:55	1106277
7670061 003 - DuPont Well	07/18/2019 09:30	1106278
7670061 FB 003 - DuPont Well	07/18/2019 09:30	1106279
7670061 302S - DuPont betw Lead & Lag	07/18/2019 09:20	1106280
7670061 FB 302S - DuPont betw Lead & Lag	07/18/2019 09:20	1106281
7670061 302S - DuPont Lead Vessel 1/2 Way	07/18/2019 09:25	1106282
7670061 FB 302S - DuPont Lead Vessel 1/2 Way	07/18/2019 09:25	1106283
7670061 302S - DuPont After Lag Vessel	07/18/2019 09:15	1106284
7670061 FB 302S - DuPont After Lag Vessel	07/18/2019 09:15	1106285

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: 7670061 002 - Coppersmith Well
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: EW 1106276
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 08:55

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 1.8	1.8	0.46	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 1.8	1.8	0.46	1
14070	Perfluorobutanesulfonic acid	375-73-5	9.1	1.8	0.46	1
14070	Perfluorodecanoic acid	335-76-2	< 1.8	1.8	0.46	1
14070	Perfluorododecanoic acid	307-55-1	< 1.8	1.8	0.46	1
14070	Perfluoroheptanoic acid	375-85-9	7.5	1.8	0.46	1
14070	Perfluorohexanesulfonic acid	355-46-4	84	18	4.6	10
14070	Perfluorohexanoic acid	307-24-4	16	1.8	0.46	1
14070	Perfluorononanoic acid	375-95-1	6.8	1.8	0.46	1
14070	Perfluorooctanesulfonic acid	1763-23-1	130	18	4.6	10
14070	Perfluorooctanoic acid	335-67-1	9.5	1.8	0.46	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.8	1.8	0.46	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.8	1.8	0.46	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.8	1.8	0.46	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	07/27/2019 16:40	Marissa C Drexinger	1
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	08/05/2019 22:17	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19205006	07/24/2019 08:30	Austin Prince	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 FB 002 - Coppersmith Well
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: PW 1106277
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 08:55

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	< 1.7	1.7	0.44	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	< 1.7	1.7	0.44	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonic acid	375-73-5	< 1.7	1.7	0.44	1
14070	Perfluorodecanoic acid	335-76-2	< 1.7	1.7	0.44	1
14070	Perfluorododecanoic acid	307-55-1	< 1.7	1.7	0.44	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.7	1.7	0.44	1
14070	Perfluorohexanesulfonic acid	355-46-4	< 1.7	1.7	0.44	1
14070	Perfluorohexanoic acid	307-24-4	< 1.7	1.7	0.44	1
14070	Perfluorononanoic acid	375-95-1	< 1.7	1.7	0.44	1
14070	Perfluorooctanesulfonic acid	1763-23-1	< 1.7	1.7	0.44	1
14070	Perfluorooctanoic acid	335-67-1	< 1.7	1.7	0.44	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.7	1.7	0.44	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.7	1.7	0.44	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.7	1.7	0.44	1

The recovery for surrogate 13C2-PFDA in the method blank is outside of QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to re-extract this sample.

The holding time was not met. Per client request, the sample was placed on hold. When released for analysis, the holding time had already expired.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19217005	08/08/2019 01:23	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19217005	08/05/2019 07:15	Toby Barnhart	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 003 - DuPont Well
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: EW 1106278
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:30

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 1.8	1.8	0.46	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 1.8	1.8	0.46	1
14070	Perfluorobutanesulfonic acid	375-73-5	7.6	1.8	0.46	1
14070	Perfluorodecanoic acid	335-76-2	< 1.8	1.8	0.46	1
14070	Perfluorododecanoic acid	307-55-1	< 1.8	1.8	0.46	1
14070	Perfluoroheptanoic acid	375-85-9	2.9	1.8	0.46	1
14070	Perfluorohexanesulfonic acid	355-46-4	100	18	4.6	10
14070	Perfluorohexanoic acid	307-24-4	8.3	1.8	0.46	1
14070	Perfluorononanoic acid	375-95-1	< 1.8	1.8	0.46	1
14070	Perfluorooctanesulfonic acid	1763-23-1	130	18	4.6	10
14070	Perfluorooctanoic acid	335-67-1	6.6	1.8	0.46	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.8	1.8	0.46	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.8	1.8	0.46	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.8	1.8	0.46	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	07/27/2019 16:52	Marissa C Drexinger	1
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	08/05/2019 22:29	Marissa C Drexinger	10
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19205006	07/24/2019 08:30	Austin Prince	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 FB 003 - DuPont Well
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: PW 1106279
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:30

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	< 1.7	1.7	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	< 1.7	1.7	0.43	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonic acid	375-73-5	< 1.7	1.7	0.43	1
14070	Perfluorodecanoic acid	335-76-2	< 1.7	1.7	0.43	1
14070	Perfluorododecanoic acid	307-55-1	< 1.7	1.7	0.43	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.7	1.7	0.43	1
14070	Perfluorohexanesulfonic acid	355-46-4	< 1.7	1.7	0.43	1
14070	Perfluorohexanoic acid	307-24-4	< 1.7	1.7	0.43	1
14070	Perfluorononanoic acid	375-95-1	< 1.7	1.7	0.43	1
14070	Perfluorooctanesulfonic acid	1763-23-1	< 1.7	1.7	0.43	1
14070	Perfluorooctanoic acid	335-67-1	< 1.7	1.7	0.43	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.7	1.7	0.43	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.7	1.7	0.43	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.7	1.7	0.43	1

The recovery for surrogate 13C2-PFDA in the method blank is outside of QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to re-extract this sample.

The holding time was not met. Per client request, the sample was placed on hold. When released for analysis, the holding time had already expired.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19217005	08/08/2019 01:34	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19217005	08/05/2019 07:15	Toby Barnhart	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 302S - DuPont betw Lead & Lag
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: EW 1106280
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	< 1.8	1.8	0.45	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	< 1.8	1.8	0.45	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonic acid	375-73-5	< 1.8	1.8	0.45	1
14070	Perfluorodecanoic acid	335-76-2	< 1.8	1.8	0.45	1
14070	Perfluorododecanoic acid	307-55-1	< 1.8	1.8	0.45	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.8	1.8	0.45	1
14070	Perfluorohexanesulfonic acid	355-46-4	< 1.8	1.8	0.45	1
14070	Perfluorohexanoic acid	307-24-4	< 1.8	1.8	0.45	1
14070	Perfluorononanoic acid	375-95-1	< 1.8	1.8	0.45	1
14070	Perfluorooctanesulfonic acid	1763-23-1	< 1.8	1.8	0.45	1
14070	Perfluorooctanoic acid	335-67-1	< 1.8	1.8	0.45	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.8	1.8	0.45	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.8	1.8	0.45	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.8	1.8	0.45	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	07/29/2019 19:06	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19205006	07/24/2019 08:30	Austin Prince	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 FB 302S - DuPont betw Lead & Lag
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: PW 1106281
ELLE Group #: 2054690

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:20

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Sample Description: 7670061 302S - DuPont Lead Vessel 1/2 Way
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: EW 1106282
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:25

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 1.9	1.9	0.47	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 1.9	1.9	0.47	1
14070	Perfluorobutanesulfonic acid	375-73-5	1.9	1.9	0.47	1
14070	Perfluorodecanoic acid	335-76-2	< 1.9	1.9	0.47	1
14070	Perfluorododecanoic acid	307-55-1	< 1.9	1.9	0.47	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.9	1.9	0.47	1
14070	Perfluorohexanesulfonic acid	355-46-4	7.0	1.9	0.47	1
14070	Perfluorohexanoic acid	307-24-4	5.0	1.9	0.47	1
14070	Perfluorononanoic acid	375-95-1	< 1.9	1.9	0.47	1
14070	Perfluorooctanesulfonic acid	1763-23-1	5.4	1.9	0.47	1
14070	Perfluorooctanoic acid	335-67-1	< 1.9	1.9	0.47	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.9	1.9	0.47	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.9	1.9	0.47	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.9	1.9	0.47	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	07/29/2019 19:17	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19205006	07/24/2019 08:30	Austin Prince	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 FB 302S - DuPont Lead Vessel 1/2 Way
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: PW 1106283
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:25

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	< 1.7	1.7	0.43	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	< 1.7	1.7	0.43	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonic acid	375-73-5	< 1.7	1.7	0.43	1
14070	Perfluorodecanoic acid	335-76-2	< 1.7	1.7	0.43	1
14070	Perfluorododecanoic acid	307-55-1	< 1.7	1.7	0.43	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.7	1.7	0.43	1
14070	Perfluorohexanesulfonic acid	355-46-4	< 1.7	1.7	0.43	1
14070	Perfluorohexanoic acid	307-24-4	< 1.7	1.7	0.43	1
14070	Perfluorononanoic acid	375-95-1	< 1.7	1.7	0.43	1
14070	Perfluorooctanesulfonic acid	1763-23-1	< 1.7	1.7	0.43	1
14070	Perfluorooctanoic acid	335-67-1	< 1.7	1.7	0.43	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.7	1.7	0.43	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.7	1.7	0.43	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.7	1.7	0.43	1

The recovery for surrogate 13C2-PFDA in the method blank is outside of QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to re-extract this sample.

The holding time was not met. Per client request, the sample was placed on hold. When released for analysis, the holding time had already expired.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19217005	08/08/2019 01:46	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19217005	08/05/2019 07:15	Toby Barnhart	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 302S - DuPont After Lag Vessel
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: EW 1106284
ELLE Group #: 2054690
Matrix: Water

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00
Collection Date/Time: 07/18/2019 09:15

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 1.8	1.8	0.44	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 1.8	1.8	0.44	1
14070	Perfluorobutanesulfonic acid	375-73-5	< 1.8	1.8	0.44	1
14070	Perfluorodecanoic acid	335-76-2	< 1.8	1.8	0.44	1
14070	Perfluorododecanoic acid	307-55-1	< 1.8	1.8	0.44	1
14070	Perfluoroheptanoic acid	375-85-9	< 1.8	1.8	0.44	1
14070	Perfluorohexanesulfonic acid	355-46-4	< 1.8	1.8	0.44	1
14070	Perfluorohexanoic acid	307-24-4	< 1.8	1.8	0.44	1
14070	Perfluorononanoic acid	375-95-1	< 1.8	1.8	0.44	1
14070	Perfluorooctanesulfonic acid	1763-23-1	< 1.8	1.8	0.44	1
14070	Perfluorooctanoic acid	335-67-1	< 1.8	1.8	0.44	1
14070	Perfluorotetradecanoic acid	376-06-7	< 1.8	1.8	0.44	1
14070	Perfluorotridecanoic acid	72629-94-8	< 1.8	1.8	0.44	1
14070	Perfluoroundecanoic acid	2058-94-8	< 1.8	1.8	0.44	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS in Drinking Water	EPA 537 Version 1.1	1	19205006	07/29/2019 19:29	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19205006	07/24/2019 08:30	Austin Prince	1

*=This limit was used in the evaluation of the final result

Sample Description: 7670061 FB 302S - DuPont After Lag Vessel
Grab Water
Newberry System

Suez Water Pennsylvania
ELLE Sample #: PW 1106285
ELLE Group #: 2054690

Project Name: Newberry System

Submittal Date/Time: 07/19/2019 15:00

Collection Date/Time: 07/18/2019 09:15

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/20.

Quality Control Summary

Client Name: Suez Water Pennsylvania
Reported: 08/16/2019 12:02

Group Number: 2054690

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ng/l	LOQ** ng/l	MDL ng/l
Batch number: 19205006	Sample number(s): 1106276,1106278,1106280,1106282,1106284		
NEtFOSAA	< 2.0	2.0	0.50
NMeFOSAA	< 2.0	2.0	0.50
Perfluorobutanesulfonic acid	< 2.0	2.0	0.50
Perfluorodecanoic acid	< 2.0	2.0	0.50
Perfluorododecanoic acid	< 2.0	2.0	0.50
Perfluoroheptanoic acid	< 2.0	2.0	0.50
Perfluorohexanesulfonic acid	< 2.0	2.0	0.50
Perfluorohexanoic acid	< 2.0	2.0	0.50
Perfluorononanoic acid	< 2.0	2.0	0.50
Perfluorooctanesulfonic acid	< 2.0	2.0	0.50
Perfluorooctanoic acid	< 2.0	2.0	0.50
Perfluorotetradecanoic acid	< 2.0	2.0	0.50
Perfluorotridecanoic acid	< 2.0	2.0	0.50
Perfluoroundecanoic acid	< 2.0	2.0	0.50
Batch number: 19217005	Sample number(s): 1106277,1106279,1106283		
NEtFOSAA	< 2.0	2.0	0.50
NMeFOSAA	< 2.0	2.0	0.50
Perfluorobutanesulfonic acid	< 2.0	2.0	0.50
Perfluorodecanoic acid	< 2.0	2.0	0.50
Perfluorododecanoic acid	< 2.0	2.0	0.50
Perfluoroheptanoic acid	< 2.0	2.0	0.50
Perfluorohexanesulfonic acid	< 2.0	2.0	0.50
Perfluorohexanoic acid	< 2.0	2.0	0.50
Perfluorononanoic acid	< 2.0	2.0	0.50
Perfluorooctanesulfonic acid	< 2.0	2.0	0.50
Perfluorooctanoic acid	< 2.0	2.0	0.50
Perfluorotetradecanoic acid	< 2.0	2.0	0.50
Perfluorotridecanoic acid	< 2.0	2.0	0.50
Perfluoroundecanoic acid	< 2.0	2.0	0.50

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
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*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Suez Water Pennsylvania
Reported: 08/16/2019 12:02

Group Number: 2054690

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 19205006	Sample number(s): 1106276,1106278,1106280,1106282,1106284								
NEtFOSAA	20.48	20.58	20.48	22.52	100	110	70-130	9	30
NMeFOSAA	20.48	22.87	20.48	22.42	112	109	70-130	2	30
Perfluorobutanesulfonic acid	18.12	19.7	18.12	19.45	109	107	70-130	1	30
Perfluorodecanoic acid	20.48	21.86	20.48	24.5	107	120	70-130	11	30
Perfluorododecanoic acid	20.48	20.48	20.48	23.41	100	114	70-130	13	30
Perfluoroheptanoic acid	20.48	20.93	20.48	23.74	102	116	70-130	13	30
Perfluorohexanesulfonic acid	18.68	20.11	18.68	20.05	108	107	70-130	0	30
Perfluorohexanoic acid	20.48	22.84	20.48	24.75	112	121	70-130	8	30
Perfluorononanoic acid	20.48	21.61	20.48	24.69	106	121	70-130	13	30
Perfluorooctanesulfonic acid	18.96	20.14	18.96	20.72	106	109	70-130	3	30
Perfluorooctanoic acid	20.48	20.91	20.48	23.07	102	113	70-130	10	30
Perfluorotetradecanoic acid	20.48	20.85	20.48	23.88	102	117	70-130	14	30
Perfluorotridecanoic acid	20.48	20.07	20.48	23.2	98	113	70-130	14	30
Perfluoroundecanoic acid	20.48	20.99	20.48	25.61	102	125	70-130	20	30
Batch number: 19217005	Sample number(s): 1106277,1106279,1106283								
NEtFOSAA	3.84	4.34	3.84	4.06	113	106	50-150	7	30
NMeFOSAA	3.84	4.64	3.84	4.55	121	118	50-150	2	30
Perfluorobutanesulfonic acid	3.40	3.84	3.40	3.93	113	116	50-150	2	30
Perfluorodecanoic acid	3.84	4.28	3.84	4.27	111	111	50-150	0	30
Perfluorododecanoic acid	3.84	3.87	3.84	3.70	101	96	50-150	4	30
Perfluoroheptanoic acid	3.84	4.32	3.84	4.25	112	111	50-150	1	30
Perfluorohexanesulfonic acid	3.50	4.28	3.50	4.05	122	116	50-150	6	30
Perfluorohexanoic acid	3.84	4.57	3.84	4.51	119	117	50-150	1	30
Perfluorononanoic acid	3.84	4.43	3.84	4.31	115	112	50-150	3	30
Perfluorooctanesulfonic acid	3.55	4.24	3.55	4.13	119	116	50-150	3	30
Perfluorooctanoic acid	3.84	4.54	3.84	4.66	118	121	50-150	3	30
Perfluorotetradecanoic acid	3.84	3.71	3.84	3.37	97	88	50-150	9	30
Perfluorotridecanoic acid	3.84	4.11	3.84	3.62	107	94	50-150	13	30
Perfluoroundecanoic acid	3.84	4.26	3.84	4.05	111	106	50-150	5	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Suez Water Pennsylvania
Reported: 08/16/2019 12:02

Group Number: 2054690

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 14 PFAS in Drinking Water
Batch number: 19205006

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1106276	97	99	84
1106278	96	98	88
1106280	103	93	98
1106282	92	91	90
1106284	111	103	107
Blank	109	105	94
LCS	99	101	86
LCSD	108	109	93
Limits:	70-130	70-130	70-130

Analysis Name: 14 PFAS in Drinking Water
Batch number: 19217005

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1106277	98	95	95
1106279	76	77	78
1106283	88	74	74
Blank	77	65*	74
LCS	93	90	90
LCSD	102	95	96
Limits:	70-130	70-130	70-130

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 44297 Group # 2054690 Sample # 1106276-85

COC # 586316

Client Information				Matrix			Analysis Requested										For Lab Use Only					
Client: <u>SUEZ Water PA</u>		Acct. #: <u>44297</u>		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation and Filtration Codes										FSC: _____					
Project Name/ #: <u>Newberry System</u>		PWSID #: <u>7670061</u>		<input type="checkbox"/> Sediment	<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES											SCR#: _____					
Project Manager:		P.O. #:		<input type="checkbox"/> Water	<input type="checkbox"/> Other: <u>GAC Filtered</u>	Total # of Containers <u>537 v. 1.1</u>		Preservation Codes		Remarks												
Sampler: <u>Penny Bumbarger</u>		Quote #:		<input type="checkbox"/> Soil	<input type="checkbox"/> Grab			<input type="checkbox"/> Composite	H=HCl	T=Thiosulfate	Updated COC to be for compliance per P. Bumbarger. EMB25502 7/25/19											
State where samples were collected: <u>PA</u>		For Compliance: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		EMB25502 7/25/19																		
Sample Identification		Collected		Grab	Composite	Soil	Water	Other	Total # of Containers													
		Date	Time																			
<u>002 - Coppersmith Well</u>		<u>7/18/19</u>	<u>0855</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>												
<u>FB 002 - Coppersmith Well</u>		<u>7/18/19</u>	<u>0855</u>						<u>1</u>	<input checked="" type="checkbox"/>												
<u>003 - DuPont Well</u>		<u>7/18/19</u>	<u>0930</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>2</u>	<input checked="" type="checkbox"/>												
<u>FB 003 - DuPont Well</u>		<u>7/18/19</u>	<u>0930</u>						<u>1</u>	<input checked="" type="checkbox"/>												
<u>302S - DuPont betw Lead + Lag</u>		<u>7/18/19</u>	<u>0920</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<u>2</u>	<input checked="" type="checkbox"/>												
<u>FB 302S - DuPont betw lead+lag</u>		<u>7/18/19</u>	<u>0920</u>						<u>1</u>	<input checked="" type="checkbox"/>												
<u>302S - DuPont lead vessel 1/2 way</u>		<u>7/18/19</u>	<u>0925</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<u>2</u>	<input checked="" type="checkbox"/>												
<u>FB 302S - DuPont lead vessel 1/2 way</u>		<u>7/18/19</u>	<u>0925</u>						<u>1</u>	<input checked="" type="checkbox"/>												
<u>302S - DuPont after lag vessel</u>		<u>7/18/19</u>	<u>0915</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<u>2</u>	<input checked="" type="checkbox"/>												
<u>FB 302S - DuPont after lag vessel</u>		<u>7/18/19</u>	<u>0915</u>						<u>1</u>	<input checked="" type="checkbox"/>												

Turnaround Time (TAT) Requested (please circle) Standard <u>Standard</u> Rush (Rush TAT is subject to laboratory approval and surcharge.) Requested TAT in business days: _____ E-mail address: _____	Relinquished by <u>Penny Bumbarger</u>	Date <u>7/19/19</u>	Time <u>1150</u>	Received by <u>REP</u>	Date <u>7/19/19</u>	Time <u>1150</u>
	Relinquished by _____	Date _____	Time _____	Received by _____	Date _____	Time _____
	Relinquished by _____	Date _____	Time _____	Received by _____	Date _____	Time _____
	Relinquished by _____	Date _____	Time _____	Received by _____	Date <u>7/19/19</u>	Time <u>1500</u>

Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP		EDD Required? Yes No If yes, format: _____ Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)	Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____ Temperature upon receipt <u>60</u> °C
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Client: Suez Water

Delivery and Receipt Information

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>07/19/2019 15:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	0
Samples Chilled:	Yes	Air Quality Samples Present:	No
Paperwork Enclosed:	Yes		
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Darian Jaynes (29952) at 17:36 on 07/19/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT42-01	1.0	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.