

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](mailto: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

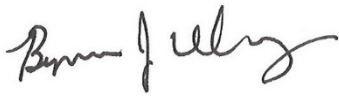
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standard chain of custody procedures and screened for the presence of PFAS using the United States Environmental Protection Agency (EPA) Method 537.

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

