

Mr. Conor Neal
USEPA REGION 5
77 West Jackson Boulevard
Mail Code: LU-16J
Chicago, IL 60604-3507

Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414 276 7742
Fax 414 276 7603
www.arcadis.com

Subject:
Summary of Groundwater Sampling
Ansul Inc. Stanton Street Facility, Marinette, Wisconsin
EPA ID: WID006125215

ENVIRONMENT

Date:
June 21, 2018

Dear Mr. Neal:

Contact:
Michael Bedard

On behalf of Tyco Fire Products LP (Tyco), Arcadis US, Inc. (Arcadis) has prepared this *Summary of Groundwater Sampling* for the Ansul Inc. Stanton Street Facility located at 1 Stanton Street, Marinette, Wisconsin (Site). The sampling focused on analysis for potential per- and polyfluoroalkyl substances (PFAS) including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in groundwater. The samples were collected in accordance with the *PFAS Sampling Procedures and Low-flow Groundwater Purging for Monitoring Wells and Treatment System Influent* document prepared by Arcadis (Revision #0, March 1, 2018).

Phone:
267.685.1821

Email:
michael.bedard@arcadis.com

Our ref:
WI001651.0001

On April 30 and May 1, 2018, Arcadis collected groundwater samples for PFAS analyses from 7 existing monitoring wells. The monitoring wells included six shallow wells (10-25 feet deep) and one intermediate well (approximately 30 feet deep). Additionally, one sample was collected of combined groundwater influent to the existing groundwater treatment system.

Prior to groundwater sampling, a round of water level measurements was collected. Low-flow sampling procedures using a peristaltic pump and dedicated HDPE disposable tubing were used for collection of all groundwater samples. The samples were collected after groundwater parameter measurements, including dissolved oxygen, pH, specific conductivity, and oxidation-reduction potential, stabilized at each well. All samples, including Quality Assurance/Quality Control (QA/QC) samples such as equipment blanks, field duplicates, matrix spike, and matrix spike duplicates, were collected in laboratory-supplied containers and shipped to the laboratory on ice, under

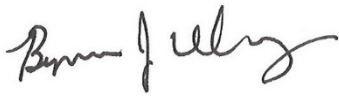
Mr. Conor Neal
USEPA Region 5
June 21, 2018

standard chain of custody procedures and screened for the presence of PFAS using the United States Environmental Protection Agency (EPA) Method 537.

A summary of the results is presented in the attached table and figure. A copy of the full Level 4 laboratory report is also included. Please feel free to contact us if you have any questions.

Sincerely,

Arcadis U.S., Inc.



Benjamin J. Verburg, PE
Principal Engineer



Michael F. Bedard
Project Lead/Associate Vice President

Copies:

Richard Mator - JCI
David Neste - WDNR

Enclosures:

Tables

- 1 Stanton Street Groundwater Sample Results - June 8, 2018

Figures

- 1 Site Map – Proposed PFOA/PFOS Sampling Locations

Attachments

- 1 Level 4 Laboratory Analytical Reports

STANTON STREET GROUNDWATER SAMPLE RESULTS - JUNE 8, 2018

NOTE: LEVEL 4 VALIDATION IS COMPLETE. FINAL RESULTS PRESENTED BELOW.

Location	Sample Date	PFOA	PFOS	EtFOSAA	MeFOSAA	PFBS	PFDA	PFDoA	PFHpA	PFHxS	PFHxA	PFNA	PFTeA	PFTriA	PFUnA
INF-01	5/1/2018	1800 DJ	64 J	< 1.9	< 3.1	3.4	10 J	< 0.55	2000 DJ	19 J	5200 DJ	110 J	< 0.29	< 1.3	< 1.1
INF-01 DUP	5/1/2018	1700 DJ	67 J	< 1.9	< 3.1	3.2	10 J	< 0.55	2100 DJ	19 J	4900 DJ	120 J	< 0.29	< 1.3	< 1.1
MW008M	5/1/2018	3700 DJ	350 J	R	R	14 J	5.8 J	R	2600 DJ	69 J	9400 DJ	210 J	R	R	R
MW008M DUP	5/1/2018	4100 DJ	340 J	R	R	15 J	5.5 J	R	2700 DJ	70 J	9200 DJ	220 J	R	R	R
MW032S	4/30/2018	520 DJ	140 J	< 2.0 J	< 3.3 J	< 0.21 J	61 J	0.75 J	780 DJ	< 2.1 UB	2100 DJ	120 J	< 0.31 J	< 1.4 J	4.3 J
MW041S	5/1/2018	1500 DJ	650 DJ	< 2.2 J	5.5 J	3.0 J	7.1 J	< 0.63 J	1400 DJ	9.3 J	3400 DJ	130 J	< 0.33 J	< 1.5 J	< 1.3 J
MW044S	4/30/2018	1500 DJ	340 J	1.8 J	< 3.0 J	0.98 J	600 DJ	0.65 J	2200 DJ	4.0 J	5300 DJ	770 DJ	< 0.28 J	< 1.3 J	28 J
MW054S	4/30/2018	3800 DJ	210 J	< 2.2 J	< 3.5 J	1.3 J	520 DJ	0.81 J	5200 DJ	7.4 J	8500 DJ	2800 DJ	< 0.33 J	< 1.5 J	31 J
MW054S DUP	4/30/2018	4100 DJ	200 J	< 2.0 J	< 3.3 J	1.4 J	510 DJ	0.92 J	4800 DJ	7.7 J	9100 DJ	2900 DJ	< 0.31 J	< 1.4 J	28 J
MW102S	4/30/2018	130	25	< 1.9	< 3.1	4.2	< 0.31	< 0.56	2100 DJ	3.2	3200 DJ	0.31 J	< 0.29	< 1.3	< 1.1
MW108S	5/1/2018	9100 DJ	530 DJ	R	R	4.3 J	19 J	R	7000 DJ	13	20000 DJ	1200 DJ	R	R	R

Notes:

Detections are boldfaced

< = Compound not detected at method detection limit

D = Dilution required for sample analysis

DUP = Field Duplicate

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results are rejected.

UB = Compound considered non-detect at the listed value due to associated blank contamination.

PFBS = Perfluorobutanesulfonic acid (C4)

PFHpA = Perfluoroheptanoic acid (C7)

PFHxS = Perfluorohexanesulfonic acid (C6)

PFNA = Perfluorononanoic acid (C9)

PFOS = Perfluorooctanesulfonic acid (C8)

PFOA = Perfluorooctanoic acid (C8)

EtFOSAA=ethylperfluorooctane sulfonamido acetate

MeFOSAA = methylperfluorooctane sulfonamido acetate

PFDA = perfluorodecanoic acid (C10)

PFDoA = perfluorododecanoic acid (C12)

PFHxA = perfluorohexanoic acid (C6)

PFTeA = perfluorotetradecanoic acid (C14)

PFTriA = perfluorotridecanoic acid (C13)

PFUnA = perfluoroundecanoic acid (C11)

Units are in ng/L (nanogram per liter) unless otherwise stated

