PLUMLEY
ENGINEERING
Civil and Environmental Engineering

December 7, 2018 ***** VIA EMAIL: rachel.gardner@dec.ny.gov *****

Ms. Rachel K. Gardner, E.I.T.
Project Manager
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation, Region 6
317 Washington Street
Watertown, New York 13601-3787

RE: Sampling and Analysis Report for Emerging Contaminants
Former Oneida Knife Plant – Lot 1
City of Sherrill, Oneida County, New York
Brownfield Cleanup Program Site No. C633077
Project No. 2018121

Dear Ms. Gardner:

We are providing you with the groundwater sampling and analysis results for emerging contaminants completed at the above-referenced site. Four onsite monitoring wells were sampled by our personnel on August 31, 2018. The samples were delivered to SGS North America, Inc for analysis. The following exhibits are attached:

- Figure 1 – Site Plan
- Summary Table of Analytical Results
- Laboratory Report

The work was completed in substantial conformance with the June 2018 Sampling and Analysis Work Plan, reviewed and approved by the Department, with the following exception:

Well TW-1 was one of the four wells proposed for sampling in the Work Plan. However, the wellhead was found in disrepair with no cap. Also, the well purged to dryness and exhibited very slow recovery. A field decision was made to sample well MW-1. MW-1 is located near AOC #1, but at a cross-gradient position with respect to the groundwater flow direction.

The Data Validation Report will be forwarded to you when received from the data validator.

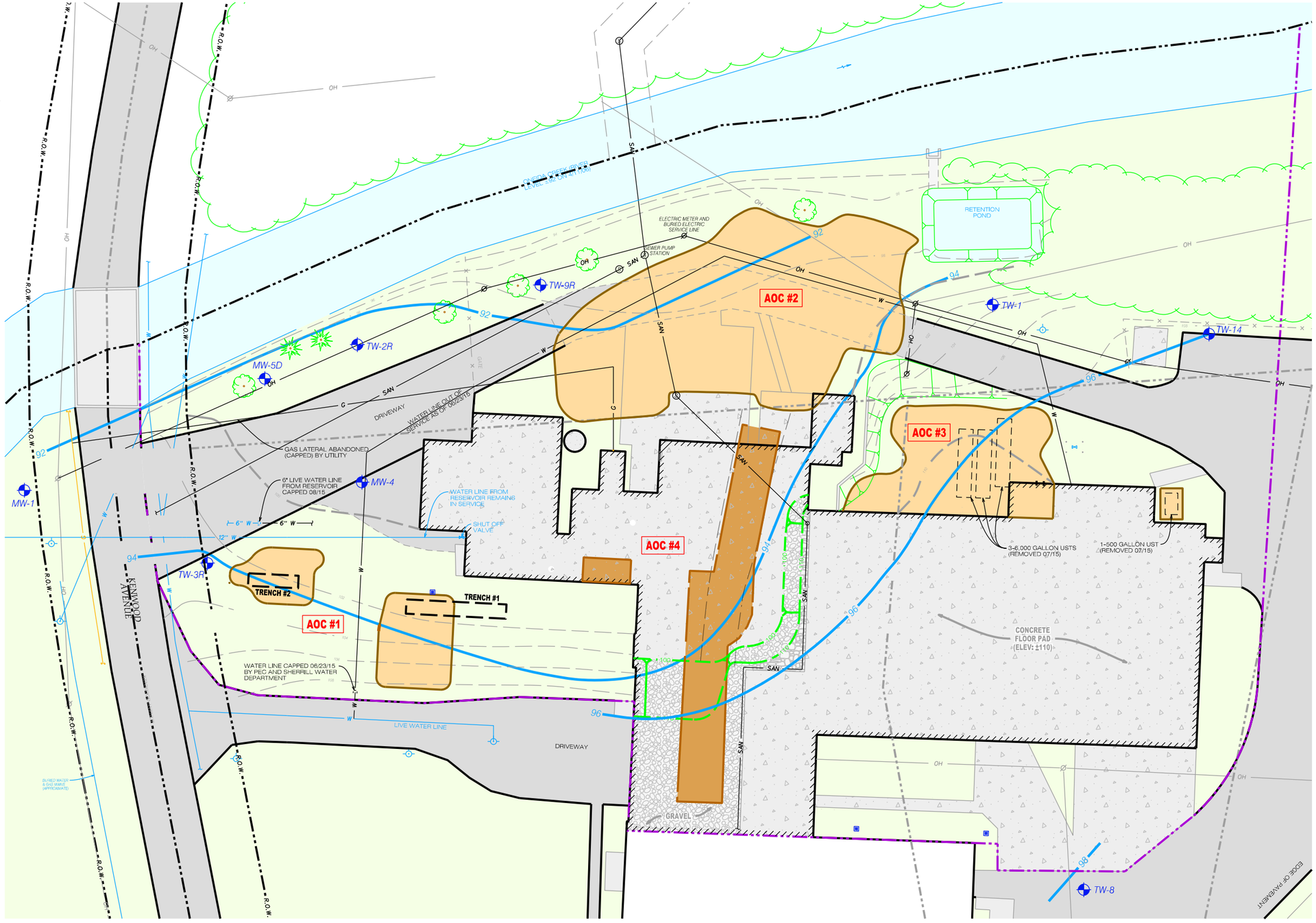
If you have any questions, please contact me.

Very truly yours,

PLUMLEY ENGINEERING, P.C.

Frank A. Karboski, P.G.

FAK/cas
Attachments



Key

- Property Line
- R.O.W. — Right of Way
- Former Building Wall
- OH — Overhead Utility
- Power Pole
- Catch Basin
- SAN — Sanitary Sewer
- Sanitary Manhole
- W — Water Main w/ Size
- Hydrant
- 3K — Building Name
- 110 — Topographic Contour
- AOC #1, #2 & #3 Remedial Excavations, Completed in Summer of 2015
- AOC #4 & B-29 Area Remedial Excavations, Completed in Summer of 2016
- TW-1 — Monitoring Well
- Groundwater Contour Bsed on 6/11/10 Data

EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO CONFIRM LOCATIONS BEFORE COMMENCING WORK.

Plan View

SCALE 20 0 20 40 FEET

PLUMLEY ENGINEERING
PLUMLEY ENGINEERING, P.C.
8232 LOOP ROAD
BALDWINSVILLE, NY 13027
TELEPHONE: (315) 638-8587
FAX: (315) 638-9740
WWW.PLUMLEYENG.COM
Civil and Environmental Engineering

REVISIONS: DATE: BY:

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PROJECT: *FORMER ONEIDA KNIFE PLANT - LOT 1*
BROWNFIELD CLEANUP PROGRAM

CLIENT: ONEIDA, LTD.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

DWG. TITLE: SITE PLAN

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2015025
FILE NAME:	FIGURE 1
SCALE:	AS NOTED
DATE:	MAY 2018
ENG'D BY:	FAK
DRAWN BY:	JJL
CHECKED BY:	DRV

SHEET NO.: FIGURE 1

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SUMMARY TABLE OF ANALYTICAL RESULTS

Plumley Engineering, P.C.

SGS Job Number:	**JC73015**
Account:	**Oneida Group**
Project:	**Knife Plant, Kenwood Avenue, Sherrill, NY**
Project Number:	**2015025**

Legend: Detected

Client Sample ID:		TW-9R	TW-9R	TW-2R	TW-2R	MW-4	MW-4	MW-4 DUP	MW-1	MW-1	FB
Lab Sample ID:		JC73015-1	JC73015-1A	JC73015-2	JC73015-2A	JC73015-3	JC73015-3A	JC73015-4	JC73015-5	JC73015-5A	JC73015-6
Date Sampled:		8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018	8/31/2018
Matrix:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Field Blank Water
MS Semi-volatiles (EPA 537M BY ID) - "PFAS"											
Perfluorobutanoic acid	ng/l	-	5.36J	-	4.85J	-	6.87J	7.1J	-	ND (2.0)	ND (2.0)
Perfluoropentanoic acid	ng/l	-	5.72	-	2.77J	-	5.27	5.33	-	ND (1.5)	ND (1.5)
Perfluorohexanoic acid	ng/l	-	6.64	-	3.4J	-	16.3	28.8	-	ND (1.0)	ND (1.0)
Perfluoroheptanoic acid	ng/l	-	6.86	-	2.05	-	4.36	4.24	-	ND (1.0)	ND (1.0)
Perfluorooctanoic acid	ng/l	-	13.6	-	5.51	-	12.8	18.3	-	ND (1.0)	ND (1.0)
Perfluorononanoic acid	ng/l	-	2.07	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
Perfluorodecanoic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
Perfluoroundecanoic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0) [a]	ND (1.0) [b]	-	ND (1.0) [b]	ND (1.0)
Perfluorododecanoic acid	ng/l	-	ND (1.5)	-	ND (1.5)	-	ND (1.5) [a]	ND (1.5) [b]	-	ND (1.5) [b]	ND (1.5)
Perfluorotridecanoic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0) [a]	ND (1.0) [b]	-	ND (1.0) [b]	ND (1.0)
Perfluorotetradecanoic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0) [a]	ND (1.0) [b]	-	ND (1.0) [b]	ND (1.0)
Perfluorobutanesulfonic acid	ng/l	-	ND (1.0)		31.1	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
Perfluorohexanesulfonic acid	ng/l	-	1.02J	-	1.23J	-	1.64J	1.31J	-	ND (1.0)	ND (1.0)
Perfluoroheptanesulfonic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
Perfluorooctanesulfonic acid	ng/l	-	16.4	-	3.98	-	4.38	3.05	-	ND (1.5)	ND (1.5)
Perfluorodecanesulfonic acid	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
PFOSA	ng/l	-	ND (1.0)	-	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)
MeFOSAA	ng/l	-	ND (4.0)	-	ND (4.0)	-	ND (4.0)	ND (4.0)	-	ND (4.0)	ND (4.0)
EtFOSAA	ng/l	-	ND (4.0)	-	ND (4.0)	-	ND (4.0)	ND (4.0)	-	ND (4.0)	ND (4.0)
6:2 Fluorotelomer sulfonate	ng/l	-	15.8	-	ND (2.0)	-	6.33J	ND (2.0)	-	ND (2.0)	ND (2.0)
8:2 Fluorotelomer sulfonate	ng/l	-	4.11J	-	ND (2.0)	-	ND (2.0)	ND (2.0)	-	ND (2.0)	ND (2.0)
Total Concentration	ng/l		*77.58*		*54.89*		*57.95*	*68.13*		*0*	*0*
MS Semi-volatiles (SW846 8270D BY SIM)											
1,4-Dioxane	ug/l	ND (0.047) [c]	-	ND (0.047) [c]	-	ND (0.049) [c]	-	-	ND (0.049) [c]	-	-

Footnotes:

ng/l - nanogram per liter (parts per trillion)

[a] Associated ID Standard outside control limits due to matrix interference.

[b] Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

[c] Associated CCV outside of control limits high, sample was ND.

J - Indicates an estimated value

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Plumley Environmental Engineers

Oneida Knife, Kenwood Avenue, Sherrill, NY

2015025

SGS Job Number: JC73015

Sampling Date: 08/31/18

Report to:

Plumley Environmental Engineers

dhudson@plumleyeng.com

ATTN: Derk Hudson

Total number of pages in report: 33

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A. Paul Ioannidis
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Table of Contents

Sample Summary

Plumley Environmental Engineers

Job No: JC73015

Oneida Knife, Kenwood Avenue, Sherrill, NY
Project No: 2015025

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC73015-1	08/31/18	14:30	MM	09/01/18	AQ	Ground Water	TW-9R
JC73015-1A	08/31/18	14:30	MM	09/01/18	AQ	Ground Water	TW-9R
JC73015-2	08/31/18	14:39	MM	09/01/18	AQ	Ground Water	TW-2R
JC73015-2A	08/31/18	14:39	MM	09/01/18	AQ	Ground Water	TW-2R
JC73015-3	08/31/18	14:47	MM	09/01/18	AQ	Ground Water	MW-4
JC73015-3A	08/31/18	14:47	MM	09/01/18	AQ	Ground Water	MW-4
JC73015-3AD	08/31/18	14:47	MM	09/01/18	AQ	Water Dup/MSD	MW-4
JC73015-3AS	08/31/18	14:47	MM	09/01/18	AQ	Water Matrix Spike	MW-4
JC73015-4	08/31/18	14:50	MM	09/01/18	AQ	Ground Water	MW-4 DUP
JC73015-5	08/31/18	15:30	MM	09/01/18	AQ	Ground Water	MW-1
JC73015-5A	08/31/18	15:30	MM	09/01/18	AQ	Ground Water	MW-1
JC73015-6	08/31/18	00:00	MM	09/01/18	AQ	Field Blank Water	FB

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Plumley Environmental Engineers	**Job No**	JC73015
Site:	Oneida Knife, Kenwood Avenue, Sherrill, NY	**Report Date**	9/28/2018 3:04:22 PM

On 09/01/2018, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 0.5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC73015 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** F:OP71712

- The data for EPA 537M BY ID meets quality control requirements.
- JC73015-2A: Analysis performed at SGS Orlando, FL.
- JC73015-4: Analysis performed at SGS Orlando, FL.
- JC73015-5A: Analysis performed at SGS Orlando, FL.
- JC73015-3A: Analysis performed at SGS Orlando, FL.
- JC73015-6: Analysis performed at SGS Orlando, FL.
- JC73015-1A: Analysis performed at SGS Orlando, FL.
- JC73015-5A for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-3A for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference.
- JC73015-3A for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference.
- JC73015-3A for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference.
- JC73015-3A for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference.
- JC73015-4 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-4 for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-4 for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-5A for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-4 for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-5A for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
- JC73015-5A for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

MS Semi-volatiles By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP14763A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JC73015-3 for 1,4-Dioxane: Associated CCV outside of control limits high, sample was ND.
- JC73015-1 for 1,4-Dioxane: Associated CCV outside of control limits high, sample was ND.
- JC73015-2 for 1,4-Dioxane: Associated CCV outside of control limits high, sample was ND.

Matrix: AQ **Batch ID:** OP14785A

- All samples were extracted within the recommended method holding time.
- Sample(s) JC72759-1MS, JC72759-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC73015-5 for 1,4-Dioxane: Associated CCV outside of control limits high, sample was ND.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Dayton, NJ **Job No:** JC73015

Site: PLUMNYB: Oneida Knife, Kenwood Avenue, Sherrill, NY **Report Date:** 9/28/2018 1:47:21

5 Sample(s) and 1 Field Blank(s) were collected on 08/31/2018 and were received at SGS North America Inc - Orlando on 09/06/2018 properly preserved, at 2 Deg. C and intact. These Samples received an SGS Orlando job number of JC73015. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP71712

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) JC73015-3AMS, JC73015-3AMSD were used as the QC samples indicated.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Perfluorodecanesulfonic acid are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Perfluorodecanesulfonic acid, Perfluorotridecanoic acid are outside control limits for sample OP71712-MSD1. Probable cause is due to sample non-homogeneity.

Sample(s) JC73015-4, JC73015-5A, JC73015-3A, JC73015-4, OP71712-MS1, OP71712-MSD1 have surrogates outside control limits.

OP71712-MS1 for 13C2-PFTeDA: Outside control limits.

OP71712-MS1 for 13C2-PFDoDA: Outside control limits.

OP71712-MSD1 for d3-MeFOSAA: Outside control limits.

OP71712-MSD1 for 13C2-PFDoDA: Outside control limits.

OP71712-MSD1 for 13C8-PFOS: Outside control limits.

OP71712-MSD1 for 13C7-PFUnDA: Outside control limits.

OP71712-MSD1 for 13C2-PFTeDA: Outside control limits.

JC73015-3A for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference.

JC73015-3A for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference.

JC73015-3A for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference.

JC73015-3A for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference.

JC73015-3A for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by MS/MSD.

JC73015-3A for 13C2-PFTeDA: Outside control limits due to matrix interference. Confirmed by MS/MSD.

JC73015-3A for 13C7-PFUnDA: Outside control limits due to matrix interference. Confirmed by MS/MSD.

JC73015-4 for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4 for 13C2-PFTeDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4: Confirmation run.

JC73015-4 for 13C7-PFUnDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4 for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4 for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4 for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-4 for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A: Confirmation run.

JC73015-5A for 13C2-PFTeDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A for 13C2-PFDoDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A for Perfluoroundecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP71712

JC73015-5A for Perfluorotridecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A for Perfluorododecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.

JC73015-5A for 13C7-PFUnDA: Outside control limits due to matrix interference. Confirmed by reanalysis.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: JC73015
Account: Plumley Environmental Engineers
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY
Collected: 08/31/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC73015-1	**TW-9R**					
No hits reported in this sample.						
JC73015-1A	**TW-9R**					
Perfluorobutanoic acid [a]		5.36 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		5.72	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		6.64	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		6.86	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		13.6	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorononanoic acid [a]		2.07	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		1.02 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		16.4	2.0	1.5	ng/l	EPA 537M BY ID
6:2 Fluorotelomer sulfonate [a]		15.8	8.0	2.0	ng/l	EPA 537M BY ID
8:2 Fluorotelomer sulfonate [a]		4.11 J	8.0	2.0	ng/l	EPA 537M BY ID
JC73015-2	**TW-2R**					
No hits reported in this sample.						
JC73015-2A	**TW-2R**					
Perfluorobutanoic acid [a]		4.85 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		2.77 J	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		3.40 J	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		2.05	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		5.51	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorobutanesulfonic acid [a]		31.1	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		1.23 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		3.98	2.0	1.5	ng/l	EPA 537M BY ID
JC73015-3	**MW-4**					
No hits reported in this sample.						
JC73015-3A	**MW-4**					
Perfluorobutanoic acid [a]		6.87 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		5.27	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		16.3	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		4.36	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		12.8	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		1.64 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		4.38	2.0	1.5	ng/l	EPA 537M BY ID

Summary of Hits

Job Number: JC73015
Account: Plumley Environmental Engineers
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY
Collected: 08/31/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
6:2 Fluorotelomer sulfonate [a]		6.33 J	8.0	2.0	ng/l	EPA 537M BY ID
JC73015-4	**MW-4 DUP**					
Perfluorobutanoic acid [a]		7.10 J	8.0	2.0	ng/l	EPA 537M BY ID
Perfluoropentanoic acid [a]		5.33	4.0	1.5	ng/l	EPA 537M BY ID
Perfluorohexanoic acid [a]		28.8	4.0	1.0	ng/l	EPA 537M BY ID
Perfluoroheptanoic acid [a]		4.24	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanoic acid [a]		18.3	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorohexanesulfonic acid [a]		1.31 J	2.0	1.0	ng/l	EPA 537M BY ID
Perfluorooctanesulfonic acid [a]		3.05	2.0	1.5	ng/l	EPA 537M BY ID
JC73015-5	**MW-1**					
No hits reported in this sample.						
JC73015-5A	**MW-1**					
No hits reported in this sample.						
JC73015-6	**FB**					
No hits reported in this sample.						

(a) Analysis performed at SGS Orlando, FL.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TW-9R
Lab Sample ID: JC73015-1
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70986.D	1	09/05/18 06:06	CS	09/04/18 08:45	OP14763A	E3P3363
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND	0.096	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		29-124%
321-60-8	2-Fluorobiphenyl	52%		23-122%
1718-51-0	Terphenyl-d14	27%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TW-9R
Lab Sample ID: JC73015-1A
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21084.D	1	09/27/18 01:15	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	5.36	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.72	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	6.64	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	6.86	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	13.6	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	2.07	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.02	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	16.4	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	15.8	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	4.11	8.0	2.0	ng/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	76%		30-140%
	13C5-PFPeA	78%		40-140%
	13C5-PFHxA	81%		50-150%
	13C4-PFHpA	81%		50-150%
	13C8-PFOA	83%		50-150%
	13C9-PFNA	81%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	71%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-9R		
Lab Sample ID:	JC73015-1A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	59%		50-150%
	13C2-PFTeDA	63%		40-150%
	13C3-PFBS	76%		50-150%
	13C3-PFHxS	72%		50-150%
	13C8-PFOS	61%		50-150%
	13C8-FOSA	37%		30-140%
	d3-MeFOSAA	73%		50-150%
	13C2-6:2FTS	86%		50-150%
	13C2-8:2FTS	92%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TW-2R
Lab Sample ID: JC73015-2
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70994.D	1	09/05/18 12:19	AR	09/04/18 08:45	OP14763A	E3P3364
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND	0.096	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	54%		23-122%
1718-51-0	Terphenyl-d14	23%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2R		
Lab Sample ID:	JC73015-2A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21085.D	1	09/27/18 01:36	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	4.85	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	2.77	4.0	1.5	ng/l	J
307-24-4	Perfluorohexanoic acid	3.40	4.0	1.0	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.05	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	5.51	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	31.1	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.23	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.98	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	73%		30-140%
	13C5-PFPeA	76%		40-140%
	13C5-PFHxA	77%		50-150%
	13C4-PFHpA	79%		50-150%
	13C8-PFOA	84%		50-150%
	13C9-PFNA	85%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	73%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2R		
Lab Sample ID:	JC73015-2A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	56%		50-150%
	13C2-PFTeDA	53%		40-150%
	13C3-PFBS	72%		50-150%
	13C3-PFHxS	70%		50-150%
	13C8-PFOS	69%		50-150%
	13C8-FOSA	30%		30-140%
	d3-MeFOSAA	75%		50-150%
	13C2-6:2FTS	82%		50-150%
	13C2-8:2FTS	95%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4
Lab Sample ID: JC73015-3
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70981.D	1	09/05/18 04:19	CS	09/04/18 08:45	OP14763A	E3P3363
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	59%		23-122%
1718-51-0	Terphenyl-d14	53%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC73015-3A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21086.D	1	09/27/18 01:57	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	6.87	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.27	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	16.3	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	4.36	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	12.8	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [b]	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid [b]	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid [b]	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid [b]	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.64	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	4.38	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	6.33	8.0	2.0	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	75%		30-140%
	13C5-PFPeA	78%		40-140%
	13C5-PFHxA	79%		50-150%
	13C4-PFHpA	81%		50-150%
	13C8-PFOA	86%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA	79%		50-150%
	13C7-PFUnDA	46% [c]		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC73015-3A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	29% [c]		50-150%
	13C2-PFTeDA	24% [c]		40-150%
	13C3-PFBS	75%		50-150%
	13C3-PFHxS	73%		50-150%
	13C8-PFOS	57%		50-150%
	13C8-FOSA	46%		30-140%
	d3-MeFOSAA	65%		50-150%
	13C2-6:2FTS	86%		50-150%
	13C2-8:2FTS	118%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated ID Standard outside control limits due to matrix interference.
(c) Outside control limits due to matrix interference. Confirmed by MS/MSD.

Report of Analysis

Client Sample ID: MW-4 DUP
Lab Sample ID: JC73015-4
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21089.D	1	09/27/18 02:59	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2 [b]	2Q21123.D	2	09/27/18 14:52	AFL	09/11/18 08:45	F:OP71712	F:S2Q338

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	7.10	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.33	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	28.8	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	4.24	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	18.3	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [c]	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid [c]	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid [c]	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid [c]	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.31	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.05	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	71%	70%	30-140%
	13C5-PFPeA	75%	76%	40-140%
	13C5-PFHxA	76%	77%	50-150%
	13C4-PFHpA	78%	78%	50-150%
	13C8-PFOA	81%	84%	50-150%
	13C9-PFNA	78%	78%	50-150%
	13C6-PFDA	76%	70%	50-150%
	13C7-PFUnDA	44% [d]	40%	50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4 DUP		
Lab Sample ID:	JC73015-4	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	23% [d]	21%	50-150%
	13C2-PFTeDA	23% [d]	21%	40-150%
	13C3-PFBS	71%	71%	50-150%
	13C3-PFHxS	68%	70%	50-150%
	13C8-PFOS	53%	55%	50-150%
	13C8-FOSA	40%	48%	30-140%
	d3-MeFOSAA	58%	53%	50-150%
	13C2-6:2FTS	78%	78%	50-150%
	13C2-8:2FTS	100%	90%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Confirmation run. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1
Lab Sample ID: JC73015-5
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P71014.D	1	09/05/18 19:30	AR	09/04/18 16:20	OP14785A	E3P3364
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		29-124%
321-60-8	2-Fluorobiphenyl	63%		23-122%
1718-51-0	Terphenyl-d14	54%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1
Lab Sample ID: JC73015-5A
Matrix: AQ - Ground Water
Method: EPA 537M BY ID EPA 537 MOD
Project: Oneida Knife, Kenwood Avenue, Sherrill, NY

Date Sampled: 08/31/18
Date Received: 09/01/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21090.D	1	09/27/18 03:20	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2 [b]	2Q21124.D	2	09/27/18 15:13	AFL	09/11/18 08:45	F:OP71712	F:S2Q338

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [c]	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid [c]	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid [c]	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid [c]	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	87%	81%	30-140%
	13C5-PFPeA	94%	89%	40-140%
	13C5-PFHxA	97%	91%	50-150%
	13C4-PFHpA	98%	90%	50-150%
	13C8-PFOA	99%	89%	50-150%
	13C9-PFNA	88%	79%	50-150%
	13C6-PFDA	70%	62%	50-150%
	13C7-PFUnDA	43% [d]	38%	50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	JC73015-5A	**Date Sampled:**	08/31/18
Matrix:	AQ - Ground Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	34% [d]	30%	50-150%
	13C2-PFTeDA	36% [d]	33%	40-150%
	13C3-PFBS	87%	83%	50-150%
	13C3-PFHxS	85%	81%	50-150%
	13C8-PFOS	55%	51%	50-150%
	13C8-FOSA	80%	73%	30-140%
	d3-MeFOSAA	53%	47%	50-150%
	13C2-6:2FTS	91%	84%	50-150%
	13C2-8:2FTS	93%	75%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Confirmation run. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB		
Lab Sample ID:	JC73015-6	**Date Sampled:**	08/31/18
Matrix:	AQ - Field Blank Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21091.D	1	09/27/18 03:40	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	99%		30-140%
	13C5-PFPeA	104%		40-140%
	13C5-PFHxA	107%		50-150%
	13C4-PFHpA	107%		50-150%
	13C8-PFOA	114%		50-150%
	13C9-PFNA	107%		50-150%
	13C6-PFDA	115%		50-150%
	13C7-PFUnDA	96%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB		
Lab Sample ID:	JC73015-6	**Date Sampled:**	08/31/18
Matrix:	AQ - Field Blank Water	**Date Received:**	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	**Percent Solids:**	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	78%		50-150%
	13C2-PFTeDA	83%		40-150%
	13C3-PFBS	98%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	92%		50-150%
	13C8-FOSA	119%		30-140%
	d3-MeFOSAA	98%		50-150%
	13C2-6:2FTS	104%		50-150%
	13C2-8:2FTS	122%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Chain of Custody (SGS Orlando, FL)

SGS ACCUTEST

GW

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

PAGE ___ OF ___ 1

FedEx Tracking # 4553 2819 7877 | Bottle Order Control # 120-082318-8C
SGS Accutest Quote # | SGS Accutest Job # JC73015

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: – Plumley Eng –	Project Name: Oneida Knife Plant -		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank
Street Address: 8232 Loop Rd	Street		
City: Baldwinsville State: Zip:	City: Sherrill State: NY	Billing Information (if different from Report to)	
Project Contact: Matt Martin E-mail:	Project #: 2015025	Company Name	
Phone #: 315 638 8582 Fax #:	Client Purchase Order #:	Street Address	
Sampler(s) Name(s): Matt Martin Phone #:	Project Manager: Frank Kurbuski	City State Zip	
		Attention:	

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	PFAS	1,4-Dioxane	LAB USE ONLY
1	TW-9R		8/31	2:30	MM	GW	4					X				X	X	
2	TW 2R			2:39			4					X				X	X	E59
3	MW-4			2:47			4					X				X	X	SJB
4	MW-4 Dup			2:50			2					X				X		
3	MW-4 MS			2:55			2					X				X		
	MW-4 MSD			3:00			2					X				X		
5	MW-1			3:30			4					X				X	X	
6	FB																	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [X] 5 Day RUSH — SJB
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other _____

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [X] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

INITIAL ASESSMENT GEA

LABEL VERIFICATION

Sample inventory is verified upon receipt in the Laboratory

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		8/31/18 16:27	1	2	8/31/18 1627	2
3		8/31/18 1627	3	4	8/31/18 17:30	4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
		8/31/18 10:15	5					

1.1@

Form:SM088-01CRev.Date:9/13/16

SGS Sample Receipt Summary

Job Number: JC73015 **Client:** Plumley Engineering **Project:** Oneida Knife Plunk

Date / Time Received: 9/1/2018 10:15:00 AM **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (1.1);

Cooler Temps (Corrected) °C: Cooler 1: (0.5);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 216017 pH 12+: 208717 Other: (Specify)

Comments: -6: Received 2 - 250mL plastic volumes labeled as FB for PFAS analysis not listed on COC.

SM089-02 Rev. Date 12/1/16

Responded to by: Thelma Flaherty

Response Date: 9/4/18

Per email received by Matt Martin and Frank Karboski 9/4/18 @ 9:57am.
>>Analyze the FB for PFAS only.

JC73015: Chain of Custody
Page 3 of 3

CHAIN OF CUSTODY

SGS
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC73015

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: Kristin.Degraw@sgs.com E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): MM Phone:

Project Information

Project Name: Oneida Knife, Kenwood Avenue, Sherrill, NY
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

LQID537NY21.

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	TW-9R		8/31/18	2:30:00 PM	MM	AQ										X
2	TW-2R		8/31/18	2:39:00 PM	MM	AQ										X
3	MW-4		8/31/18	2:47:00 PM	MM	AQ										X
3D	MW-4 MSD		8/31/18	3:00:00 PM	MM	AQ										X
3S	MW-4 MS		8/31/18	2:55:00 PM	MM	AQ										X
4	MW-4 DUP		8/31/18	2:50:00 PM	MM	AQ										X
5	MW-1		8/31/18	3:30:00 PM	MM	AQ										X
6	FB		8/31/18	12:00:00 AM	MM	AQ										X

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 7

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other COMMA

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9-4-18 1700	1 FEDEX	2 FED EX		
3	Relinquished by Sampler:	Date Time:	3	4	Date Time:	4
5	Relinquished by:	Date Time:	5	Custody Seal # 10075 ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp. 2.0

JC73015: Chain of Custody
Page 1 of 3
SGS Orlando, FL

SGS Sample Receipt Summary

Job Number: JC73015 **Client:** SGS NORTH AMERICAN INC. **Project:** ONEIDA KNIFE, KENWOOD AVENUE SHERILL

Date / Time Received: 9/6/2018 9:00:00 AM **Delivery Method:** FED EX **Airbill #'s:** 1001891740610003281100563393522480

Therm ID: IR 1; **Therm CF:** 0.1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.9);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☐		☑	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments SAMPLE 6 ID READS "EQUIP BLANK"

SM001
Rev. Date 05/24/17

Technician: TRINITYM Date: 9/6/2018 9:00:00 AM Reviewer: BRW Date: 9/6/2018

73015

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # JC73015

Client / Reporting Information	Project Information	Billing Information (if different from Report to)
Company Name: SGS North America Inc.	Project Name: Oneida Knife, Kenwood Avenue, Sherrill, NY	
Street Address: 2235 Route 130	Street	
City: Dayton State: NJ Zip: 08810	City State	Company Name
Project Contact: Kristin.Degraw@sgs.com E-mail	Project #	Street Address
Phone #: 732-329-0200 Fax #	Client Purchase Order #	City State Zip
Sampler(s) Name(s): MM Phone	Project Manager	Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LCID537NY21,	LAB USE ONLY
1A	TW-9R		8/31/18	2:30:00 PM	MM	AQ										X	
2A	TW-2R		8/31/18	2:39:00 PM	MM	AQ										X	
3A	MW-4		8/31/18	2:47:00 PM	MM	AQ										X	
3AD	MW-4		8/31/18	2:47:00 PM	MM	AQ										X	
3AS	MW-4		8/31/18	2:47:00 PM	MM	AQ										X	
4	MW-4 DUP		8/31/18	2:50:00 PM	MM	AQ										X	
5A	MW-1		8/31/18	3:30:00 PM	MM	AQ										X	
6	FB		8/31/18	12:00:00 AM	MM	AQ										X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 14

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other NYASPB

Commercial "A" = Results Only

Commercial "B" = Results + QC Summary

NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5		5	☐ Intact ☐ Not intact	☐	☐

5.2

5

JC73015: Chain of Custody
Page 3 of 3

PREMIER ENVIRONMENTAL SERVICES, INC.

DATA USABILITY SUMMARY REPORT (DUSR)
OF THE
ONEIDA KNIFE SITE
KENWOOD AVENUE
SHERRILL, NY

ORGANIC ANALYSES
OF AQUEOUS SAMPLES
EPA METHODS 8270D SIM, 537M

SGS ACCUTEST LABORATORIES
DAYTON, NEW JERSEY

LAB REPORT: JC73015

November 2018

Prepared for
Plumley Engineering P.C.
Baldwinsville, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**USEPA Method 8270D SIM**
SITE:	**Oneida Knife Plant Kenwood Avenue Sherrill, NY**
CONTRACT LAB:	**SGS North America Inc. Dayton, New Jersey**
REPORT NO.:	**JC73015**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**October 2018**
MATRIX:	**Aqueous**

The data validation was performed according to the guidelines in the described in the New York State Department of Environmental Conservation, Division of Environmental Remediation, Guidance for the Development of Data Usability Summary Reports (DUSR). In addition, the data has been reviewed using the protocol specified in the NYS Analytical Services Protocol ('05).

All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable). Due to various QC problems, some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

This data report includes five (5) groundwater samples (including one (1) Field Duplicate sample) and one (1) Field Blank sample. These sample analyses were collected August 31, 2018. A portion of each of these samples were subcontracted to SGS Accutest located in Orlando, Florida. The subcontracted samples were prepared and analyzed for Polyfluorinated Alkyl Substances (PFAS) by EPA Method 537M as specified on the Chain of Custody (COC) documentation that accompanied the samples to the laboratory. These samples were analyzed for PFOA/PFAS at the SGS Accutest located in Orlando, Florida.

A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report. Copies of the definitions that may be used to qualify data results are located in Appendix A of this report. Copies of qualified data result pages are located in Appendix B of this report and a copy of Chain of Custody (COC) documentation associated with sampling event is located in Appendix C.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

Four (4) aqueous samples were listed on the chain of custody for the analysis of 1,4-Dioxane by EPA Method 8270D SIM analysis. Proper custody transfer of the samples was documented in the laboratory reports. Cooler temperatures were within QC limits. Sample preservation was checked prior to analysis. The samples in this data set were properly preserved.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Preserved volatile organic analyses are required to be analyzed within 10 days of validated time of sample receipt (VTSR) in accordance with the NYSDEC ASP, Rev '95. The technical holding time for properly preserved aqueous samples is 14 days from collection.

The samples in this data set were collected August 31, 2018 and shipped to the SGS Accutest Laboratories located in Dayton, NJ on laboratory on September 1, 2018. The samples were extracted in two batches on September 4, 2018. Sample extract analyses was completed on September 5, 2018. Holding time criteria was met in these analyses.

3. SURROGATES:

Each of the samples is spiked with surrogate compounds prior to sample preparation to evaluate the overall laboratory performance and the efficiency of the analytical technique. If the measured surrogate concentrations are outside the QC limits, qualifiers were applied to the effected samples.

Each of the samples in this data set was spiked with the method specified surrogate compounds. Surrogate compounds were Nitrobenzene-d5, 2-Fluorobiphenyl and Terphenyl-d14. In-house surrogate recovery limits were utilized by the laboratory. The percent recovery of the surrogate compound met QC limits in each of the samples reported in this data set.

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Batch QC MS/MSD analysis was reported with this data set. 1,4-Dioxane has been fortified in the Batch QC MS/MSD analyses. Sample data has not been qualified based on the results of the Batch QC MS/MSD analyses.

ORGANIC DATA ASSESSMENT

5. BLANK SPIKE ANALYSIS:

The NY ASP protocol requires that a blank spike analysis be performed with each sample batch. The blank spike analysis is used to ensure that the analytical system is in control. The laboratory applied in-house recovery limits for each analyte.

The laboratory performed two (2) laboratory control sample/laboratory control sample duplicate analyses (LCS/LCSD) in this data set. The LCS/LCSD was fortified with 1,4-Dioxane. The percent recovery of 1,4-Dioxane met in house QC criteria in the LCS and LCSD analyses reported in this data set. The RPD (%) of the LCS/LCSD met in house QC criteria.

6. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. Samples are then qualified based on blank contamination when detected.

A) Method Blank contamination

Two (2) aqueous method blank samples are associated with these sample analyses. The method blank samples are free contamination of the target compound.

B) Field Blank contamination

The Field Blank sample was listed on the COC documents. No analyses were marked off on the COC document. The Field Blank sample was not analyzed for 1,4-Dioxane.

C) Trip Blank contamination

A Trip Blank sample is not associated with these sample analyses.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with a RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.

One (1) initial calibration curve analysis is associated with the aqueous samples in this data set. The laboratory performed one initial multilevel calibration on August 30, 2018 (Inst GCMS3P). The RRF of target compounds met QC criteria in this initial calibration curve analysis.

Two (2) continuing calibration standards are associated with this data set. The CCV standards were analyzed on September 5, 2018 (3P70977.D, 3P70992.D).

The RRF of target compounds met QC criteria in this continuing calibration standard analysis.

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% (30% CCC compounds). The %D must be <20% in the continuing calibration standard. This criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines and the USEPA Region II criteria.

One (1) aqueous initial calibration standard analysis is associated with this data set. The laboratory analyzed the initial on August 30, 2018 (Inst GCMS3P). The laboratory reported the Relative Standard Deviation (%RSD) of the reported analytes on a summary form that was included in the report. Target analyte %RSD criteria were met for 1,4-Dioxane.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) (cont'd):

Two (2) continuing calibration standard analyses are associated with the aqueous samples in this data set. Two (2) CCV analyses were performed on September 5, 2018. The % Difference of 1,4-Dioxane was reported above QC limit in each of the CCV analyses associated with this data set. 1,4-Dioxane has been estimated "UJ/J" qualified in each of the samples reported in this data set.

Qualified data result pages are located in Appendix B of this report.

8. GC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the LC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50%to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

The samples in this data set were spiked with the internal standards 1-Methylnaphthalene-d10, Fluorene-d10, Fluoranthene-d10 and Benzo(a)pyrene-d12. The area counts, and retention time met QC criteria in the field samples and QC samples associated with this data set.

9. GC/MS MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for semivolatile organics is DFTPP. If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".

The tune criteria listed in the data report met or exceeded that required by the method. Tuning criteria associated with these sample analyses were met.

ORGANIC DATA ASSESSMENT

10. FIELD DUPLICATE ANALYSIS:

Field duplicate samples are taken and analyzed as an indication of overall precision. These measure both field and lab precision, therefore, the results may have more variability than lab duplicate samples. Soil samples are also expected to have a greater variance due to the difficulties associated with collecting exact duplicate soil samples. Data was not qualified based on the results of the field duplicate sample data.

Sample MW-4 was collected in duplicate. The field duplicate sample included in this data set was not analyzed for 1,4-Dioxane. No action was taken.

11. COMPOUND IDENTIFICATION:

Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within $\pm$ 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.

Four (4) field samples were marked on the COC for 1,4-Dioxane by EPA Method 8270D SIM. The Field Blank sample was not analyzed for 1,4-Dioxane. The field samples were analyzed in accordance with the cited method. Results reported between the method detection limit and the reporting limit are "J" qualified by the laboratory.

The samples in this data set were analyzed and reported without dilution. The laboratory provided the quantitation report, chromatogram and analyte spectra in the New York Sate DEC ASP Category B deliverable that was reported for this data set.

12. OVERALL ASSESSMENT:

The aqueous samples associated with this data set were collected August 31, 2018. The COC documents that accompanied the samples to the laboratory and indicated which samples were to be analyzed for EPA Method 8270D SIM (1,4-Dioxane). The data reported agrees with the raw data provided in the final report. The laboratory provided a complete ASP Category B data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

These data results are acceptable for use with the noted data qualifiers. Qualified data result pages are located in Appendix B of this report.

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**Determination of Selected Perfluorinated Alkyl Acids Drinking Water (EPA Methods: 537M)**
SITE:	**Oneida Knife Sherrill, NY**
CONTRACT LAB:	**SGS Accutest Laboratory Dayton, NJ**
PROJECT NO.:	**JC73015**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**November 2018**
MATRIX:	**Goundwater/Aqueous**

The data validation was performed according to the method QC criteria stated in the method. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID used to perform data validation. Definitions of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. A copy of the Chain of Custody (COC) document is located in Appendix C of this report.

This sample set included five (5) groundwater samples and one (1) Field Blank (FB) sample. This data assessment is for the organic analyses listed on the COC documents that accompanied the samples to the laboratory. The samples were collected August 31, 2018and were received at SGS Accutest Laboratory located in Dayton, NJ. The EPA Method 537M analyses were subcontracted to SGS Accutest Laboratories located in Orlando, Florida. The samples were received at the laboratory on September 1, 2018 for the analysis of these samples via EPA Method 537M.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

Samples associated with this data set were analyzed for two types of PFAS as marked on the COC documentation that accompanied the sample set to the laboratory. All analyses were performed in accordance with USEPA Method 537 Version 1.1 (9/2009). A summary of the applicable QC will be discussed at each section of the report.

Laboratory report JC73015 consists of four (4) groundwater samples, one (1) Field Duplicate sample and one (1) Field Blank sample. The Chain of Custody document listed the field sample ID's that are summarized in Table 1 of this report. A copy of the COC documents are located in Appendix C of this report.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The holding times cited in the EPA method was were reviewed. EPA Method 537 cite holding times based on collection date. The technical holding time for properly preserved aqueous samples is fourteen (14) days.

Proper preservation of an aqueous sample is refrigeration at 4 degrees C or less until analysis. The holding time criteria for volatile organic sample analysis is that properly preserved samples are to be analyzed within fourteen (14) days of collection.

The samples in laboratory report JC73015 were collected August 31, 2018. These samples were received at the laboratory on September 1, 2018. These groundwater samples were received in appropriate glassware with proper preservation. The sample analyses and QC sample analyses associated with this data set were prepared on 9/11/18 and analyzed on 9/27/18. The sample analyses associated with this data set were analyzed within the method holding time.

3. ISOTOPE DILUTION STANDARD ANALYSIS:

Samples to be analyzed for this method are fortified with the isotope dilution (ID) standard compound in terms of % Recovery of the ID standard. The IDs standards are added to the sample prior to sample preparation to evaluate the overall laboratory performance and the efficiency of the analytical technique.

The laboratory reported in-house limits in terms of percent recovery of each ID standards. The surrogate percent recovery of each surrogate compound met QC criteria in each of the field samples and QC samples associated with this data set. Surrogate recovery varied for each of the surrogate compounds in the method blank samples and field sample analyses.

ID standard recovery were reported below QC limit in the site-specific MS/MSD analysis

ORGANIC DATA ASSESSMENT

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Site specific MS/MSD analysis on sample MW-4 (JC73015-3A). Sample MW-4 was fortified with the reported target analyte list. The percent recovery of Perfluorodecanesulfonic acid was reported below QC limit in the MS and MSD sample. The RPD (%) of Perfluorodecanesulfonic and acid was reported above QC. Perfluorodecanesulfonic acid has been estimated "UJ" qualified in the unspiked sample. The RPD(%) of Perflurotridecanoic Acid and Perfluorodecanesulfonic Acid were reported above QC limit. These analytes have been estimated "UJ" qualified in the unspiked sample. Sample MW-4 DUP (JC73015-4) is the field duplicate sample for the site-specific MS/MSD analysis. These qualifiers have been applied to the field duplicate sample analysis.

Qualified data results are located in Appendix B of this report.

In addition, the laboratory prepared and analyzed a one (1) Blank Spike (BS) sample. The laboratory fortified the Blank Spike sample with each target compound. SGS Laboratories included a QC summary form to report the data results. In house % recovery limits were applied for each reported target compound in the Blank Spike sample. The percent recovery (%) of the target analytes met QC criteria in the Blank Spike sample analysis reported in this data set.

5. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified when associated with the particular blank.

A) Method Blank contamination
One (1) method blank samples is associated with this data set. The method blank sample was free from contamination of target analytes.

B) Field Blank (FB) contamination
The Field Blank sample (JC73015-6) was free from contamination of target analytes. The Field blank was reported not detected to the method detection limit (MDL).

C) Instrument Blank contamination
The instrument blank sample associated with these samples was free from contamination of reported analytes.

ORGANIC DATA ASSESSMENT

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

Initial calibration standards are prepared and analyzed for the reported for the reported target compounds. A multilevel calibration curve analysis was performed September 24, 2018 (Inst. ID: LCMS2-2Q). An initial calibration verification analysis was performed on September 24, 2018 (Data File: 2Q20911).

Continuing calibration standard analyses were performed September 26, 2018 through September 27, 2018. QC criteria were met in these CCV analyses.

7. COMPOUND IDENTIFICATION:

Target compounds are identified on the LCMS by using the analyte's relative retention time (RRT) and by comparison obtained from known standards. For the results to be a positive hit, the sample peak must be within the method QC (retention time window) of the standard compound.

Laboratory Report JC73015 included the analysis of six (6) aqueous samples and one (1) Field Blank sample. The samples were analyzed in accordance with EPA Method 537 MOD. The method reported twenty-one (21) target compounds. Sample results are reported to the Method Reporting Limit (MRL) in ng/L. Samples reported between the method detection limit (MDL) and the laboratory reporting limit (RL) have been estimated "J" qualified on the sample data result pages included in the data report. The samples reported in this data set were analyzed without additional dilution to report the target compounds within the calibration range of the GCMS.

The laboratory report case narrative indicated that four (4) target compounds ID standard compounds were outside of control limits due to matrix interference. Matrix interference was confirmed by reanalysis of the extract in samples MW-4, MW-4 DUP and MW-1. These target compounds have been estimated "J/UJ" qualified.

Qualified data results are located in Appendix B of this report.

8. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. RPD (%) criteria (0-25%) has been applied. The RPD (%) in the sample/field duplicate sample met QC criteria with the exception of what is detailed below.

Sample MW-4/MW-4 DUP was collected in duplicate and reported in this data set. A review of detected analytes was performed. The relative percent difference (RPD) of detected analytes met QC criteria in the field duplicate sample analyses with the exception of PFHxA, PFOA and PFOSA. These reported target analytes have been estimated "J" qualified in sample MW-4 and MW-4DUP.

Qualified data result pages are located in Appendix B of this report.

ORGANIC DATA ASSESSMENT

9. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical/method QC criteria was met for these analyses except where explained in the laboratory case narrative and detailed in this validation report. The data reported by the laboratory agrees with the raw data provided in the final report with the exception of that detailed above. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package. All QC anomalies associated with this data set have been explained in the above sections of this DUSR report.

All sample results are reported to the MRL (method reporting limit). Reporting limits and positive results are adjusted based on the sample volume/weight utilized for each extraction procedure. The samples in this reported were prepared and analyzed using a dilution factor of approximately 1. Sample data results in this data set are acceptable for use, with the noted data qualifiers.

Qualified data result pages are located in Appendix B of this report.

TABLE 1

FIELD SAMPLE ID	LABORATORY ID
TW-9R	JC73015-1
TW-9R	JC73015-1A
TW-2R	JC73015-2
TW-2R	JC73015-2A
MW-4	JC73015-3
MW-4	JC73015-3A
MW-4 DUP	JC73015-4
MW-1	JC73015-5
MW-1	JC73015-5A
FIELD BLANK	JC73015-6

APPENDIX A

DATA QUALIFIER DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

APPENDIX B

SGS North America Inc.

Report of Analysis

Client Sample ID:	TW-9R		
Lab Sample ID:	JC73015-1	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70986.D	1	09/05/18 06:06	CS	09/04/18 08:45	OP14763A	E3P3363
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND UJ	0.096	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		29-124%
321-60-8	2-Fluorobiphenyl	52%		23-122%
1718-51-0	Terphenyl-d14	27%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	TW-9R		
Lab Sample ID:	JC73015-1A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21084.D	1	09/27/18 01:15	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	5.36	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.72	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	6.64	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	6.86	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	13.6	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	2.07	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.02	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	16.4	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	15.8	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	4.11	8.0	2.0	ng/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	76%		30-140%
	13C5-PFPeA	78%		40-140%
	13C5-PFHxA	81%		50-150%
	13C4-PFHpA	81%		50-150%
	13C8-PFOA	83%		50-150%
	13C9-PFNA	81%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	71%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-9R		
Lab Sample ID:	JC73015-1A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	59%		50-150%
	13C2-PFTeDA	63%		40-150%
	13C3-PFBS	76%		50-150%
	13C3-PFHxS	72%		50-150%
	13C8-PFOS	61%		50-150%
	13C8-FOSA	37%		30-140%
	d3-MeFOSAA	73%		50-150%
	13C2-6:2FTS	86%		50-150%
	13C2-8:2FTS	92%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	TW-2R		
Lab Sample ID:	JC73015-2	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70994.D	1	09/05/18 12:19	AR	09/04/18 08:45	OP14763A	E3P3364
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND UJ	0.096	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	54%		23-122%
1718-51-0	Terphenyl-d14	23%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	TW-2R		
Lab Sample ID:	JC73015-2A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21085.D	1	09/27/18 01:36	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	4.85	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	2.77	4.0	1.5	ng/l	J
307-24-4	Perfluorohexanoic acid	3.40	4.0	1.0	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.05	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	5.51	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	31.1	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.23	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.98	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	73%		30-140%
	13C5-PFPeA	76%		40-140%
	13C5-PFHxA	77%		50-150%
	13C4-PFHpA	79%		50-150%
	13C8-PFOA	84%		50-150%
	13C9-PFNA	85%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	73%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2R		
Lab Sample ID:	JC73015-2A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	56%		50-150%
	13C2-PFTeDA	53%		40-150%
	13C3-PFBS	72%		50-150%
	13C3-PFHxS	70%		50-150%
	13C8-PFOS	69%		50-150%
	13C8-FOSA	30%		30-140%
	d3-MeFOSAA	75%		50-150%
	13C2-6:2FTS	82%		50-150%
	13C2-8:2FTS	95%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC73015-3	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P70981.D	1	09/05/18 04:19	CS	09/04/18 08:45	OP14763A	E3P3363
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND UJ	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		29-124%
321-60-8	2-Fluorobiphenyl	59%		23-122%
1718-51-0	Terphenyl-d14	53%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC73015-3A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21086.D	1	09/27/18 01:57	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	6.87	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.27	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	16.3 J	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	4.36	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	12.8 J	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [b]	ND UJ	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid [b]	ND UJ	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid [b]	ND UJ	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid [b]	ND UJ	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.64	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	4.38 J	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND UJ	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	6.33	8.0	2.0	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	75%		30-140%
	13C5-PFPeA	78%		40-140%
	13C5-PFHxA	79%		50-150%
	13C4-PFHpA	81%		50-150%
	13C8-PFOA	86%		50-150%
	13C9-PFNA	84%		50-150%
	13C6-PFDA	79%		50-150%
	13C7-PFUnDA	46% [c]		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC73015-3A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	29% [c]		50-150%
	13C2-PFTeDA	24% [c]		40-150%
	13C3-PFBS	75%		50-150%
	13C3-PFHxS	73%		50-150%
	13C8-PFOS	57%		50-150%
	13C8-FOSA	46%		30-140%
	d3-MeFOSAA	65%		50-150%
	13C2-6:2FTS	86%		50-150%
	13C2-8:2FTS	118%		50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Associated ID Standard outside control limits due to matrix interference.
(c) Outside control limits due to matrix interference. Confirmed by MS/MSD.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW-4 DUP		
Lab Sample ID:	JC73015-4	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21089.D	1	09/27/18 02:59	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2 [b]	2Q21123.D	2	09/27/18 14:52	AFL	09/11/18 08:45	F:OP71712	F:S2Q338

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	7.10	8.0	2.0	ng/l	J
2706-90-3	Perfluoropentanoic acid	5.33	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	28.8 J	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	4.24	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	18.3 J	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [c]	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid [c]	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid [c]	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid [c]	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.31	2.0	1.0	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.05 J	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND UJ	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	71%	70%	30-140%
	13C5-PFPeA	75%	76%	40-140%
	13C5-PFHxA	76%	77%	50-150%
	13C4-PFHpA	78%	78%	50-150%
	13C8-PFOA	81%	84%	50-150%
	13C9-PFNA	78%	78%	50-150%
	13C6-PFDA	76%	70%	50-150%
	13C7-PFUnDA	44% [d]	40%	50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4 DUP		
Lab Sample ID:	JC73015-4	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	23% [d]	21%	50-150%
	13C2-PFTeDA	23% [d]	21%	40-150%
	13C3-PFBS	71%	71%	50-150%
	13C3-PFHxS	68%	70%	50-150%
	13C8-PFOS	53%	55%	50-150%
	13C8-FOSA	40%	48%	30-140%
	d3-MeFOSAA	58%	53%	50-150%
	13C2-6:2FTS	78%	78%	50-150%
	13C2-8:2FTS	100%	90%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Confirmation run. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	JC73015-5A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21090.D	1	09/27/18 03:20	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2 [b]	2Q21124.D	2	09/27/18 15:13	AFL	09/11/18 08:45	F:OP71712	F:S2Q338

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2	250 ml	1.0 ml

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid [c]	ND	4.0	1.0	ng/l	UJ
307-55-1	Perfluorododecanoic acid [c]	ND	4.0	1.5	ng/l	UJ
72629-94-8	Perfluorotridecanoic acid [c]	ND	4.0	1.0	ng/l	UJ
376-06-7	Perfluorotetradecanoic acid [c]	ND	4.0	1.0	ng/l	UJ
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	87%	81%	30-140%
	13C5-PFPeA	94%	89%	40-140%
	13C5-PFHxA	97%	91%	50-150%
	13C4-PFHpA	98%	90%	50-150%
	13C8-PFOA	99%	89%	50-150%
	13C9-PFNA	88%	79%	50-150%
	13C6-PFDA	70%	62%	50-150%
	13C7-PFUnDA	43% [d]	38%	50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3P71014.D

SGS North America Inc.

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	JC73015-5	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P71014.D	1	09/05/18 19:30	AR	09/04/18 16:20	OP14785A	E3P3364
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane [a]	ND UJ	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		29-124%
321-60-8	2-Fluorobiphenyl	63%		23-122%
1718-51-0	Terphenyl-d14	54%		22-130%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	JC73015-5A	Date Sampled:	08/31/18
Matrix:	AQ - Ground Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	34% [d]	30%	50-150%
	13C2-PFTeDA	36% [d]	33%	40-150%
	13C3-PFBS	87%	83%	50-150%
	13C3-PFHxS	85%	81%	50-150%
	13C8-PFOS	55%	51%	50-150%
	13C8-FOSA	80%	73%	30-140%
	d3-MeFOSAA	53%	47%	50-150%
	13C2-6:2FTS	91%	84%	50-150%
	13C2-8:2FTS	93%	75%	50-150%

(a) Analysis performed at SGS Orlando, FL.
(b) Confirmation run. Analysis performed at SGS Orlando, FL.
(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	FB		
Lab Sample ID:	JC73015-6	Date Sampled:	08/31/18
Matrix:	AQ - Field Blank Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Q21091.D	1	09/27/18 03:40	AFL	09/11/18 08:45	F:OP71712	F:S2Q338
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

PFAS List

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	8.0	2.0	ng/l	
2706-90-3	Perfluoropentanoic acid	ND	4.0	1.5	ng/l	
307-24-4	Perfluorohexanoic acid	ND	4.0	1.0	ng/l	
375-85-9	Perfluoroheptanoic acid	ND	2.0	1.0	ng/l	
335-67-1	Perfluorooctanoic acid	ND	2.0	1.0	ng/l	
375-95-1	Perfluorononanoic acid	ND	2.0	1.0	ng/l	
335-76-2	Perfluorodecanoic acid	ND	4.0	1.0	ng/l	
2058-94-8	Perfluoroundecanoic acid	ND	4.0	1.0	ng/l	
307-55-1	Perfluorododecanoic acid	ND	4.0	1.5	ng/l	
72629-94-8	Perfluorotridecanoic acid	ND	4.0	1.0	ng/l	
376-06-7	Perfluorotetradecanoic acid	ND	4.0	1.0	ng/l	
375-73-5	Perfluorobutanesulfonic acid	ND	2.0	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	ND	2.0	1.0	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	4.0	1.0	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	2.0	1.5	ng/l	
335-77-3	Perfluorodecanesulfonic acid	ND	4.0	1.0	ng/l	
754-91-6	PFOSA	ND	4.0	1.0	ng/l	
2355-31-9	MeFOSAA	ND	20	4.0	ng/l	
2991-50-6	EtFOSAA	ND	20	4.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	8.0	2.0	ng/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	99%		30-140%
	13C5-PFPeA	104%		40-140%
	13C5-PFHxA	107%		50-150%
	13C4-PFHpA	107%		50-150%
	13C8-PFOA	114%		50-150%
	13C9-PFNA	107%		50-150%
	13C6-PFDA	115%		50-150%
	13C7-PFUnDA	96%		50-150%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FB		
Lab Sample ID:	JC73015-6	Date Sampled:	08/31/18
Matrix:	AQ - Field Blank Water	Date Received:	09/01/18
Method:	EPA 537M BY ID EPA 537 MOD	Percent Solids:	n/a
Project:	Oneida Knife, Kenwood Avenue, Sherrill, NY		

PFAS List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFDoDA	78%		50-150%
	13C2-PFTeDA	83%		40-150%
	13C3-PFBS	98%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	92%		50-150%
	13C8-FOSA	119%		30-140%
	d3-MeFOSAA	98%		50-150%
	13C2-6:2FTS	104%		50-150%
	13C2-8:2FTS	122%		50-150%

(a) Analysis performed at SGS Orlando, FL.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS ACCUTEST

GW

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

PAGE ___ OF ___ 1

FED EX Tracking # 455529819 7877 | Bottle Order Control # HU-082318-8C
SGS Accutest Quote # | SGS Accutest Job # JC73015

Client / Reporting Information

Company Name: - Plumley Eng —
Street Address: 8232 Loop Rd
City: Baldwinsville State: Zip:
Project Contact: Matt Martin E-mail:
Phone #: 315 638 8582 Fax #:
Sampler(s) Name(s): Matt Martin Phone #:

Project Information

Project Name: Circle Knife Plant -
Street:
City: Sherrill State: NY
Project #: 2015025
Client Purchase Order #:
Project Manager: Frank Kurbski

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

PFAS
1,4 Dioxane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MeOH	ENCORE	PFAS	1,4 Dioxane	LAB USE ONLY
1	TW-9R		8/31	2:30	MM	GW	4					X				X	X	
2	TW 2R			2:39			4					X				X	X	E59
3	MW-4			2:47			4					X				X	X	SW8
4	MW-4 Dup			2:50			2					X				X		
3	MW-4 MS			2:55			2					X				X		
	MW-4 MSD			3:00			2					X				X		
5	MW-1			3:30			4					X				X	X	
6	FB																	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [x] 5 Day RUSH — Std
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [x] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

- [ ] NYASP Category A
- [x] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Comments / Special Instructions

INITIAL ASESSMENT GC3A

LABEL VERIFICATION

Sample inventory is verified upon receipt in the Laboratory

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1			1	2	8/31/18 16:27	2
3		8/31/18 16:27	3	4	8/31/18 17:30	4
5		8/31/18 16:15	5			

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp.

1.1C

Form:SM088-01CRev.Date:9/13/16

5.1 5

JC73015: Chain of Custody
Page 1 of 3

CHAIN OF CUSTODY

SGS

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JC73015

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: SGS North America Inc.	Project Name: Oneida Knife, Kenwood Avenue, Sherrill, NY		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank
Street Address: 2235 Route 130	Street:	Billing Information (if different from Report to)	
City: Dayton State: NJ Zip: 08810	City: State:	Company Name:	
Project Contact: Kristin.Degraw@sgs.com E-mail:	Project #:	Street Address:	
Phone #: 732-329-0200 Fax #:	Client Purchase Order #:	City: State: Zip:	
Sampler(s) Name(s): MM Phone:	Project Manager:	Attention:	

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LCID537NY21	LAB USE ONLY
1	TW-9R		8/31/18	2:30:00 PM	MM	AQ									X	
2	TW-2R		8/31/18	2:39:00 PM	MM	AQ									X	
3	MW-4		8/31/18	2:47:00 PM	MM	AQ									X	
3D	MW-4 MSD		8/31/18	3:00:00 PM	MM	AQ									X	
3S	MW-4 MS		8/31/18	2:55:00 PM	MM	AQ									X	
4	MW-4 DUP		8/31/18	2:50:00 PM	MM	AQ									X	
5	MW-1		8/31/18	3:30:00 PM	MM	AQ									X	
6	FB		8/31/18	12:00:00 AM	MM	AQ									X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other 7
Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other COMMA

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 9-4-18 1100	Received By: 1 FEDEX	Relinquished By: 2 FEDEX	Date Time:	Received By: 900 9/5/18
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 10075	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp. 2.0

8.1 8

JC73015: Chain of Custody
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SGS Orlando, FL

APPENDIX C