Alyssa Sellwood, PE
Complex Sites Project Manager – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources Central Office
101 South Webster Street
P.O. Box 7921
Madison, WI 53707

Arcadis U.S., Inc.
126 North Jefferson Street
Milwaukee, Wisconsin 53202
www.arcadis.com

Date:
December 4, 2020

Tyco Environmental Assessment Call Line:
(800) 314-1381

Responsible Party:
Tyco Fire Products LP
2700 Industrial Parkway S
Marinette, WI 54143

Site Name:
Tyco Fire Technology Center

BRRTS No.:
02-38-580694

Subject:
Sample Results Notification, Tyco Fire Technology Center PFAS, 2700 Industrial Parkway South, Marinette, Wisconsin
BRRTS Activity#: 02-38-580694

Dear Ms. Sellwood:

On behalf of Tyco Fire Products LP (Tyco), Arcadis is providing this Sample Results Notification for off-site investigation activities related to the Tyco Fire Technology Center PFAS site located at 2700 Industrial Parkway South in Marinette, Wisconsin (Site).

This Sample Results Notification is being provided to satisfy NR716.14(2) for surface water samples that were collected from Ditch B as part of a pre-design investigation for a source-control solution. Arcadis collected 32 surface water samples from Ditch B on November 4, 2020 consistent with our previously submitted *Pre-Design Investigation Work Plan*. We recorded the sample location, date, and other information and had the sample tested at an accredited, independent laboratory. That testing is now complete, and the results are summarized in the attached table with sample locations depicted in the attached figure.

The results are generally consistent with those from the October 7, 2020 sampling event and will support our effort to move from interim measures toward a permanent source-control solution. As expected, the upstream area of Ditch B has elevated levels of PFAS. The data are critical since it enables us to pinpoint where the most PFAS contamination is entering the ditch, so we know where the permanent treatment system needs to be located to stop the PFAS pollution.

The results from water tested 10 feet downstream of the Ditch B treatment system showed PFOA at 370 nanograms per liter (ng/L) and PFOS at 16 ng/L. Flows in the ditch were above baseload levels and the treatment system capacity, so water was bypassing the treatment system during this sampling event.

Alyssa Sellwood
Wisconsin Department of Natural Resources
December 4, 2020

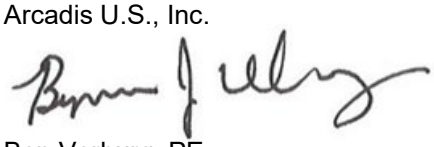
Owners of each parcel accessed to collect the samples were notified of the results collected on their property via printed copies of the attached letters via overnight courier on Friday, December 4.

These results will be combined with other previously collected and future planned sampling results and evaluated comprehensively in a future submittal.

Please do not hesitate to call us if you have any questions.

Sincerely,

Arcadis U.S., Inc.



Ben Verburg, PE
Principal Engineer

Attachment:
Summary Results Table
Sample Locations Figure
Laboratory Report
Owner Notification Letters

Table 1 - Surface Water Sample Results

Location	SW-21	SW-39	SW-L01	SW-L02	SW-L02	SW-L03	SW-L04	SW-L05
Sample Date	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020
Sample Type	N	N	N	N	FD	N	N	N
Chemical Name	Units							
PFOA	ng/l	**8.0**	**370 D**	**370 D**	**380 D**	**390 D**	**390 D**	**370**	**400 D**
PFOS	ng/l	**3.8**	**16**	**18**	**17**	**17**	**17**	**16**	**21**
PFBS	ng/l	**1.6 J**	**1.1 J**	**1.3 J**	**1.2 J**	**1.2 J**	**1.2 J**	**1.2 J**	**1.3 J**
PFHpA	ng/l	**9.2**	**28**	**29**	**29**	**28**	**28**	**28**	**29**
PFHxS	ng/l	**1.4 J**	**8.0**	**8.8**	**8.5**	**8.2**	**8.7**	**8.6**	**9.3**
PFNA	ng/l	**1.2 J**	**11**	**12**	**11**	**11**	**12**	**11**	**14**
PFDA	ng/l	< 1.8 U	**0.48 J**	**0.52 J**	**0.55 J**	**0.46 J**	**0.54 J**	**0.54 J**	**0.62 J**
PFDoA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFHxA	ng/l	**15**	**83**	**88**	**88**	**83**	**86**	**86**	**89**
PFTeA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFTriA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFUnA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
NEtFOSAA	ng/l	< 4.5 U	< 4.5 U	< 4.5 U	< 4.6 U	< 4.5 U	< 4.6 U	< 4.6 U	< 4.5 U
NMeFOSAA	ng/l	< 4.5 U	< 4.5 U	< 4.5 U	< 4.6 U	< 4.5 U	< 4.6 U	< 4.6 U	< 4.5 U
PFBA	ng/l	**14**	**38**	**39**	**39**	**38**	**39**	**39**	**39**
PFPeA	ng/l	**24**	**89**	**91**	**90**	**89**	**90**	**94**	**93**
PFHxDA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFODA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFPeS	ng/l	< 1.8 U	**0.69 J**	**0.81 J**	**0.74 J**	**0.68 J**	**0.70 J**	**0.72 J**	**0.81 J**
PFHpS	ng/l	< 1.8 U	**0.31 J**	**0.41 J**	**0.34 J**	**0.35 J**	**0.37 J**	**0.31 J**	**0.40 J**
PFNS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFDS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
PFDoS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
FOSA	ng/l	< 1.8 U	**1.6 J**	**1.4 J**	**1.6 J**	**1.5 J**	**1.1 J**	**1.1 J**	**1.7 J**
NEtFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
NMeFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
NMeFOSE	ng/l	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.7 U	< 3.7 U	< 3.6 U
NEtFOSE	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
4:2 FTS	ng/l	< 1.8 U	**4.7**	**5.0**	**4.6**	**5.3**	**5.5**	**5.2**	**5.7**
6:2 FTS	ng/l	**7.8**	**210**	**250**	**210**	**220**	**220**	**230**	**240**
8:2 FTS	ng/l	< 1.8 U	**11**	**13**	**11**	**11**	**11**	**10**	**14**
10:2 FTS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
DONA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
GenX	ng/l	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.7 U	< 3.7 U	< 3.6 U
F-53B Major	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
F-53B Minor	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	< 1.8 U
TSS	mg/l	**3.5 J**	**2.5 J**	**2.5 J**	**3.0 J**	**2.5 J**	**2.0 J**	**2.5 J**	**21**

Table 1 - Surface Water Sam

Location	SW-L06	SW-L07	SW-L08	SW-L09	SW-L10	SW-M01	SW-M01	SW-M02
Sample Date	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020
Sample Type	N	N	N	N	N	N	FD	N
Chemical Name	**Units**							
PFOA	ng/l	**2000 D**	**1900 D**	**2000 D**	**2000 D**	**2000 D**	**2000 D**	**1800 D**	**1600 D**
PFOS	ng/l	**150**	**160**	**160**	**160**	**170**	**160**	**160**	**160**
PFBS	ng/l	**5.6**	**5.6**	**5.5**	**5.7**	**5.6**	**6.2**	**5.5**	**5.0**
PFHpA	ng/l	**120**	**120**	**130**	**130**	**130**	**120**	**140**	**110**
PFHxS	ng/l	**60**	**59**	**61**	**62**	**61**	**67**	**68**	**64**
PFNA	ng/l	**72**	**79**	**73**	**75**	**76**	**82**	**78**	**86**
PFDA	ng/l	**4.2**	**4.2**	**4.2**	**4.3**	**4.2**	**4.0**	**3.4**	**4.0**
PFDoA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**0.60 J**	< 1.8 U
PFHxA	ng/l	**310**	**300**	**300**	**310**	**300**	**330**	**320**	**290**
PFTeA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	**0.73 J**	< 1.8 U
PFTriA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
PFUnA	ng/l	**1.4 J**	**1.7 J**	**1.5 J**	**1.5 J**	**1.8**	**1.1 J**	**1.3 J**	**1.2 J**
NEtFOSAA	ng/l	**4.6**	**4.8**	**4.4 J**	**4.1 J**	**4.7**	**5.2**	**5.1**	**5.5**
NMeFOSAA	ng/l	< 4.5 U	< 4.5 U	< 4.5 U	< 4.6 U	< 4.5 U	< 4.5 U	< 4.4 U	< 4.4 U
PFBA	ng/l	**80**	**83**	**82**	**84**	**83**	**89**	**85**	**83**
PFPeA	ng/l	**250**	**250**	**260**	**250**	**250**	**270**	**240**	**270**
PFHxDA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
PFODA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
PFPeS	ng/l	**4.9**	**4.7**	**5.2**	**5.2**	**5.0**	**5.1**	**4.6**	**4.8**
PFHpS	ng/l	**3.2**	**3.5**	**3.4**	**3.3**	**3.5**	**3.5**	**3.3**	**2.9**
PFNS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
PFDS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
PFDoS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
FOSA	ng/l	**23**	**26**	**23**	**25**	**26**	**27**	**28**	**31**
NEtFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
NMeFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
NMeFOSE	ng/l	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.5 U	< 3.5 U
NEtFOSE	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
4:2 FTS	ng/l	**26**	**28**	**26**	**29**	**30**	**37**	**29**	**32**
6:2 FTS	ng/l	**1500 D**	**1600 D**	**1600 D**	**1700 D**	**1600 D**	**2000 D**	**2000 D**	**2000 D**
8:2 FTS	ng/l	**140**	**150**	**160**	**150**	**160**	**140**	**140**	**160**
10:2 FTS	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
DONA	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
GenX	ng/l	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.5 U	< 3.5 U
F-53B Major	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
F-53B Minor	ng/l	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
TSS	mg/l	**26**	**11**	**20**	**8.5**	**7.5**	**8.5**	**8.5**	**11**

Table 1 - Surface Water Sam

Location	SW-M03	SW-M04	SW-M05	SW-M06	SW-M07	SW-M08	SW-M09	SW-M10
Sample Date	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020
Sample Type	N	N	N	N	N	N	N	N
Chemical Name	**Units**							
PFOA	ng/l	**1500 D**	**1100 D**	**2800 D**	**2300 D**	**1400 D**	**700 D**	**650 D**	**420 D**
PFOS	ng/l	**160**	**140**	**230**	**230**	**170**	**130**	**130**	**170**
PFBS	ng/l	**4.7**	**4.5**	**8.4**	**6.7**	**4.4**	**4.1**	**4.0**	**3.0**
PFHpA	ng/l	**110**	**97**	**160**	**150**	**130**	**85**	**79**	**75**
PFHxS	ng/l	**61**	**51**	**92**	**100**	**65**	**37**	**34**	**33**
PFNA	ng/l	**80**	**78**	**140**	**140**	**110**	**50**	**55**	**25**
PFDA	ng/l	**3.8**	**3.5**	**5.9**	**7.1**	**4.2**	**2.6**	**2.5**	**2.1**
PFDoA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFHxA	ng/l	**280**	**250**	**430 D**	**400 D**	**330**	**220**	**210**	**180**
PFTeA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFTriA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFUnA	ng/l	**1.2 J**	< 1.8 U	**3.2**	**2.9**	**1.8**	< 1.8 U	< 1.7 U	< 1.8 U
NEtFOSAA	ng/l	**4.3**	**2.1 J**	**7.4**	**4.7**	**3.0 J**	< 4.6 U	< 4.3 U	< 4.4 U
NMeFOSAA	ng/l	< 4.3 U	< 4.5 U	< 4.4 U	< 4.5 U	< 4.2 U	< 4.6 U	< 4.3 U	< 4.4 U
PFBA	ng/l	**82**	**77**	**110**	**100**	**98**	**72**	**70**	**66**
PFPeA	ng/l	**250**	**230**	**330**	**330**	**320**	**220**	**220**	**180**
PFHxDA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFODA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFPeS	ng/l	**3.8**	**3.2**	**7.2**	**5.6**	**3.6**	**2.3**	**2.2**	**2.2**
PFHpS	ng/l	**3.1**	**2.9**	**4.6**	**4.1**	**3.0**	**2.5**	**2.6**	**3.2**
PFNS	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFDS	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
PFDoS	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
FOSA	ng/l	**25**	**15**	**56**	**52**	**40**	**1.5 J**	**1.3 J**	**0.89 J**
NEtFOSA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
NMeFOSA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
NMeFOSE	ng/l	< 3.4 U	< 3.6 U	< 3.5 U	< 3.6 U	< 3.4 U	< 3.7 U	< 3.5 U	< 3.6 U
NEtFOSE	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
4:2 FTS	ng/l	**29**	**28**	**55**	**80**	**40**	**34**	**18**	**13**
6:2 FTS	ng/l	**1800 D**	**1700 D**	**2900 D**	**2500 D**	**2100 D**	**1700 D**	**1600 D**	**1200 D**
8:2 FTS	ng/l	**150**	**130**	**250**	**250**	**170**	**90**	**95**	**81**
10:2 FTS	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
DONA	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
GenX	ng/l	< 3.4 U	< 3.6 U	< 3.5 U	< 3.6 U	< 3.4 U	< 3.7 U	< 3.5 U	< 3.6 U
F-53B Major	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
F-53B Minor	ng/l	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.7 U	< 1.8 U
TSS	mg/l	**15**	**35**	**5.5**	**16**	**36**	**70**	**37**	**5.0**

Table 1 - Surface Water Sam

Location	SW-U01	SW-U02	SW-U03	SW-U04	SW-U05	SW-U06	SW-U07	SW-U08
Sample Date	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020	11/4/2020
Sample Type	N	N	N	N	N	N	N	N
Chemical Name	**Units**							
PFOA	ng/l	**420 D**	**410 D**	**250**	**200**	**100**	**40**	**34**	**29**
PFOS	ng/l	**150**	**170**	**140**	**140**	**140**	**140**	**140**	**140**
PFBS	ng/l	**3.3**	**3.1**	**3.3**	**3.0**	**2.8**	**3.0**	**2.6**	**2.6**
PFHpA	ng/l	**70**	**63**	**48**	**38**	**29**	**22**	**19**	**19**
PFHxS	ng/l	**35**	**36**	**31**	**30**	**28**	**32**	**33**	**31**
PFNA	ng/l	**24**	**20**	**7.5**	**5.7**	**4.3**	**3.0**	**3.0**	**2.9**
PFDA	ng/l	**2.0**	**2.4**	**0.94 J**	**0.48 J**	< 1.9 U	**0.34 J**	< 1.8 U	< 1.9 U
PFDoA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFHxA	ng/l	**180**	**150**	**110**	**79**	**61**	**40**	**38**	**36**
PFTeA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFTriA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFUnA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
NEtFOSAA	ng/l	< 4.6 U	< 4.5 U	< 4.8 U	< 4.5 U	< 4.6 U	< 4.3 U	< 4.6 U	< 4.8 U
NMeFOSAA	ng/l	< 4.6 U	< 4.5 U	< 4.8 U	< 4.5 U	< 4.6 U	< 4.3 U	< 4.6 U	< 4.8 U
PFBA	ng/l	**63**	**59**	**44**	**38**	**33**	**25**	**24**	**22**
PFPeA	ng/l	**190**	**180**	**110**	**90**	**72**	**54**	**48**	**46**
PFHxDA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFODA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFPeS	ng/l	**2.9**	**2.5**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**	**1.9**
PFHpS	ng/l	**3.0**	**3.0**	**3.0**	**3.0**	**3.3**	**3.3**	**3.3**	**3.2**
PFNS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFDS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
PFDoS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
FOSA	ng/l	**1.1 J**	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
NEtFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
NMeFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
NMeFOSE	ng/l	< 3.7 U	< 3.6 U	< 3.8 U	< 3.6 U	< 3.7 U	< 3.4 U	< 3.6 U	< 3.8 U
NEtFOSE	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
4:2 FTS	ng/l	**14**	**9.8**	**4.8**	**2.4**	**1.8 J**	**0.42 J**	**0.40 J**	**0.33 J**
6:2 FTS	ng/l	**1300 D**	**1100 D**	**410 D**	**180**	**42**	**27**	**25**	**23**
8:2 FTS	ng/l	**83**	**97**	**24**	**10**	**2.7**	**1.8**	**1.4 J**	**1.6 J**
10:2 FTS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
DONA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
GenX	ng/l	< 3.7 U	< 3.6 U	< 3.8 U	< 3.6 U	< 3.7 U	< 3.4 U	< 3.6 U	< 3.8 U
F-53B Major	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
F-53B Minor	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.8 U	< 1.9 U
TSS	mg/l	**5.5**	**6.5**	**6.5**	**40**	**16**	**14**	**58**	**54**

Table 1 - Surface Water Sam

Location	SW-U09	SW-U10	SW-U10
Sample Date	11/4/2020	11/4/2020	11/4/2020
Sample Type	N	N	FD
Chemical Name	Units		
PFOA	ng/l	**24**	**21**	**23**
PFOS	ng/l	**68**	**7.9**	**8.1**
PFBS	ng/l	**2.5**	**1.8**	**2.1**
PFHpA	ng/l	**15**	**14**	**14**
PFHxS	ng/l	**13**	**4.7**	**4.8**
PFNA	ng/l	**2.3**	**2.3**	**2.4**
PFDA	ng/l	< 1.7 U	**0.35 J**	< 1.9 U
PFDoA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFHxA	ng/l	**28**	**27**	**27**
PFTeA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFTriA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFUnA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
NEtFOSAA	ng/l	< 4.4 U	< 4.5 U	< 4.6 U
NMeFOSAA	ng/l	< 4.4 U	< 4.5 U	< 4.6 U
PFBA	ng/l	**20**	**19**	**19**
PFPeA	ng/l	**38**	**33**	**37**
PFHxDA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFODA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFPeS	ng/l	**0.67 J**	**0.38 J**	**0.42 J**
PFHpS	ng/l	**0.65 J**	< 1.8 U	< 1.9 U
PFNS	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFDS	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
PFDoS	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
FOSA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
NEtFOSA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
NMeFOSA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
NMeFOSE	ng/l	< 3.5 U	< 3.6 U	< 3.7 U
NEtFOSE	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
4:2 FTS	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
6:2 FTS	ng/l	**17**	**16**	**16**
8:2 FTS	ng/l	**0.98 J**	**1.0 J**	**1.0 J**
10:2 FTS	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
DONA	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
GenX	ng/l	< 3.5 U	< 3.6 U	< 3.7 U
F-53B Major	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
F-53B Minor	ng/l	< 1.7 U	< 1.8 U	< 1.9 U
TSS	mg/l	**7.0**	**3.5 J**	**3.0 J**

Notes

Detections are boldfaced

< RL

ng/l = nanograms per liter

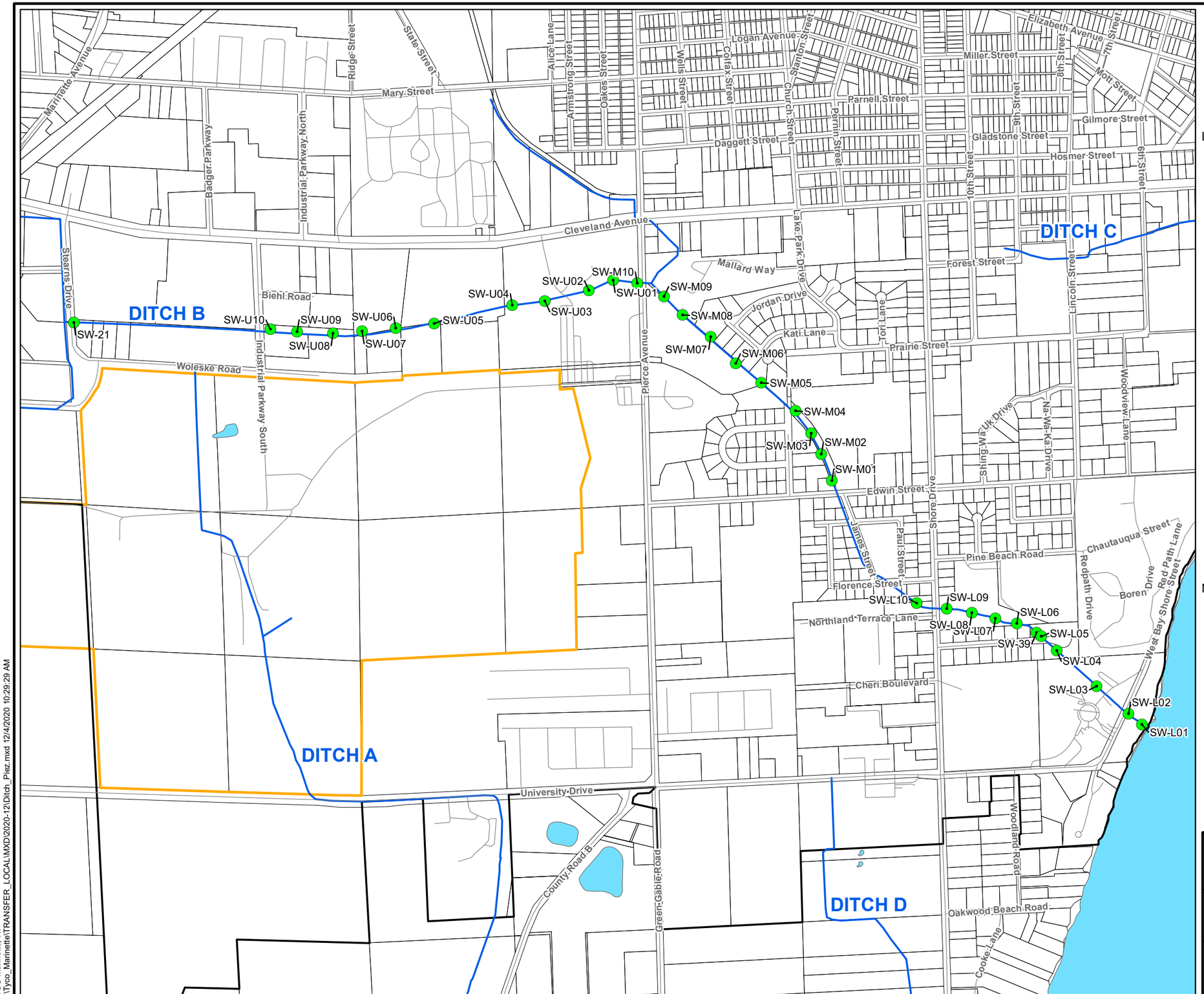
mg/l = milligrams per liter

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

D = Dilution required for sample analysis.

PFOA = Perfluorooctanoic acid (C8)
PFOS = Perfluorooctanesulfonic acid (C8)
PFBS = Perfluorobutanesulfonic acid (C4)
PFHpA = Perfluoroheptanoic acid (C7)
PFHxS = Perfluorohexanesulfonic acid (C6)
PFNA = Perfluorononanoic acid (C9)
PFDA = Perfluorodecanoic acid (C10)
PFDoA = Perfluorododecanoic acid (C12)
PFHxA = Perfluorohexanoic acid (C6)
PFTeA = Perfluorotetradecanoic acid (C14)
PFTriA = Perfluorotridecanoic acid (C13)
PFUnA = Perfluoroundecanoic acid (C11)
NEtFOSAA = N-ethylperfluorooctanesulfonamidoacetic acid (C12)
NMeFOSAA = N-methylperfluorooctanesulfonamidoacetic acid (C11)
PFBA = Perfluorobutanoic acid (C4)
PFPeA = Perfluoropentanoic acid (C5)
PFHxDA = Perfluoro-n-hexadecanoic acid (C16)
PFODA = Perfluoro-n-octadecanoic acid (C18)
PFPeS = Perfluoropentanesulfonic acid (C5)
PFHpS = Perfluoroheptanesulfonic acid (C7)
PFNS = Perfluorononanesulfonic acid (C9)
PFDS = Perfluorodecanesulfonic acid (C10)
PFDoS = Perfluorododecanesulfonic acid (C12)
FOSA = Perfluorooctanesulfonamide (C8)
NEtFOSA = N-ethylperfluorooctanesulfonamide (C10)
NMeFOSA = N-methylperfluorooctanesulfonamide (C9)
NMeFOSE = N-methylperfluorooctanesulfonamidoethanol (C11)
NEtFOSE = N-ethylperfluorooctanesulfonamidoethanol (C12)
4:2 FTS = 4:2 fluorotelomer sulfonate (C6)
6:2 FTS = 6:2 fluorotelomer sulfonate (C8)
8:2 FTS = 8:2 fluorotelomer sulfonate (C10)
10:2 FTS = 10:2 fluorotelomer sulfonate (C12)
DONA = 4,8-Dioxa-3H-perfluorononanoic acid (C7)
GenX = Hexafluoropropylene oxide dimer acid (C6)
F-53B Major = 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (C8)
F-53B Minor = 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (C10)
TSS = Total Suspended Solids



LEGEND:

- TEMPORARY PIEZOMETER LOCATION
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- PARCEL BOUNDARY
- ROAD
- DITCH/STREAM
- WATERBODY

12/4/2020

NOTES:

1. CITY BOUNDARY DATA SOURCE: WISCONSIN LEGISLATIVE TECHNOLOGY SERVICES BUREAU, WISCONSIN COUNTY CLERKS AND LAND INFORMATION OFFICES, ACCESSED FALL 2017.
2. DITCH/STREAM AND WATERBODY DATA SOURCE: U.S. GEOLOGICAL SURVEY NATIONAL HYDROGRAPHY DATASET, ACCESSED FALL 2017.
3. ROAD DATA SOURCE: OPEN STREET MAP, ACCESSED FALL 2017.

0 750 1,500

GRAPHIC SCALE IN FEET

TYCO FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN

SURFACE WATER SAMPLE LOCATIONS

ARCADIS

FIGURE
1

City: Minneapolis/Citrix Div/Group: IMDVC Created By: Last Saved By: MSMiller
TYCO Marinette, WI
D:\Tyco_Marinette\TRANSFER_LOCAL\MXD\2020-12\Ditch_Piez.mxd 12/4/2020 10:29:29 AM

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-190761-1
Client Project/Site: Marinette 30062361.00001

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski

Sandie Fredrick

Authorized for release by:
11/18/2020 9:50:12 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

Table of Contents

Job ID: 500-190761-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-190761-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2020 9:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 11 coolers at receipt time were 0.1º C, 1.0º C, 1.2º C, 1.4º C, 1.6º C, 1.8º C, 2.0º C, 2.5º C, 2.6º C, 2.7º C and 2.7º C.

LCMS
Method 537 (modified): Results for samples 500-190761-1, 500-190761-1[MS], 500-190761-1[MSD], 500-190761-2, 500-190761-3, 500-190761-5, 500-190761-6, 500-190761-7, 500-190761-8, 500-190761-9, 500-190761-10, 500-190761-11 and 500-190761-13 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Due to the high concentration of 6:2 FTS, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-430871 and analytical batch 320-431463 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3535: The following samples were yellow prior to extraction: 500-190761-1, 500-190761-1[MS], 500-190761-1[MSD], 500-190761-2, 500-190761-3, 500-190761-4, 500-190761-5, 500-190761-6, 500-190761-7, 500-190761-8, 500-190761-9, 500-190761-10, 500-190761-11, 500-190761-13 and 500-190761-14. 320-430871 Method: 3535 PFC-W

Method 3535: The following samples contained a thin layer of sediment at the bottom of the bottle prior to extraction: 500-190761-6, 500-190761-7, 500-190761-8 and 500-190761-13. 320-430871 Method: 3535 PFC-W

Method 3535: The following samples contained floating particulates in the sample bottle prior to extraction: 500-190761-1, 500-190761-1[MS], 500-190761-1[MSD], 500-190761-2, 500-190761-3, 500-190761-5, 500-190761-9, 500-190761-10, 500-190761-11 and 500-190761-14. 320-430871 Method: 3535 PFC-W

Method 3535: The following samples are light yellow after extraction/final volume: 500-190761-1, 500-190761-1[MS], 500-190761-1[MSD], 500-190761-2, 500-190761-3, 500-190761-4, 500-190761-5, 500-190761-6, 500-190761-7, 500-190761-8, 500-190761-9, 500-190761-10, 500-190761-11, 500-190761-13 and 500-190761-14. 320-430871 Method: 3535 PFC-W

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-190761-1	SW-L01 (11042020)	Water	11/04/20 10:30	11/07/20 09:55	
500-190761-2	SW-L02 (11042020)	Water	11/04/20 10:45	11/07/20 09:55	
500-190761-3	SW-L03 (11042020)	Water	11/04/20 11:15	11/07/20 09:55	
500-190761-4	SW-L04 (11042020)	Water	11/04/20 11:20	11/07/20 09:55	
500-190761-5	SW-L05 (11042020)	Water	11/04/20 11:30	11/07/20 09:55	
500-190761-6	SW-L06 (11042020)	Water	11/04/20 12:30	11/07/20 09:55	
500-190761-7	SW-L07 (11042020)	Water	11/04/20 12:35	11/07/20 09:55	
500-190761-8	SW-L08 (11042020)	Water	11/04/20 12:40	11/07/20 09:55	
500-190761-9	SW-L09 (11042020)	Water	11/04/20 12:45	11/07/20 09:55	
500-190761-10	SW-L10 (11042020)	Water	11/04/20 12:50	11/07/20 09:55	
500-190761-11	DUP-01 (11042020)	Water	11/04/20 00:00	11/07/20 09:55	
500-190761-12	Field Blank-11-04-2020	Water	11/04/20 16:00	11/07/20 09:55	
500-190761-13	SW-39	Water	11/04/20 11:25	11/07/20 09:55	
500-190761-14	SW-21	Water	11/04/20 15:55	11/07/20 09:55	

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L01 (11042020)

Date Collected: 11/04/20 10:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**39**		4.5	2.2	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoropentanoic acid (PFPeA)	**91**		1.8	0.44	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorohexanoic acid (PFHxA)	**88**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoroheptanoic acid (PFHpA)	**29**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorononanoic acid (PFNA)	**12**		1.8	0.24	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorodecanoic acid (PFDA)	**0.52**	**J**	1.8	0.28	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.81**	**J**	1.8	0.27	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorohexanesulfonic acid (PFHxS)	**8.8**		1.8	0.51	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.41**	**J**	1.8	0.17	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorooctanesulfonic acid (PFOS)	**18**		1.8	0.48	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/12/20 21:59	1
Perfluorooctanesulfonamide (FOSA)	**1.4**	**J**	1.8	0.88	ng/L		11/12/20 04:46	11/12/20 21:59	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/12/20 21:59	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 21:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 21:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/12/20 21:59	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 21:59	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 04:46	11/12/20 21:59	1
4:2 FTS	**5.0**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 21:59	1
6:2 FTS	**250**		4.5	2.2	ng/L		11/12/20 04:46	11/12/20 21:59	1
8:2 FTS	**13**		1.8	0.41	ng/L		11/12/20 04:46	11/12/20 21:59	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/12/20 21:59	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 21:59	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 21:59	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 21:59	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 21:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:59*	*1*
13C5 PFPeA	*84*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:59*	*1*
13C2 PFHxA	*89*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:59*	*1*
13C4 PFHpA	*92*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:59*	*1*
13C5 PFNA	*89*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:59*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L01 (11042020)

Date Collected: 11/04/20 10:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	89		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C2 PFUnA	79		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C2 PFDoA	78		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C2 PFTeDA	70		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C2 PFHxDA	64		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C3 PFBS	91		25 - 150	11/12/20 04:46	11/12/20 21:59	1
18O2 PFHxS	93		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C4 PFOS	94		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C8 FOSA	91		25 - 150	11/12/20 04:46	11/12/20 21:59	1
d3-NMeFOSAA	71		25 - 150	11/12/20 04:46	11/12/20 21:59	1
d5-NEtFOSAA	71		25 - 150	11/12/20 04:46	11/12/20 21:59	1
d-N-MeFOSA-M	52		20 - 150	11/12/20 04:46	11/12/20 21:59	1
d-N-EtFOSA-M	42		20 - 150	11/12/20 04:46	11/12/20 21:59	1
d7-N-MeFOSE-M	29		10 - 120	11/12/20 04:46	11/12/20 21:59	1
d9-N-EtFOSE-M	31		10 - 120	11/12/20 04:46	11/12/20 21:59	1
M2-4:2 FTS	76		25 - 150	11/12/20 04:46	11/12/20 21:59	1
M2-6:2 FTS	63		25 - 150	11/12/20 04:46	11/12/20 21:59	1
M2-8:2 FTS	65		25 - 150	11/12/20 04:46	11/12/20 21:59	1
13C3 HFPO-DA	88		25 - 150	11/12/20 04:46	11/12/20 21:59	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	370		18	7.6	ng/L		11/12/20 04:46	11/13/20 12:57	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	91		25 - 150	11/12/20 04:46	11/13/20 12:57	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5	J	5.0	1.9	mg/L			11/09/20 17:11	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L02 (11042020)

Date Collected: 11/04/20 10:45
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**39**		4.6	2.2	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoropentanoic acid (PFPeA)	**90**		1.8	0.45	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorohexanoic acid (PFHxA)	**88**		1.8	0.54	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoroheptanoic acid (PFHpA)	**29**		1.8	0.23	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorononanoic acid (PFNA)	**11**		1.8	0.25	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorodecanoic acid (PFDA)	**0.55**	**J**	1.8	0.29	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.51	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.68	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.74**	**J**	1.8	0.28	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**		1.8	0.53	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.34**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorooctanesulfonic acid (PFOS)	**17**		1.8	0.50	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.30	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.90	ng/L		11/12/20 04:46	11/12/20 22:26	1
Perfluorooctanesulfonamide (FOSA)	**1.6**	**J**	1.8	0.91	ng/L		11/12/20 04:46	11/12/20 22:26	1
NEtFOSA	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/12/20 22:26	1
NMeFOSA	<1.8		1.8	0.40	ng/L		11/12/20 04:46	11/12/20 22:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 04:46	11/12/20 22:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 04:46	11/12/20 22:26	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 04:46	11/12/20 22:26	1
NEtFOSE	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/12/20 22:26	1
4:2 FTS	**4.6**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 22:26	1
6:2 FTS	**210**		4.6	2.3	ng/L		11/12/20 04:46	11/12/20 22:26	1
8:2 FTS	**11**		1.8	0.43	ng/L		11/12/20 04:46	11/12/20 22:26	1
10:2 FTS	<1.8		1.8	0.62	ng/L		11/12/20 04:46	11/12/20 22:26	1
DONA	<1.8		1.8	0.37	ng/L		11/12/20 04:46	11/12/20 22:26	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 04:46	11/12/20 22:26	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 22:26	1
F-53B Minor	<1.8		1.8	0.30	ng/L		11/12/20 04:46	11/12/20 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:26*	*1*
13C5 PFPeA	*90*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:26*	*1*
13C2 PFHxA	*92*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:26*	*1*
13C4 PFHpA	*96*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:26*	*1*
13C4 PFOA	*93*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:26*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L02 (11042020)

Date Collected: 11/04/20 10:45
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	95		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C2 PFDA	89		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C2 PFUnA	86		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C2 PFDoA	89		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C2 PFTeDA	67		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C2 PFHxDA	68		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C3 PFBS	90		25 - 150	11/12/20 04:46	11/12/20 22:26	1
18O2 PFHxS	98		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C4 PFOS	95		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C8 FOSA	92		25 - 150	11/12/20 04:46	11/12/20 22:26	1
d3-NMeFOSAA	71		25 - 150	11/12/20 04:46	11/12/20 22:26	1
d5-NEtFOSAA	75		25 - 150	11/12/20 04:46	11/12/20 22:26	1
d-N-MeFOSA-M	52		20 - 150	11/12/20 04:46	11/12/20 22:26	1
d-N-EtFOSA-M	42		20 - 150	11/12/20 04:46	11/12/20 22:26	1
d7-N-MeFOSE-M	32		10 - 120	11/12/20 04:46	11/12/20 22:26	1
d9-N-EtFOSE-M	30		10 - 120	11/12/20 04:46	11/12/20 22:26	1
M2-4:2 FTS	83		25 - 150	11/12/20 04:46	11/12/20 22:26	1
M2-6:2 FTS	70		25 - 150	11/12/20 04:46	11/12/20 22:26	1
M2-8:2 FTS	65		25 - 150	11/12/20 04:46	11/12/20 22:26	1
13C3 HFPO-DA	92		25 - 150	11/12/20 04:46	11/12/20 22:26	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	380		18	7.9	ng/L		11/12/20 04:46	11/13/20 13:24	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	96		25 - 150	11/12/20 04:46	11/13/20 13:24	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.0	J	5.0	1.9	mg/L			11/09/20 17:41	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L03 (11042020)

Date Collected: 11/04/20 11:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**39**		4.6	2.2	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoropentanoic acid (PFPeA)	**90**		1.9	0.45	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorohexanoic acid (PFHxA)	**86**		1.9	0.54	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoroheptanoic acid (PFHpA)	**28**		1.9	0.23	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorononanoic acid (PFNA)	**12**		1.9	0.25	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorodecanoic acid (PFDA)	**0.54**	**J**	1.9	0.29	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.82	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.9	0.19	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoropentanesulfonic acid (PFPeS)	**0.70**	**J**	1.9	0.28	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorohexanesulfonic acid (PFHxS)	**8.7**		1.9	0.53	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.37**	**J**	1.9	0.18	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorooctanesulfonic acid (PFOS)	**17**		1.9	0.50	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		11/12/20 04:46	11/12/20 22:36	1
Perfluorooctanesulfonamide (FOSA)	**1.1**	**J**	1.9	0.91	ng/L		11/12/20 04:46	11/12/20 22:36	1
NEtFOSA	<1.9		1.9	0.81	ng/L		11/12/20 04:46	11/12/20 22:36	1
NMeFOSA	<1.9		1.9	0.40	ng/L		11/12/20 04:46	11/12/20 22:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 04:46	11/12/20 22:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 04:46	11/12/20 22:36	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 04:46	11/12/20 22:36	1
NEtFOSE	<1.9		1.9	0.79	ng/L		11/12/20 04:46	11/12/20 22:36	1
4:2 FTS	**5.5**		1.9	0.22	ng/L		11/12/20 04:46	11/12/20 22:36	1
6:2 FTS	**220**		4.6	2.3	ng/L		11/12/20 04:46	11/12/20 22:36	1
8:2 FTS	**11**		1.9	0.43	ng/L		11/12/20 04:46	11/12/20 22:36	1
10:2 FTS	<1.9		1.9	0.62	ng/L		11/12/20 04:46	11/12/20 22:36	1
DONA	<1.9		1.9	0.37	ng/L		11/12/20 04:46	11/12/20 22:36	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 04:46	11/12/20 22:36	1
F-53B Major	<1.9		1.9	0.22	ng/L		11/12/20 04:46	11/12/20 22:36	1
F-53B Minor	<1.9		1.9	0.30	ng/L		11/12/20 04:46	11/12/20 22:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:36*	*1*
13C5 PFPeA	*92*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:36*	*1*
13C2 PFHxA	*97*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:36*	*1*
13C4 PFHpA	*97*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:36*	*1*
13C5 PFNA	*94*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:36*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L03 (11042020)

Date Collected: 11/04/20 11:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	91		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C2 PFUnA	92		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C2 PFDoA	86		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C2 PFTeDA	77		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C2 PFHxDA	73		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C3 PFBS	93		25 - 150	11/12/20 04:46	11/12/20 22:36	1
18O2 PFHxS	102		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C4 PFOS	99		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C8 FOSA	96		25 - 150	11/12/20 04:46	11/12/20 22:36	1
d3-NMeFOSAA	72		25 - 150	11/12/20 04:46	11/12/20 22:36	1
d5-NEtFOSAA	78		25 - 150	11/12/20 04:46	11/12/20 22:36	1
d-N-MeFOSA-M	55		20 - 150	11/12/20 04:46	11/12/20 22:36	1
d-N-EtFOSA-M	45		20 - 150	11/12/20 04:46	11/12/20 22:36	1
d7-N-MeFOSE-M	32		10 - 120	11/12/20 04:46	11/12/20 22:36	1
d9-N-EtFOSE-M	32		10 - 120	11/12/20 04:46	11/12/20 22:36	1
M2-4:2 FTS	77		25 - 150	11/12/20 04:46	11/12/20 22:36	1
M2-6:2 FTS	64		25 - 150	11/12/20 04:46	11/12/20 22:36	1
M2-8:2 FTS	67		25 - 150	11/12/20 04:46	11/12/20 22:36	1
13C3 HFPO-DA	95		25 - 150	11/12/20 04:46	11/12/20 22:36	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	390		19	7.9	ng/L		11/12/20 04:46	11/13/20 13:33	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	92		25 - 150	11/12/20 04:46	11/13/20 13:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.0	J	5.0	1.9	mg/L			11/09/20 17:42	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L04 (11042020)

Date Collected: 11/04/20 11:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**39**		4.6	2.2	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoropentanoic acid (PFPeA)	**94**		1.9	0.46	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorohexanoic acid (PFHxA)	**86**		1.9	0.54	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoroheptanoic acid (PFHpA)	**28**		1.9	0.23	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorooctanoic acid (PFOA)	**370**		1.9	0.79	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorononanoic acid (PFNA)	**11**		1.9	0.25	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorodecanoic acid (PFDA)	**0.54**	**J**	1.9	0.29	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.83	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.9	0.19	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoropentanesulfonic acid (PFPeS)	**0.72**	**J**	1.9	0.28	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorohexanesulfonic acid (PFHxS)	**8.6**		1.9	0.53	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.31**	**J**	1.9	0.18	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorooctanesulfonic acid (PFOS)	**16**		1.9	0.50	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		11/12/20 04:46	11/12/20 22:45	1
Perfluorooctanesulfonamide (FOSA)	**1.1**	**J**	1.9	0.91	ng/L		11/12/20 04:46	11/12/20 22:45	1
NEtFOSA	<1.9		1.9	0.81	ng/L		11/12/20 04:46	11/12/20 22:45	1
NMeFOSA	<1.9		1.9	0.40	ng/L		11/12/20 04:46	11/12/20 22:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 04:46	11/12/20 22:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 04:46	11/12/20 22:45	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 04:46	11/12/20 22:45	1
NEtFOSE	<1.9		1.9	0.79	ng/L		11/12/20 04:46	11/12/20 22:45	1
4:2 FTS	**5.2**		1.9	0.22	ng/L		11/12/20 04:46	11/12/20 22:45	1
6:2 FTS	**230**		4.6	2.3	ng/L		11/12/20 04:46	11/12/20 22:45	1
8:2 FTS	**10**		1.9	0.43	ng/L		11/12/20 04:46	11/12/20 22:45	1
10:2 FTS	<1.9		1.9	0.62	ng/L		11/12/20 04:46	11/12/20 22:45	1
DONA	<1.9		1.9	0.37	ng/L		11/12/20 04:46	11/12/20 22:45	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 04:46	11/12/20 22:45	1
F-53B Major	<1.9		1.9	0.22	ng/L		11/12/20 04:46	11/12/20 22:45	1
F-53B Minor	<1.9		1.9	0.30	ng/L		11/12/20 04:46	11/12/20 22:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:45*	*1*
13C5 PFPeA	*88*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:45*	*1*
13C2 PFHxA	*93*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:45*	*1*
13C4 PFHpA	*93*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:45*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L04 (11042020)

Date Collected: 11/04/20 11:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	92		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C5 PFNA	93		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C2 PFDA	93		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C2 PFUnA	92		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C2 PFDoA	81		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C2 PFTeDA	84		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C2 PFHxDA	76		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C3 PFBS	93		25 - 150	11/12/20 04:46	11/12/20 22:45	1
18O2 PFHxS	97		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C4 PFOS	100		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C8 FOSA	95		25 - 150	11/12/20 04:46	11/12/20 22:45	1
d3-NMeFOSAA	67		25 - 150	11/12/20 04:46	11/12/20 22:45	1
d5-NEtFOSAA	73		25 - 150	11/12/20 04:46	11/12/20 22:45	1
d-N-MeFOSA-M	53		20 - 150	11/12/20 04:46	11/12/20 22:45	1
d-N-EtFOSA-M	44		20 - 150	11/12/20 04:46	11/12/20 22:45	1
d7-N-MeFOSE-M	31		10 - 120	11/12/20 04:46	11/12/20 22:45	1
d9-N-EtFOSE-M	34		10 - 120	11/12/20 04:46	11/12/20 22:45	1
M2-4:2 FTS	76		25 - 150	11/12/20 04:46	11/12/20 22:45	1
M2-6:2 FTS	63		25 - 150	11/12/20 04:46	11/12/20 22:45	1
M2-8:2 FTS	70		25 - 150	11/12/20 04:46	11/12/20 22:45	1
13C3 HFPO-DA	92		25 - 150	11/12/20 04:46	11/12/20 22:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5	J	5.0	1.9	mg/L			11/09/20 17:44	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L05 (11042020)
Date Collected: 11/04/20 11:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**39**		4.5	2.2	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoropentanoic acid (PFPeA)	**93**		1.8	0.45	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorohexanoic acid (PFHxA)	**89**		1.8	0.53	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoroheptanoic acid (PFHpA)	**29**		1.8	0.23	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorononanoic acid (PFNA)	**14**		1.8	0.25	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorodecanoic acid (PFDA)	**0.62**	**J**	1.8	0.28	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoropentanesulfonic acid (PFPeS)	**0.81**	**J**	1.8	0.27	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorohexanesulfonic acid (PFHxS)	**9.3**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.40**	**J**	1.8	0.17	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorooctanesulfonic acid (PFOS)	**21**		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 22:54	1
Perfluorooctanesulfonamide (FOSA)	**1.7**	**J**	1.8	0.89	ng/L		11/12/20 04:46	11/12/20 22:54	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/12/20 22:54	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 22:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 22:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/12/20 22:54	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 22:54	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/12/20 22:54	1
4:2 FTS	**5.7**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 22:54	1
6:2 FTS	**240**		4.5	2.3	ng/L		11/12/20 04:46	11/12/20 22:54	1
8:2 FTS	**14**		1.8	0.42	ng/L		11/12/20 04:46	11/12/20 22:54	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 04:46	11/12/20 22:54	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 22:54	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/12/20 22:54	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 22:54	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 22:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:54*	*1*
13C5 PFPeA	*86*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:54*	*1*
13C2 PFHxA	*91*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:54*	*1*
13C4 PFHpA	*93*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:54*	*1*
13C5 PFNA	*95*		*25 - 150*	*11/12/20 04:46*	*11/12/20 22:54*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L05 (11042020)

Date Collected: 11/04/20 11:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	91		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C2 PFUnA	88		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C2 PFDoA	80		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C2 PFTeDA	80		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C2 PFHxDA	81		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C3 PFBS	93		25 - 150	11/12/20 04:46	11/12/20 22:54	1
18O2 PFHxS	100		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C4 PFOS	97		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C8 FOSA	94		25 - 150	11/12/20 04:46	11/12/20 22:54	1
d3-NMeFOSAA	71		25 - 150	11/12/20 04:46	11/12/20 22:54	1
d5-NEtFOSAA	76		25 - 150	11/12/20 04:46	11/12/20 22:54	1
d-N-MeFOSA-M	55		20 - 150	11/12/20 04:46	11/12/20 22:54	1
d-N-EtFOSA-M	48		20 - 150	11/12/20 04:46	11/12/20 22:54	1
d7-N-MeFOSE-M	36		10 - 120	11/12/20 04:46	11/12/20 22:54	1
d9-N-EtFOSE-M	38		10 - 120	11/12/20 04:46	11/12/20 22:54	1
M2-4:2 FTS	77		25 - 150	11/12/20 04:46	11/12/20 22:54	1
M2-6:2 FTS	68		25 - 150	11/12/20 04:46	11/12/20 22:54	1
M2-8:2 FTS	68		25 - 150	11/12/20 04:46	11/12/20 22:54	1
13C3 HFPO-DA	90		25 - 150	11/12/20 04:46	11/12/20 22:54	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	400		18	7.7	ng/L		11/12/20 04:46	11/13/20 13:52	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	89		25 - 150	11/12/20 04:46	11/13/20 13:52	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	21		5.0	1.9	mg/L			11/09/20 17:45	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L06 (11042020)

Date Collected: 11/04/20 12:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**80**		4.5	2.2	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoropentanoic acid (PFPeA)	**250**		1.8	0.44	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorohexanoic acid (PFHxA)	**310**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoroheptanoic acid (PFHpA)	**120**		1.8	0.23	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorononanoic acid (PFNA)	**72**		1.8	0.24	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorodecanoic acid (PFDA)	**4.2**		1.8	0.28	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoroundecanoic acid (PFUnA)	**1.4**	**J**	1.8	0.99	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoropentanesulfonic acid (PFPeS)	**4.9**		1.8	0.27	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorohexanesulfonic acid (PFHxS)	**60**		1.8	0.51	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.2**		1.8	0.17	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorooctanesulfonic acid (PFOS)	**150**		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 23:03	1
Perfluorooctanesulfonamide (FOSA)	**23**		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 23:03	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/12/20 23:03	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 23:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 23:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.6**		4.5	1.2	ng/L		11/12/20 04:46	11/12/20 23:03	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:03	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/12/20 23:03	1
4:2 FTS	**26**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:03	1
8:2 FTS	**140**		1.8	0.42	ng/L		11/12/20 04:46	11/12/20 23:03	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/12/20 23:03	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 23:03	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/12/20 23:03	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:03	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*67*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:03*	*1*
13C5 PFPeA	*90*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:03*	*1*
13C2 PFHxA	*102*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:03*	*1*
13C4 PFHpA	*110*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:03*	*1*
13C5 PFNA	*113*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:03*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L06 (11042020)

Date Collected: 11/04/20 12:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	112		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C2 PFUnA	111		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C2 PFDoA	98		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C2 PFTeDA	88		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C2 PFHxDA	77		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C3 PFBS	102		25 - 150	11/12/20 04:46	11/12/20 23:03	1
18O2 PFHxS	117		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C4 PFOS	114		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C8 FOSA	111		25 - 150	11/12/20 04:46	11/12/20 23:03	1
d3-NMeFOSAA	87		25 - 150	11/12/20 04:46	11/12/20 23:03	1
d5-NEtFOSAA	89		25 - 150	11/12/20 04:46	11/12/20 23:03	1
d-N-MeFOSA-M	75		20 - 150	11/12/20 04:46	11/12/20 23:03	1
d-N-EtFOSA-M	64		20 - 150	11/12/20 04:46	11/12/20 23:03	1
d7-N-MeFOSE-M	53		10 - 120	11/12/20 04:46	11/12/20 23:03	1
d9-N-EtFOSE-M	47		10 - 120	11/12/20 04:46	11/12/20 23:03	1
M2-4:2 FTS	122		25 - 150	11/12/20 04:46	11/12/20 23:03	1
M2-8:2 FTS	98		25 - 150	11/12/20 04:46	11/12/20 23:03	1
13C3 HFPO-DA	104		25 - 150	11/12/20 04:46	11/12/20 23:03	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2000		18	7.7	ng/L		11/12/20 04:46	11/13/20 14:01	10
6:2 FTS	1500		45	23	ng/L		11/12/20 04:46	11/13/20 14:01	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	89		25 - 150	11/12/20 04:46	11/13/20 14:01	10
M2-6:2 FTS	92		25 - 150	11/12/20 04:46	11/13/20 14:01	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	26		5.0	1.9	mg/L			11/09/20 17:46	1

Client Sample ID: SW-L07 (11042020)

Date Collected: 11/04/20 12:35
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**83**		4.5	2.1	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoropentanoic acid (PFPeA)	**250**		1.8	0.44	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorohexanoic acid (PFHxA)	**300**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoroheptanoic acid (PFHpA)	**120**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorononanoic acid (PFNA)	**79**		1.8	0.24	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorodecanoic acid (PFDA)	**4.2**		1.8	0.28	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoroundecanoic acid (PFUnA)	**1.7**	**J**	1.8	0.98	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoropentanesulfonic acid (PFPeS)	**4.7**		1.8	0.27	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorohexanesulfonic acid (PFHxS)	**59**		1.8	0.51	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.5**		1.8	0.17	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.48	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/12/20 23:30	1
Perfluorooctanesulfonamide (FOSA)	**26**		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 23:30	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/12/20 23:30	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 23:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 23:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.8**		4.5	1.2	ng/L		11/12/20 04:46	11/12/20 23:30	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:30	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 04:46	11/12/20 23:30	1
4:2 FTS	**28**		1.8	0.21	ng/L		11/12/20 04:46	11/12/20 23:30	1
8:2 FTS	**150**		1.8	0.41	ng/L		11/12/20 04:46	11/12/20 23:30	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/12/20 23:30	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 23:30	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:30	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 04:46	11/12/20 23:30	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*63*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:30*	*1*
13C5 PFPeA	*85*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:30*	*1*
13C2 PFHxA	*97*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:30*	*1*
13C4 PFHpA	*107*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:30*	*1*
13C5 PFNA	*103*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:30*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L07 (11042020)

Date Collected: 11/04/20 12:35
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	104		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C2 PFUnA	101		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C2 PFDoA	97		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C2 PFTeDA	84		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C2 PFHxDA	79		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C3 PFBS	99		25 - 150	11/12/20 04:46	11/12/20 23:30	1
18O2 PFHxS	108		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C4 PFOS	106		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C8 FOSA	102		25 - 150	11/12/20 04:46	11/12/20 23:30	1
d3-NMeFOSAA	83		25 - 150	11/12/20 04:46	11/12/20 23:30	1
d5-NEtFOSAA	88		25 - 150	11/12/20 04:46	11/12/20 23:30	1
d-N-MeFOSA-M	69		20 - 150	11/12/20 04:46	11/12/20 23:30	1
d-N-EtFOSA-M	57		20 - 150	11/12/20 04:46	11/12/20 23:30	1
d7-N-MeFOSE-M	43		10 - 120	11/12/20 04:46	11/12/20 23:30	1
d9-N-EtFOSE-M	44		10 - 120	11/12/20 04:46	11/12/20 23:30	1
M2-4:2 FTS	111		25 - 150	11/12/20 04:46	11/12/20 23:30	1
M2-8:2 FTS	91		25 - 150	11/12/20 04:46	11/12/20 23:30	1
13C3 HFPO-DA	99		25 - 150	11/12/20 04:46	11/12/20 23:30	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1900		18	7.6	ng/L		11/12/20 04:46	11/13/20 14:10	10
6:2 FTS	1600		45	22	ng/L		11/12/20 04:46	11/13/20 14:10	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	86		25 - 150	11/12/20 04:46	11/13/20 14:10	10
M2-6:2 FTS	83		25 - 150	11/12/20 04:46	11/13/20 14:10	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	11		5.0	1.9	mg/L			11/09/20 17:47	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L08 (11042020)

Date Collected: 11/04/20 12:40
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**82**		4.5	2.2	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoropentanoic acid (PFPeA)	**260**		1.8	0.45	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorohexanoic acid (PFHxA)	**300**		1.8	0.53	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoroheptanoic acid (PFHpA)	**130**		1.8	0.23	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorononanoic acid (PFNA)	**73**		1.8	0.25	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorodecanoic acid (PFDA)	**4.2**		1.8	0.28	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	**J**	1.8	1.0	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorobutanesulfonic acid (PFBS)	**5.5**		1.8	0.18	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoropentanesulfonic acid (PFPeS)	**5.2**		1.8	0.27	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorohexanesulfonic acid (PFHxS)	**61**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.4**		1.8	0.17	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 23:39	1
Perfluorooctanesulfonamide (FOSA)	**23**		1.8	0.89	ng/L		11/12/20 04:46	11/12/20 23:39	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/12/20 23:39	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 23:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 23:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.4**	**J**	4.5	1.2	ng/L		11/12/20 04:46	11/12/20 23:39	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:39	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/12/20 23:39	1
4:2 FTS	**26**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:39	1
8:2 FTS	**160**		1.8	0.42	ng/L		11/12/20 04:46	11/12/20 23:39	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 04:46	11/12/20 23:39	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 23:39	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/12/20 23:39	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:39	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*63*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C5 PFPeA	*86*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C2 PFHxA	*100*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C4 PFHpA	*108*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C5 PFNA	*110*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L08 (11042020)

Date Collected: 11/04/20 12:40
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*108*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C2 PFUnA	*99*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C2 PFDoA	*102*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C2 PFHxDA	*84*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C3 PFBS	*101*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
18O2 PFHxS	*112*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C4 PFOS	*110*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C8 FOSA	*107*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d3-NMeFOSAA	*84*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d-N-MeFOSA-M	*66*		*20 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d-N-EtFOSA-M	*58*		*20 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d7-N-MeFOSE-M	*52*		*10 - 120*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
d9-N-EtFOSE-M	*52*		*10 - 120*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
M2-4:2 FTS	*116*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
M2-8:2 FTS	*94*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*
13C3 HFPO-DA	*102*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:39*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**2000**		18	7.7	ng/L		11/12/20 04:46	11/13/20 14:19	10
6:2 FTS	**1600**		45	23	ng/L		11/12/20 04:46	11/13/20 14:19	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*86*		*25 - 150*	*11/12/20 04:46*	*11/13/20 14:19*	*10*
M2-6:2 FTS	*81*		*25 - 150*	*11/12/20 04:46*	*11/13/20 14:19*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**20**		5.0	1.9	mg/L			11/09/20 17:48	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L09 (11042020)

Date Collected: 11/04/20 12:45
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**84**		4.6	2.2	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoropentanoic acid (PFPeA)	**250**		1.8	0.45	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorohexanoic acid (PFHxA)	**310**		1.8	0.53	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoroheptanoic acid (PFHpA)	**130**		1.8	0.23	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorononanoic acid (PFNA)	**75**		1.8	0.25	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorodecanoic acid (PFDA)	**4.3**		1.8	0.28	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	**J**	1.8	1.0	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorobutanesulfonic acid (PFBS)	**5.7**		1.8	0.18	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoropentanesulfonic acid (PFPeS)	**5.2**		1.8	0.27	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorohexanesulfonic acid (PFHxS)	**62**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.3**		1.8	0.17	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		11/12/20 04:46	11/12/20 23:48	1
Perfluorooctanesulfonamide (FOSA)	**25**		1.8	0.89	ng/L		11/12/20 04:46	11/12/20 23:48	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/12/20 23:48	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 23:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 04:46	11/12/20 23:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.1**	**J**	4.6	1.2	ng/L		11/12/20 04:46	11/12/20 23:48	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 04:46	11/12/20 23:48	1
NEtFOSE	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/12/20 23:48	1
4:2 FTS	**29**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:48	1
8:2 FTS	**150**		1.8	0.42	ng/L		11/12/20 04:46	11/12/20 23:48	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 04:46	11/12/20 23:48	1
DONA	<1.8		1.8	0.37	ng/L		11/12/20 04:46	11/12/20 23:48	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 04:46	11/12/20 23:48	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:48	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:48*	*1*
13C5 PFPeA	*99*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:48*	*1*
13C2 PFHxA	*113*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:48*	*1*
13C4 PFHpA	*122*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:48*	*1*
13C5 PFNA	*121*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:48*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L09 (11042020)

Date Collected: 11/04/20 12:45
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	122		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C2 PFUnA	119		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C2 PFDoA	120		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C2 PFTeDA	102		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C2 PFHxDA	102		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C3 PFBS	111		25 - 150	11/12/20 04:46	11/12/20 23:48	1
18O2 PFHxS	122		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C4 PFOS	125		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C8 FOSA	121		25 - 150	11/12/20 04:46	11/12/20 23:48	1
d3-NMeFOSAA	92		25 - 150	11/12/20 04:46	11/12/20 23:48	1
d5-NEtFOSAA	105		25 - 150	11/12/20 04:46	11/12/20 23:48	1
d-N-MeFOSA-M	74		20 - 150	11/12/20 04:46	11/12/20 23:48	1
d-N-EtFOSA-M	60		20 - 150	11/12/20 04:46	11/12/20 23:48	1
d7-N-MeFOSE-M	55		10 - 120	11/12/20 04:46	11/12/20 23:48	1
d9-N-EtFOSE-M	45		10 - 120	11/12/20 04:46	11/12/20 23:48	1
M2-4:2 FTS	125		25 - 150	11/12/20 04:46	11/12/20 23:48	1
M2-8:2 FTS	106		25 - 150	11/12/20 04:46	11/12/20 23:48	1
13C3 HFPO-DA	115		25 - 150	11/12/20 04:46	11/12/20 23:48	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2000		18	7.8	ng/L		11/12/20 04:46	11/13/20 14:37	10
6:2 FTS	1700		46	23	ng/L		11/12/20 04:46	11/13/20 14:37	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	96		25 - 150	11/12/20 04:46	11/13/20 14:37	10
M2-6:2 FTS	93		25 - 150	11/12/20 04:46	11/13/20 14:37	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	8.5		5.0	1.9	mg/L			11/09/20 17:48	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L10 (11042020)

Date Collected: 11/04/20 12:50
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**83**		4.5	2.1	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoropentanoic acid (PFPeA)	**250**		1.8	0.44	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorohexanoic acid (PFHxA)	**300**		1.8	0.52	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoroheptanoic acid (PFHpA)	**130**		1.8	0.22	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorononanoic acid (PFNA)	**76**		1.8	0.24	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorodecanoic acid (PFDA)	**4.2**		1.8	0.28	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		1.8	0.99	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoropentanesulfonic acid (PFPeS)	**5.0**		1.8	0.27	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorohexanesulfonic acid (PFHxS)	**61**		1.8	0.51	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.5**		1.8	0.17	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorooctanesulfonic acid (PFOS)	**170**		1.8	0.48	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/12/20 23:58	1
Perfluorooctanesulfonamide (FOSA)	**26**		1.8	0.88	ng/L		11/12/20 04:46	11/12/20 23:58	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/12/20 23:58	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/12/20 23:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/12/20 23:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.7**		4.5	1.2	ng/L		11/12/20 04:46	11/12/20 23:58	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:58	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 04:46	11/12/20 23:58	1
4:2 FTS	**30**		1.8	0.21	ng/L		11/12/20 04:46	11/12/20 23:58	1
8:2 FTS	**160**		1.8	0.41	ng/L		11/12/20 04:46	11/12/20 23:58	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/12/20 23:58	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/12/20 23:58	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/12/20 23:58	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 04:46	11/12/20 23:58	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/12/20 23:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C5 PFPeA	*84*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C2 PFHxA	*97*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C4 PFHpA	*101*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C5 PFNA	*105*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*

Client Sample ID: SW-L10 (11042020)

Lab Sample ID: 500-190761-10

Date Collected: 11/04/20 12:50

Matrix: Water

Date Received: 11/07/20 09:55

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*103*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C2 PFUnA	*99*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C2 PFDoA	*93*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C2 PFTeDA	*92*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C2 PFHxDA	*71*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C3 PFBS	*101*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
18O2 PFHxS	*113*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C4 PFOS	*110*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C8 FOSA	*107*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d-N-MeFOSA-M	*62*		*20 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d-N-EtFOSA-M	*52*		*20 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d7-N-MeFOSE-M	*37*		*10 - 120*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
d9-N-EtFOSE-M	*35*		*10 - 120*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
M2-4:2 FTS	*105*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
M2-8:2 FTS	*96*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*
13C3 HFPO-DA	*100*		*25 - 150*	*11/12/20 04:46*	*11/12/20 23:58*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**2000**		18	7.6	ng/L		11/12/20 04:46	11/13/20 14:46	10
6:2 FTS	**1600**		45	22	ng/L		11/12/20 04:46	11/13/20 14:46	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*82*		*25 - 150*	*11/12/20 04:46*	*11/13/20 14:46*	*10*
M2-6:2 FTS	*78*		*25 - 150*	*11/12/20 04:46*	*11/13/20 14:46*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**7.5**		5.0	1.9	mg/L			11/09/20 17:49	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: DUP-01 (11042020)

Date Collected: 11/04/20 00:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**38**		4.5	2.2	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoropentanoic acid (PFPeA)	**89**		1.8	0.44	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorohexanoic acid (PFHxA)	**83**		1.8	0.52	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoroheptanoic acid (PFHpA)	**28**		1.8	0.23	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorononanoic acid (PFNA)	**11**		1.8	0.24	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorodecanoic acid (PFDA)	**0.46**	**J**	1.8	0.28	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoropentanesulfonic acid (PFPeS)	**0.68**	**J**	1.8	0.27	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorohexanesulfonic acid (PFHxS)	**8.2**		1.8	0.51	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.35**	**J**	1.8	0.17	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorooctanesulfonic acid (PFOS)	**17**		1.8	0.49	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/13/20 00:07	1
Perfluorooctanesulfonamide (FOSA)	**1.5**	**J**	1.8	0.88	ng/L		11/12/20 04:46	11/13/20 00:07	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/13/20 00:07	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/13/20 00:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/13/20 00:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/13/20 00:07	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/13/20 00:07	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/13/20 00:07	1
4:2 FTS	**5.3**		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:07	1
6:2 FTS	**220**		4.5	2.3	ng/L		11/12/20 04:46	11/13/20 00:07	1
8:2 FTS	**11**		1.8	0.41	ng/L		11/12/20 04:46	11/13/20 00:07	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/13/20 00:07	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/13/20 00:07	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/13/20 00:07	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:07	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:07*	*1*
13C5 PFPeA	*88*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:07*	*1*
13C2 PFHxA	*97*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:07*	*1*
13C4 PFHpA	*98*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:07*	*1*
13C5 PFNA	*96*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:07*	*1*

Client Sample ID: DUP-01 (11042020)

Lab Sample ID: 500-190761-11

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/07/20 09:55

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	94		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C2 PFUnA	89		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C2 PFDoA	86		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C2 PFTeDA	77		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C2 PFHxDA	72		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C3 PFBS	95		25 - 150	11/12/20 04:46	11/13/20 00:07	1
18O2 PFHxS	102		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C4 PFOS	97		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C8 FOSA	96		25 - 150	11/12/20 04:46	11/13/20 00:07	1
d3-NMeFOSAA	74		25 - 150	11/12/20 04:46	11/13/20 00:07	1
d5-NEtFOSAA	77		25 - 150	11/12/20 04:46	11/13/20 00:07	1
d-N-MeFOSA-M	55		20 - 150	11/12/20 04:46	11/13/20 00:07	1
d-N-EtFOSA-M	45		20 - 150	11/12/20 04:46	11/13/20 00:07	1
d7-N-MeFOSE-M	33		10 - 120	11/12/20 04:46	11/13/20 00:07	1
d9-N-EtFOSE-M	39		10 - 120	11/12/20 04:46	11/13/20 00:07	1
M2-4:2 FTS	82		25 - 150	11/12/20 04:46	11/13/20 00:07	1
M2-6:2 FTS	64		25 - 150	11/12/20 04:46	11/13/20 00:07	1
M2-8:2 FTS	69		25 - 150	11/12/20 04:46	11/13/20 00:07	1
13C3 HFPO-DA	92		25 - 150	11/12/20 04:46	11/13/20 00:07	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	390		18	7.7	ng/L		11/12/20 04:46	11/13/20 14:56	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	93		25 - 150	11/12/20 04:46	11/13/20 14:56	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5	J	5.0	1.9	mg/L			11/09/20 17:50	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: Field Blank-11-04-2020

Date Collected: 11/04/20 16:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.5		4.5	2.2	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoropentanoic acid (PFPeA)	<1.8		1.8	0.45	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorohexanoic acid (PFHxA)	<1.8		1.8	0.53	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoroheptanoic acid (PFHpA)	<1.8		1.8	0.23	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorooctanoic acid (PFOA)	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorononanoic acid (PFNA)	<1.8		1.8	0.25	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorodecanoic acid (PFDA)	<1.8		1.8	0.28	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorobutanesulfonic acid (PFBS)	<1.8		1.8	0.18	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoropentanesulfonic acid (PFPeS)	<1.8		1.8	0.27	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorohexanesulfonic acid (PFHxS)	<1.8		1.8	0.52	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.8		1.8	0.17	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorooctanesulfonic acid (PFOS)	<1.8		1.8	0.49	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/13/20 00:16	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.89	ng/L		11/12/20 04:46	11/13/20 00:16	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/13/20 00:16	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/13/20 00:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/13/20 00:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/13/20 00:16	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/13/20 00:16	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/13/20 00:16	1
4:2 FTS	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:16	1
6:2 FTS	<4.5		4.5	2.3	ng/L		11/12/20 04:46	11/13/20 00:16	1
8:2 FTS	<1.8		1.8	0.42	ng/L		11/12/20 04:46	11/13/20 00:16	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 04:46	11/13/20 00:16	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/13/20 00:16	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/13/20 00:16	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:16	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C5 PFPeA	*91*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C2 PFHxA	*88*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C4 PFHpA	*91*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C4 PFOA	*89*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C5 PFNA	*87*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*
13C2 PFDA	*89*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:16*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: Field Blank-11-04-2020

Date Collected: 11/04/20 16:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	86		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C2 PFDoA	89		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C2 PFTeDA	89		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C2 PFHxDA	98		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C3 PFBS	90		25 - 150	11/12/20 04:46	11/13/20 00:16	1
18O2 PFHxS	92		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C4 PFOS	91		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C8 FOSA	86		25 - 150	11/12/20 04:46	11/13/20 00:16	1
d3-NMeFOSAA	72		25 - 150	11/12/20 04:46	11/13/20 00:16	1
d5-NEtFOSAA	75		25 - 150	11/12/20 04:46	11/13/20 00:16	1
d-N-MeFOSA-M	74		20 - 150	11/12/20 04:46	11/13/20 00:16	1
d-N-EtFOSA-M	59		20 - 150	11/12/20 04:46	11/13/20 00:16	1
d7-N-MeFOSE-M	37		10 - 120	11/12/20 04:46	11/13/20 00:16	1
d9-N-EtFOSE-M	31		10 - 120	11/12/20 04:46	11/13/20 00:16	1
M2-4:2 FTS	74		25 - 150	11/12/20 04:46	11/13/20 00:16	1
M2-6:2 FTS	65		25 - 150	11/12/20 04:46	11/13/20 00:16	1
M2-8:2 FTS	65		25 - 150	11/12/20 04:46	11/13/20 00:16	1
13C3 HFPO-DA	85		25 - 150	11/12/20 04:46	11/13/20 00:16	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-39

Date Collected: 11/04/20 11:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**38**		4.5	2.2	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoropentanoic acid (PFPeA)	**89**		1.8	0.44	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorohexanoic acid (PFHxA)	**83**		1.8	0.52	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoroheptanoic acid (PFHpA)	**28**		1.8	0.23	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorononanoic acid (PFNA)	**11**		1.8	0.24	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorodecanoic acid (PFDA)	**0.48**	**J**	1.8	0.28	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoropentanesulfonic acid (PFPeS)	**0.69**	**J**	1.8	0.27	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorohexanesulfonic acid (PFHxS)	**8.0**		1.8	0.52	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.31**	**J**	1.8	0.17	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorooctanesulfonic acid (PFOS)	**16**		1.8	0.49	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/13/20 00:25	1
Perfluorooctanesulfonamide (FOSA)	**1.6**	**J**	1.8	0.89	ng/L		11/12/20 04:46	11/13/20 00:25	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 04:46	11/13/20 00:25	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/13/20 00:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/13/20 00:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/13/20 00:25	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/13/20 00:25	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 04:46	11/13/20 00:25	1
4:2 FTS	**4.7**		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:25	1
6:2 FTS	**210**		4.5	2.3	ng/L		11/12/20 04:46	11/13/20 00:25	1
8:2 FTS	**11**		1.8	0.42	ng/L		11/12/20 04:46	11/13/20 00:25	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 04:46	11/13/20 00:25	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/13/20 00:25	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 04:46	11/13/20 00:25	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:25	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:25*	*1*
13C5 PFPeA	*87*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:25*	*1*
13C2 PFHxA	*95*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:25*	*1*
13C4 PFHpA	*97*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:25*	*1*
13C5 PFNA	*96*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:25*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-39

Date Collected: 11/04/20 11:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	95		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C2 PFUnA	88		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C2 PFDoA	86		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C2 PFTeDA	76		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C2 PFHxDA	89		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C3 PFBS	93		25 - 150	11/12/20 04:46	11/13/20 00:25	1
18O2 PFHxS	97		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C4 PFOS	99		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C8 FOSA	94		25 - 150	11/12/20 04:46	11/13/20 00:25	1
d3-NMeFOSAA	74		25 - 150	11/12/20 04:46	11/13/20 00:25	1
d5-NEtFOSAA	78		25 - 150	11/12/20 04:46	11/13/20 00:25	1
d-N-MeFOSA-M	57		20 - 150	11/12/20 04:46	11/13/20 00:25	1
d-N-EtFOSA-M	46		20 - 150	11/12/20 04:46	11/13/20 00:25	1
d7-N-MeFOSE-M	41		10 - 120	11/12/20 04:46	11/13/20 00:25	1
d9-N-EtFOSE-M	42		10 - 120	11/12/20 04:46	11/13/20 00:25	1
M2-4:2 FTS	86		25 - 150	11/12/20 04:46	11/13/20 00:25	1
M2-6:2 FTS	68		25 - 150	11/12/20 04:46	11/13/20 00:25	1
M2-8:2 FTS	69		25 - 150	11/12/20 04:46	11/13/20 00:25	1
13C3 HFPO-DA	90		25 - 150	11/12/20 04:46	11/13/20 00:25	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	370		18	7.7	ng/L		11/12/20 04:46	11/13/20 15:05	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	91		25 - 150	11/12/20 04:46	11/13/20 15:05	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5	J	5.0	1.9	mg/L			11/09/20 17:52	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-21
Date Collected: 11/04/20 15:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-14
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		4.5	2.2	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoropentanoic acid (PFPeA)	**24**		1.8	0.44	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorohexanoic acid (PFHxA)	**15**		1.8	0.52	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoroheptanoic acid (PFHpA)	**9.2**		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorooctanoic acid (PFOA)	**8.0**		1.8	0.76	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorononanoic acid (PFNA)	**1.2**	**J**	1.8	0.24	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorodecanoic acid (PFDA)	<1.8		1.8	0.28	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.8	0.18	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoropentanesulfonic acid (PFPeS)	<1.8		1.8	0.27	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.8	0.51	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.8		1.8	0.17	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.8	0.48	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 04:46	11/13/20 00:34	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.88	ng/L		11/12/20 04:46	11/13/20 00:34	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 04:46	11/13/20 00:34	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 04:46	11/13/20 00:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 04:46	11/13/20 00:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 04:46	11/13/20 00:34	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/13/20 00:34	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 04:46	11/13/20 00:34	1
4:2 FTS	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:34	1
6:2 FTS	**7.8**		4.5	2.2	ng/L		11/12/20 04:46	11/13/20 00:34	1
8:2 FTS	<1.8		1.8	0.41	ng/L		11/12/20 04:46	11/13/20 00:34	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 04:46	11/13/20 00:34	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 04:46	11/13/20 00:34	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 04:46	11/13/20 00:34	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 04:46	11/13/20 00:34	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 04:46	11/13/20 00:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:34*	*1*
13C5 PFPeA	*78*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:34*	*1*
13C2 PFHxA	*92*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:34*	*1*
13C4 PFHpA	*95*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:34*	*1*
13C4 PFOA	*99*		*25 - 150*	*11/12/20 04:46*	*11/13/20 00:34*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-21

Date Collected: 11/04/20 15:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190761-14

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	100		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C2 PFDA	102		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C2 PFUnA	97		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C2 PFDoA	91		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C2 PFTeDA	84		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C2 PFHxDA	80		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C3 PFBS	89		25 - 150	11/12/20 04:46	11/13/20 00:34	1
18O2 PFHxS	99		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C4 PFOS	102		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C8 FOSA	97		25 - 150	11/12/20 04:46	11/13/20 00:34	1
d3-NMeFOSAA	78		25 - 150	11/12/20 04:46	11/13/20 00:34	1
d5-NEtFOSAA	83		25 - 150	11/12/20 04:46	11/13/20 00:34	1
d-N-MeFOSA-M	57		20 - 150	11/12/20 04:46	11/13/20 00:34	1
d-N-EtFOSA-M	48		20 - 150	11/12/20 04:46	11/13/20 00:34	1
d7-N-MeFOSE-M	37		10 - 120	11/12/20 04:46	11/13/20 00:34	1
d9-N-EtFOSE-M	37		10 - 120	11/12/20 04:46	11/13/20 00:34	1
M2-4:2 FTS	110		25 - 150	11/12/20 04:46	11/13/20 00:34	1
M2-6:2 FTS	108		25 - 150	11/12/20 04:46	11/13/20 00:34	1
M2-8:2 FTS	97		25 - 150	11/12/20 04:46	11/13/20 00:34	1
13C3 HFPO-DA	89		25 - 150	11/12/20 04:46	11/13/20 00:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.5	J	5.0	1.9	mg/L			11/09/20 17:52	1

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-430871/1-A
Matrix: Water
Analysis Batch: 431252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		11/12/20 04:46	11/12/20 21:41	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		11/12/20 04:46	11/12/20 21:41	1
NEtFOSA	<2.0		2.0	0.87	ng/L		11/12/20 04:46	11/12/20 21:41	1
NMeFOSA	<2.0		2.0	0.43	ng/L		11/12/20 04:46	11/12/20 21:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0	1.2	ng/L		11/12/20 04:46	11/12/20 21:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0	1.3	ng/L		11/12/20 04:46	11/12/20 21:41	1
NMeFOSE	<4.0		4.0	1.4	ng/L		11/12/20 04:46	11/12/20 21:41	1
NEtFOSE	<2.0		2.0	0.85	ng/L		11/12/20 04:46	11/12/20 21:41	1
4:2 FTS	<2.0		2.0	0.24	ng/L		11/12/20 04:46	11/12/20 21:41	1
6:2 FTS	<5.0		5.0	2.5	ng/L		11/12/20 04:46	11/12/20 21:41	1
8:2 FTS	<2.0		2.0	0.46	ng/L		11/12/20 04:46	11/12/20 21:41	1
10:2 FTS	<2.0		2.0	0.67	ng/L		11/12/20 04:46	11/12/20 21:41	1
DONA	<2.0		2.0	0.40	ng/L		11/12/20 04:46	11/12/20 21:41	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		11/12/20 04:46	11/12/20 21:41	1
F-53B Major	<2.0		2.0	0.24	ng/L		11/12/20 04:46	11/12/20 21:41	1
F-53B Minor	<2.0		2.0	0.32	ng/L		11/12/20 04:46	11/12/20 21:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:41*	*1*
13C5 PFPeA	*99*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:41*	*1*
13C2 PFHxA	*98*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:41*	*1*
13C4 PFHpA	*97*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:41*	*1*
13C4 PFOA	*98*		*25 - 150*	*11/12/20 04:46*	*11/12/20 21:41*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-430871/1-A
Matrix: Water
Analysis Batch: 431252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 430871

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	99		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C2 PFDA	98		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C2 PFUnA	94		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C2 PFDoA	100		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C2 PFTeDA	94		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C2 PFHxDA	96		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C3 PFBS	98		25 - 150	11/12/20 04:46	11/12/20 21:41	1
18O2 PFHxS	100		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C4 PFOS	102		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C8 FOSA	92		25 - 150	11/12/20 04:46	11/12/20 21:41	1
d3-NMeFOSAA	77		25 - 150	11/12/20 04:46	11/12/20 21:41	1
d5-NEtFOSAA	81		25 - 150	11/12/20 04:46	11/12/20 21:41	1
d-N-MeFOSA-M	72		20 - 150	11/12/20 04:46	11/12/20 21:41	1
d-N-EtFOSA-M	56		20 - 150	11/12/20 04:46	11/12/20 21:41	1
d7-N-MeFOSE-M	33		10 - 120	11/12/20 04:46	11/12/20 21:41	1
d9-N-EtFOSE-M	25		10 - 120	11/12/20 04:46	11/12/20 21:41	1
M2-4:2 FTS	76		25 - 150	11/12/20 04:46	11/12/20 21:41	1
M2-6:2 FTS	73		25 - 150	11/12/20 04:46	11/12/20 21:41	1
M2-8:2 FTS	71		25 - 150	11/12/20 04:46	11/12/20 21:41	1
13C3 HFPO-DA	97		25 - 150	11/12/20 04:46	11/12/20 21:41	1

Lab Sample ID: LCS 320-430871/2-A
Matrix: Water
Analysis Batch: 431252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	44.2		ng/L		110	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	40.5		ng/L		101	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	42.0		ng/L		105	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	43.8		ng/L		110	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	40.0		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.1		ng/L		105	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	41.1		ng/L		103	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	47.5		ng/L		119	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	44.9		ng/L		112	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	48.4		ng/L		121	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	50.8		ng/L		127	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	37.0		ng/L		93	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	40.0	46.2		ng/L		116	58 - 145
Perfluorobutanesulfonic acid (PFBS)	35.4	38.4		ng/L		109	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	42.4		ng/L		113	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.3		ng/L		97	59 - 119

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-430871/2-A
Matrix: Water
Analysis Batch: 431252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	42.7		ng/L		112	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	40.7		ng/L		110	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	42.7		ng/L		111	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	42.3		ng/L		110	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.7	45.1		ng/L		116	67 - 127
Perfluorooctanesulfonamide (FOSA)	40.0	45.9		ng/L		115	73 - 133
NMeFOSA	40.0	42.0		ng/L		105	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.4		ng/L		111	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.0		ng/L		103	76 - 136
NMeFOSE	40.0	42.0		ng/L		105	70 - 130
NEtFOSE	40.0	39.1		ng/L		98	71 - 131
4:2 FTS	37.4	39.2		ng/L		105	79 - 139
6:2 FTS	37.9	35.8		ng/L		94	59 - 175
8:2 FTS	38.3	43.4		ng/L		113	75 - 135
10:2 FTS	38.6	40.9		ng/L		106	64 - 142
DONA	37.7	41.9		ng/L		111	79 - 139
HFPO-DA (GenX)	40.0	44.0		ng/L		110	51 - 173
F-53B Major	37.3	40.7		ng/L		109	75 - 135
F-53B Minor	37.7	41.1		ng/L		109	54 - 114

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*82*		*25 - 150*
13C5 PFPeA	*81*		*25 - 150*
13C2 PFHxA	*83*		*25 - 150*
13C4 PFHpA	*82*		*25 - 150*
13C4 PFOA	*84*		*25 - 150*
13C5 PFNA	*83*		*25 - 150*
13C2 PFDA	*82*		*25 - 150*
13C2 PFUnA	*75*		*25 - 150*
13C2 PFDoA	*78*		*25 - 150*
13C2 PFTeDA	*72*		*25 - 150*
13C2 PFHxDA	*85*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*85*		*25 - 150*
13C8 FOSA	*79*		*25 - 150*
d3-NMeFOSAA	*69*		*25 - 150*
d5-NEtFOSAA	*72*		*25 - 150*
d-N-MeFOSA-M	*63*		*20 - 150*
d-N-EtFOSA-M	*49*		*20 - 150*
d7-N-MeFOSE-M	*26*		*10 - 120*
d9-N-EtFOSE-M	*21*		*10 - 120*
M2-4:2 FTS	*68*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-430871/2-A
Matrix: Water
Analysis Batch: 431252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 430871

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-6:2 FTS	64		25 - 150
M2-8:2 FTS	62		25 - 150
13C3 HFPO-DA	80		25 - 150

Lab Sample ID: 500-190761-1 MS
Matrix: Water
Analysis Batch: 431252

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	39		36.2	79.9		ng/L		112	76 - 136
Perfluoropentanoic acid (PFPeA)	91		36.2	130		ng/L		108	71 - 131
Perfluorohexanoic acid (PFHxA)	88		36.2	126		ng/L		103	73 - 133
Perfluoroheptanoic acid (PFHpA)	29		36.2	70.5		ng/L		116	72 - 132
Perfluorononanoic acid (PFNA)	12		36.2	50.9		ng/L		107	75 - 135
Perfluorodecanoic acid (PFDA)	0.52	J	36.2	37.9		ng/L		103	76 - 136
Perfluoroundecanoic acid (PFUnA)	<1.8		36.2	42.0		ng/L		116	68 - 128
Perfluorododecanoic acid (PFDoA)	<1.8		36.2	37.3		ng/L		103	71 - 131
Perfluorotridecanoic acid (PFTriA)	<1.8		36.2	35.9		ng/L		99	71 - 131
Perfluorotetradecanoic acid (PFTeA)	<1.8		36.2	45.1		ng/L		125	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		36.2	39.2		ng/L		108	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		36.2	39.2		ng/L		108	58 - 145
Perfluorobutanesulfonic acid (PFBS)	1.3	J	32.0	35.1		ng/L		105	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	0.81	J	34.0	39.5		ng/L		114	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	8.8		33.0	41.0		ng/L		98	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	0.41	J	34.5	36.8		ng/L		106	76 - 136
Perfluorooctanesulfonic acid (PFOS)	18		33.6	55.3		ng/L		110	70 - 130
Perfluorononanesulfonic acid (PFNS)	<1.8		34.8	36.5		ng/L		105	75 - 135
Perfluorodecanesulfonic acid (PFDS)	<1.8		34.9	35.8		ng/L		102	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	<1.8		35.1	33.7		ng/L		96	67 - 127
Perfluorooctanesulfonamide (FOSA)	1.4	J	36.2	42.2		ng/L		113	73 - 133
NMeFOSA	<1.8		36.2	38.5		ng/L		106	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		36.2	39.6		ng/L		109	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		36.2	38.2		ng/L		105	76 - 136
NMeFOSE	<3.6		36.2	40.6		ng/L		112	70 - 130
NEtFOSE	<1.8		36.2	35.8		ng/L		99	71 - 131
4:2 FTS	5.0		33.8	40.1		ng/L		104	79 - 139

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190761-1 MS
Matrix: Water
Analysis Batch: 431252

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
6:2 FTS	250		34.3	273	4	ng/L		61	59 - 175
8:2 FTS	13		34.7	49.5		ng/L		105	75 - 135
10:2 FTS	<1.8		34.9	34.2		ng/L		98	64 - 142
DONA	<1.8		34.1	35.6		ng/L		104	79 - 139
HFPO-DA (GenX)	<3.6		36.2	39.6		ng/L		109	51 - 173
F-53B Major	<1.8		33.8	36.4		ng/L		108	75 - 135
F-53B Minor	<1.8		34.1	35.0		ng/L		103	54 - 114

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*64*		*25 - 150*
13C5 PFPeA	*76*		*25 - 150*
13C2 PFHxA	*81*		*25 - 150*
13C4 PFHpA	*83*		*25 - 150*
13C5 PFNA	*83*		*25 - 150*
13C2 PFDA	*82*		*25 - 150*
13C2 PFUnA	*73*		*25 - 150*
13C2 PFDoA	*79*		*25 - 150*
13C2 PFTeDA	*63*		*25 - 150*
13C2 PFHxDA	*67*		*25 - 150*
13C3 PFBS	*85*		*25 - 150*
18O2 PFHxS	*89*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*85*		*25 - 150*
d3-NMeFOSAA	*66*		*25 - 150*
d5-NEtFOSAA	*67*		*25 - 150*
d-N-MeFOSA-M	*47*		*20 - 150*
d-N-EtFOSA-M	*39*		*20 - 150*
d7-N-MeFOSE-M	*27*		*10 - 120*
d9-N-EtFOSE-M	*29*		*10 - 120*
M2-4:2 FTS	*70*		*25 - 150*
M2-6:2 FTS	*57*		*25 - 150*
M2-8:2 FTS	*61*		*25 - 150*
13C3 HFPO-DA	*80*		*25 - 150*

Lab Sample ID: 500-190761-1 MSD
Matrix: Water
Analysis Batch: 431252

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	39		37.1	79.5		ng/L		108	76 - 136	1	30
Perfluoropentanoic acid (PFPeA)	91		37.1	124		ng/L		89	71 - 131	5	30
Perfluorohexanoic acid (PFHxA)	88		37.1	128		ng/L		106	73 - 133	1	30
Perfluoroheptanoic acid (PFHpA)	29		37.1	69.6		ng/L		111	72 - 132	1	30
Perfluorononanoic acid (PFNA)	12		37.1	52.3		ng/L		108	75 - 135	3	30
Perfluorodecanoic acid (PFDA)	0.52	J	37.1	39.3		ng/L		105	76 - 136	4	30
Perfluoroundecanoic acid (PFUnA)	<1.8		37.1	43.2		ng/L		116	68 - 128	3	30
Perfluorododecanoic acid (PFDoA)	<1.8		37.1	38.2		ng/L		103	71 - 131	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190761-1 MSD
Matrix: Water
Analysis Batch: 431252

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTriA)	<1.8		37.1	38.2		ng/L		103	71 - 131	6	30
Perfluorotetradecanoic acid (PFTeA)	<1.8		37.1	45.5		ng/L		123	70 - 130	1	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		37.1	34.1		ng/L		92	76 - 136	14	30
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		37.1	37.4		ng/L		101	58 - 145	5	30
Perfluorobutanesulfonic acid (PFBS)	1.3	J	32.8	35.9		ng/L		105	67 - 127	2	30
Perfluoropentanesulfonic acid (PFPeS)	0.81	J	34.8	40.4		ng/L		114	66 - 126	2	30
Perfluorohexanesulfonic acid (PFHxS)	8.8		33.7	42.0		ng/L		98	59 - 119	2	30
Perfluoroheptanesulfonic Acid (PFHpS)	0.41	J	35.3	37.4		ng/L		105	76 - 136	2	30
Perfluorooctanesulfonic acid (PFOS)	18		34.4	53.6		ng/L		102	70 - 130	3	30
Perfluorononanesulfonic acid (PFNS)	<1.8		35.6	34.8		ng/L		98	75 - 135	5	30
Perfluorodecanesulfonic acid (PFDS)	<1.8		35.7	34.9		ng/L		98	71 - 131	3	30
Perfluorododecanesulfonic acid (PFDoS)	<1.8		35.9	33.2		ng/L		93	67 - 127	1	30
Perfluorooctanesulfonamide (FOSA)	1.4	J	37.1	42.3		ng/L		110	73 - 133	0	30
NMeFOSA	<1.8		37.1	36.6		ng/L		99	67 - 154	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		37.1	40.8		ng/L		110	76 - 136	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		37.1	39.8		ng/L		107	76 - 136	4	30
NMeFOSE	<3.6		37.1	38.1		ng/L		103	70 - 130	6	30
NEtFOSE	<1.8		37.1	36.7		ng/L		99	71 - 131	3	30
4:2 FTS	5.0		34.6	42.6		ng/L		108	79 - 139	6	30
6:2 FTS	250		35.1	277	4	ng/L		74	59 - 175	2	30
8:2 FTS	13		35.5	50.8		ng/L		106	75 - 135	3	30
10:2 FTS	<1.8		35.7	39.7		ng/L		111	64 - 142	15	30
DONA	<1.8		34.9	36.6		ng/L		105	79 - 139	3	30
HFPO-DA (GenX)	<3.6		37.1	38.8		ng/L		105	51 - 173	2	30
F-53B Major	<1.8		34.5	35.1		ng/L		102	75 - 135	4	30
F-53B Minor	<1.8		34.9	35.4		ng/L		101	54 - 114	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*74*		*25 - 150*
13C5 PFPeA	*88*		*25 - 150*
13C2 PFHxA	*92*		*25 - 150*
13C4 PFHpA	*95*		*25 - 150*
13C5 PFNA	*91*		*25 - 150*
13C2 PFDA	*89*		*25 - 150*
13C2 PFUnA	*82*		*25 - 150*
13C2 PFDoA	*84*		*25 - 150*
13C2 PFTeDA	*65*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190761-1 MSD
Matrix: Water
Analysis Batch: 431252

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2 PFHxDA	73		25 - 150
13C3 PFBS	89		25 - 150
18O2 PFHxS	96		25 - 150
13C4 PFOS	96		25 - 150
13C8 FOSA	92		25 - 150
d3-NMeFOSAA	72		25 - 150
d5-NEtFOSAA	75		25 - 150
d-N-MeFOSA-M	54		20 - 150
d-N-EtFOSA-M	45		20 - 150
d7-N-MeFOSE-M	32		10 - 120
d9-N-EtFOSE-M	32		10 - 120
M2-4:2 FTS	83		25 - 150
M2-6:2 FTS	64		25 - 150
M2-8:2 FTS	68		25 - 150
13C3 HFPO-DA	92		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Lab Sample ID: 500-190761-1 MS
Matrix: Water
Analysis Batch: 431463

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA) - DL	370		36.2	419	4	ng/L		124	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFOA - DL	79		25 - 150

Lab Sample ID: 500-190761-1 MSD
Matrix: Water
Analysis Batch: 431463

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA
Prep Batch: 430871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA) - DL	370		37.1	417	4	ng/L		114	70 - 130	1	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFOA - DL	95		25 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-571116/1
Matrix: Water
Analysis Batch: 571116

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			11/09/20 16:50	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 500-571116/2
Matrix: Water
Analysis Batch: 571116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			200	185		mg/L		93	80 - 120		

Lab Sample ID: 500-190761-1 MS
Matrix: Water
Analysis Batch: 571116

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids	2.5	J	100	88.0		mg/L		86	75 - 125		

Lab Sample ID: 500-190761-1 MSD
Matrix: Water
Analysis Batch: 571116

Client Sample ID: SW-L01 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	2.5	J	100	106		mg/L		104	75 - 125	19	20

Lab Sample ID: MB 500-571124/1
Matrix: Water
Analysis Batch: 571124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			11/09/20 17:40	1

Lab Sample ID: LCS 500-571124/2
Matrix: Water
Analysis Batch: 571124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			200	175		mg/L		88	80 - 120		

Lab Sample ID: 500-190761-3 MS
Matrix: Water
Analysis Batch: 571124

Client Sample ID: SW-L03 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids	2.0	J	100	106		mg/L		104	75 - 125		

Lab Sample ID: 500-190761-3 DU
Matrix: Water
Analysis Batch: 571124

Client Sample ID: SW-L03 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	2.0	J		<5.0		mg/L				NC	5

Lab Sample ID: 500-190761-11 DU
Matrix: Water
Analysis Batch: 571124

Client Sample ID: DUP-01 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	2.5	J		<5.0		mg/L				NC	5

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Client Sample ID: SW-L01 (11042020)

Lab Sample ID: 500-190761-1

Date Collected: 11/04/20 10:30

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 21:59	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 12:57	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571116		SMO	TAL CHI
						(Start) 11/09/20 17:11		
						(End) 11/09/20 17:12		

Client Sample ID: SW-L02 (11042020)

Lab Sample ID: 500-190761-2

Date Collected: 11/04/20 10:45

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 22:26	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 13:24	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:41		
						(End) 11/09/20 17:42		

Client Sample ID: SW-L03 (11042020)

Lab Sample ID: 500-190761-3

Date Collected: 11/04/20 11:15

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 22:36	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 13:33	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:42		
						(End) 11/09/20 17:43		

Client Sample ID: SW-L04 (11042020)

Lab Sample ID: 500-190761-4

Date Collected: 11/04/20 11:20

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 22:45	D1R	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:44		
						(End) 11/09/20 17:45		

Client Sample ID: SW-L05 (11042020)

Lab Sample ID: 500-190761-5

Date Collected: 11/04/20 11:30

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 22:54	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 13:52	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:45		
						(End) 11/09/20 17:46		

Client Sample ID: SW-L06 (11042020)

Lab Sample ID: 500-190761-6

Date Collected: 11/04/20 12:30

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 23:03	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:01	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:46		
						(End) 11/09/20 17:47		

Client Sample ID: SW-L07 (11042020)

Lab Sample ID: 500-190761-7

Date Collected: 11/04/20 12:35

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 23:30	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:10	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:47		
						(End) 11/09/20 17:48		

Client Sample ID: SW-L08 (11042020)

Lab Sample ID: 500-190761-8

Date Collected: 11/04/20 12:40

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 23:39	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:19	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:48		
						(End) 11/09/20 17:48		

Client Sample ID: SW-L09 (11042020)

Lab Sample ID: 500-190761-9

Date Collected: 11/04/20 12:45

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 23:48	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:37	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:48		
						(End) 11/09/20 17:49		

Client Sample ID: SW-L10 (11042020)

Lab Sample ID: 500-190761-10

Date Collected: 11/04/20 12:50

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/12/20 23:58	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:46	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:49		
						(End) 11/09/20 17:50		

Client Sample ID: DUP-01 (11042020)

Lab Sample ID: 500-190761-11

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/13/20 00:07	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 14:56	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:50		
						(End) 11/09/20 17:51		

Client Sample ID: Field Blank-11-04-2020

Lab Sample ID: 500-190761-12

Date Collected: 11/04/20 16:00

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/13/20 00:16	D1R	TAL SAC

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 500-190761-1
Project/Site: Marinette 30062361.00001

Client Sample ID: SW-39
Lab Sample ID: 500-190761-13
Date Collected: 11/04/20 11:25
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/13/20 00:25	D1R	TAL SAC
Total/NA	Prep	3535	DL		430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431463	11/13/20 15:05	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:52		
						(End) 11/09/20 17:52		

Client Sample ID: SW-21
Lab Sample ID: 500-190761-14
Date Collected: 11/04/20 15:55
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			430871	11/12/20 04:46	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1	431252	11/13/20 00:34	D1R	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:52		
						(End) 11/09/20 17:53		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190761-1
Project/Site: Marinette 30062361.00001

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: AS, KK, SK	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-86744-39116 9
Client Contact: Elizabeth Hover	Phone:	E-Mail: sandra.fredrick@eurofinset.com		Page: Page 1 of 2
Company: ARCADIS U.S., Inc.				Job #: 500-190761
Address: 126 North Jefferson Street Suite 400	Due Date Requested:			
City: Milwaukee	TAT Requested (days): Standard			
State, Zip: WI, 53202	PO #: 30062361.00001			
Phone:	WO #:			
Email: Elizabeth.Hover@arcadis.com	Project #: 50017363			
Project Name: Marinette 30062361 00001	SSOW#:			
Site: Marinette, WI				

500-190761 COC

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS, Extended List (36 Analytes)	9060A - TOC	2320B - Alkalinity (Total/Bicarb/Carb)	6010C - Total Iron	9060A_Diss - DOC	6010C - Dissolved Iron	Total Number of containers	Special Instructions/Note:
	Preservation Code:					N		N	N	S	N	D	N	N		
1	SW-L01 (11042020)	11/4/20	1030	G	Water	N	Y	X	X							MS/MSD
2	SW-L02 (11042020)		1045		Water		N	X	X							
3	SW-L03 (11042020)		1115		Water			X	X							
4	SW-L04 (11042020)		1120		Water			X	X							
5	SW-L05 (11042020)		1130		Water			X	X							
6	SW-L06 (11042020)		1230		Water			X	X							
7	SW-L07 (11042020)		1235		Water			X	X							
8	SW-L08 (11042020)		1240		Water			X	X							
9	SW-L09 (11042020)		1245		Water			X	X							
10	SW-L10 (11042020)		1250		Water			X	X							
11	DUP-01 (11042020)		—		Water			X	X							Duplicate

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Amy Siefker	11/6/20 1500	Arcadis	Ellen Scott	11/7/20 0955	ETACHI
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.2→2.6, 2.3→2.7, 2.1→2.5, 1.7→1.8, 2.3→2.7, 1.5→1.6
0.9→1.0, 1.9→2.0, 1.1→1.2, 0.0→0.1, 1.5→1.4

11/18/2020

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: AS, KK, SK	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-86744-39116.10
Client Contact: Elizabeth Hover	Phone:	E-Mail: sandra.fredrick@eurofinset.com		Page: Page 2 of 2
Company: ARCADIS U.S., Inc.				Job #: 500-190761
Address: 126 North Jefferson Street Suite 400	Due Date Requested:			
City: Milwaukee	TAT Requested (days): Standard			
State, Zip: WI, 53202				
Phone	PO #: 30062361.00001			
Email: Elizabeth.Hover@arcadis.com	WO #:			
Project Name: Marinette 30062361 00001	Project #: 50017363			
Site: Marinette, WI	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS, Extended List (36 Analytes)	9060A - TOC	2320B - Alkalinity (Total/Bicarb/Carb)	6010C - Total Iron	9060A_Diss - DOC	6010C - Dissolved Iron	Total Number of containers	Special Instructions/Note:
				Preservation Code:				N	N	S	N	D	N	N		
12	Field Blank-11-04-2020	11/4/20	1600	G	Water	N	N		X							Field Blank
13	SW-39	↓	1125	↓	Water	↓	↓	X	X							
14	SW-21	↓	1555	↓		↓	↓	X	X							

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:
Relinquished by: Amy Siefker	Date/Time: 11/6/20 1500	Company: Arcadis	Received by: Kevin Scott
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

11/18/2020

ORIGIN ID:RRLA (262) 202-5955
GUEST: AMY PARISH
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 060CT2(
ACTWGT: 25.00 LB
CAD: 525155/CAFE34

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-31

500-190761 Wayb

(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx

FedEx
TRK# 0221 7125 4943 3272

RETURNS MON-
PRIORITY OVERNI

XØ JOTA

60
IL-US

FID: 832374 06Nov2020 GRBA 560G3/51D8/05

ORIGIN ID:RRLA (262) 202-5955
GUEST: AMY PARISH
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 060CT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3406

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101

(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx
Express

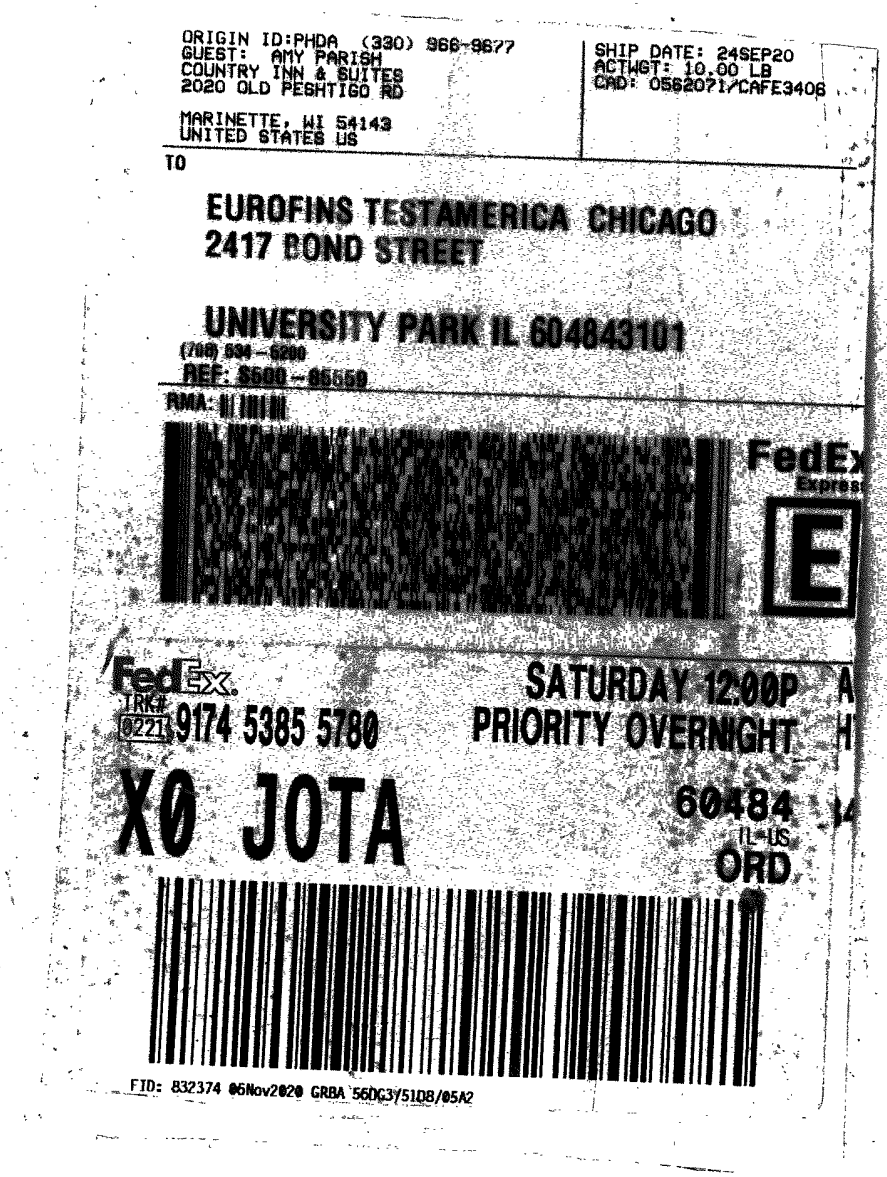
FedEx
TRK# 0221 7125 4943 3261

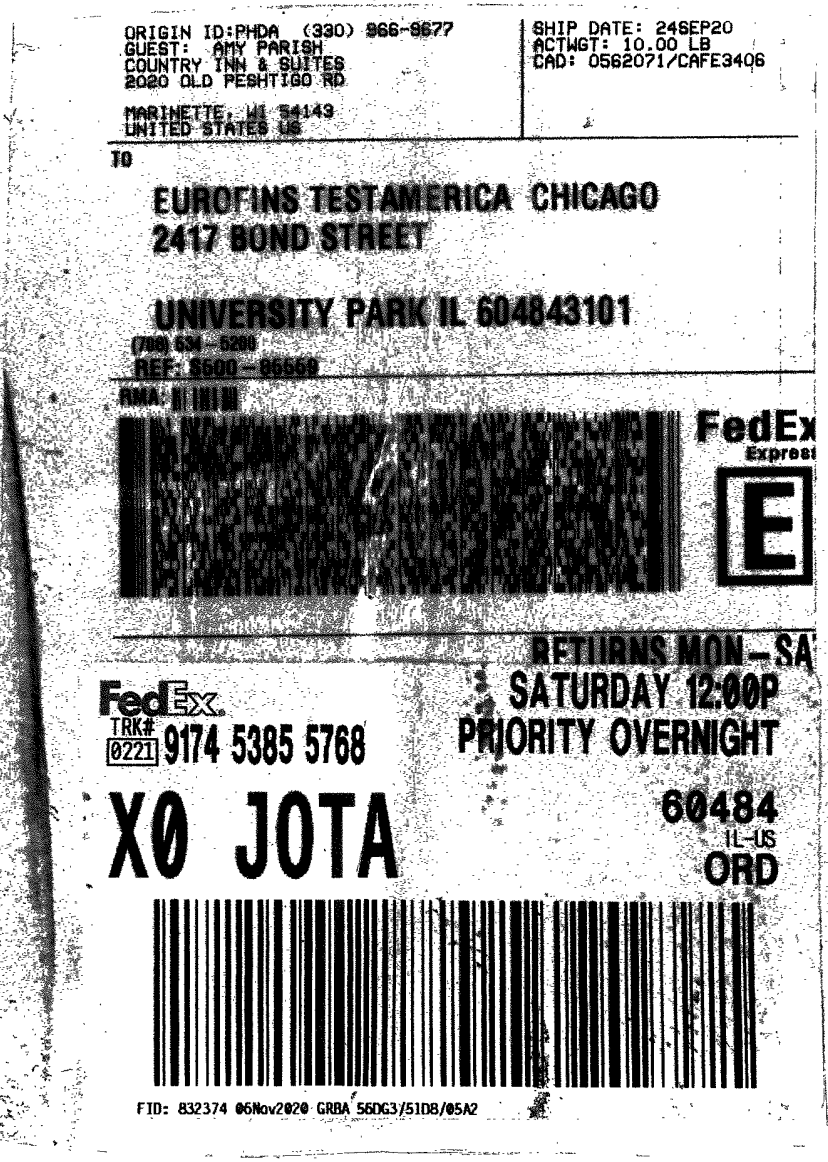
RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

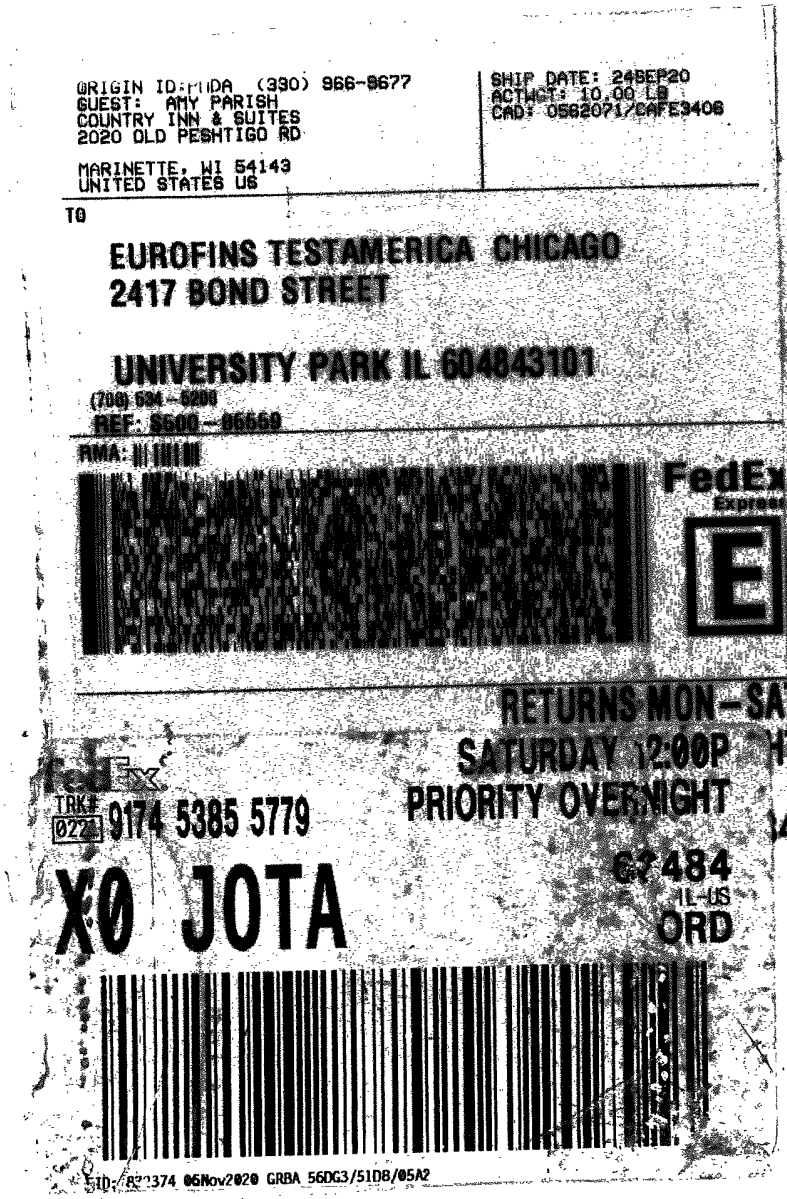
XØ JOTA

60484
IL-US
ORD

FID: 832374 06Nov2020 GRBA 560G3/51D8/05A2


ORIGIN ID:PHDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0562071/CAFE3406
TO
EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60843101
(708) 534-5200
REF: 5600-86559
RMA:
FedEx
Express
FedEx
TRK#
0221 9174 5385 5780
SATURDAY 12:00P
PRIORITY OVERNIGHT
XØ JOTA
60484
IL-US
ORD
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


ORIGIN ID:PHDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0562071/CAFE3406
TO
EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60843101
(708) 534-5200
REF: 5600-86559
RMA:
FedEx
Express
RETURNS MON-SA
FedEx
TRK#
0221 9174 5385 5768
SATURDAY 12:00P
PRIORITY OVERNIGHT
XØ JOTA
60484
IL-US
ORD
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2



ORIGIN ID:MDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0582071/CAFE3406

TO

EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 604843101
(708) 534-5200
REF: 5500-06669

RMA:

FedEx Express

RETURNS MON-SA
SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0221 9174 5385 5779

60484
IL-US
ORD

XO JOTA

EID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2

ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3406

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200
REF:

RMA:

FedEx Express

RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

FedEx TRK# 0221 7125 4943 4809

60484
IL-US
ORD

XO JOTA

EID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3406
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
FedEx Express
RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT
FedEx
TRK# 0221 7125 4943 4831
60484
IL-US
ORD
XØ JOTA
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2
ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.
MARINETTE, WI 54143
UNITED STATES US
TO
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
(708) 534-5200
REF:
DEPT:
FedEx Express
RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT
FedEx
TRK# 0221 7125 4943 4820
60484
IL-US
ORD
XØ JOTA
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2

ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MA
CAD: 525155/CAFE340

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx Express

FedEx
TRK# 0221 7125 4943 4810

SATURDAY 12:00P
PRIORITY OVERNIGHT

60484
IL-US
ORD

XO JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 06MAR20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx Express

FedEx
TRK# 0221 7125 4942 2106

SATURDAY 12:00P
PRIORITY OVERNIGHT

60484
IL-US
ORD

XO JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK#
0221 7125 4943 3250
60484
IL-US
ORD
XØ JOTA

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141911.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190761-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-L01 (11042020) (500-190761-1)	11/4/20	10:30 Central		Water			X	2	
SW-L01 (11042020) (500-190761-1MS)	11/4/20	10:30 Central	MS	Water			X	2	
SW-L01 (11042020) (500-190761-1MSD)	11/4/20	10:30 Central	MSD	Water			X	2	
SW-L02 (11042020) (500-190761-2)	11/4/20	10:45 Central		Water			X	2	
SW-L03 (11042020) (500-190761-3)	11/4/20	11:15 Central		Water			X	2	
SW-L04 (11042020) (500-190761-4)	11/4/20	11:20 Central		Water			X	2	
SW-L05 (11042020) (500-190761-5)	11/4/20	11:30 Central		Water			X	2	
SW-L06 (11042020) (500-190761-6)	11/4/20	12:30 Central		Water			X	2	
SW-L07 (11042020) (500-190761-7)	11/4/20	12:35 Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/9/20 1600	EHA	[signature]	11/10/20 09:45	EHA-SAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
X Yes Δ No	1363728/1363726/1363731/1363730	OB: 2.1/0.7/1.0/2.3 COOR: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141911.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190761-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-L08 (11042020) (500-190761-8)	11/4/20	12:40 Central		Water			X	2	
SW-L09 (11042020) (500-190761-9)	11/4/20	12:45 Central		Water			X	2	
SW-L10 (11042020) (500-190761-10)	11/4/20	12:50 Central		Water			X	2	
DUP-01 (11042020) (500-190761-11)	11/4/20	Central		Water			X	2	
Field Blank-11-04-2020 (500-190761-12)	11/4/20	16:00 Central		Water			X	2	
SW-39 (500-190761-13)	11/4/20	11:25 Central		Water			X	2	
SW-21 (500-190761-14)	11/4/20	15:55 Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	11/9/20 1600	ETA		11/10/20 09:45	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes Δ No
Custody Seal No.: 1363728/1363726/1363731/1363730
Cooler Temperature(s) °C and Other Remarks: OB: 2.1/0.7/1.0/2.3 CORR: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190761-1

Login Number: 190761
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6,2.7,2.5,1.8,2.7,1.6,1.0,2.0,1.2,0.1,1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190761-1

Login Number: 190761
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 11/10/20 01:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1363728/1363726/1363731/1363730
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 2.1/0.7/1.0/2.3c corr: 1.6/0.8/1.1/2.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

500-190761 Field Sheet

Job: _____

Tracking # : 1893445008 66

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-5 Corr. Factor: (+) 0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363728

Cooler ID: 1 OF 4

Temp Observed: 2.1 °C Corrected: 1.6 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 189344500877

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+)/- 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363726

Cooler ID: 2 OF 4

Temp Observed: 0.7 °C Corrected: 0.8 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: [illegible] Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [illegible] Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: [illegible] Date: 11/10/20

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 1893445O0888

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363731

Cooler ID: 3 OF 4

Temp Observed: 1.0 °C Corrected: 1.1 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

WR3-116

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 1893445008 99

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363730

Cooler ID: 4 OF 4

Temp Observed: 2.3 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-190761-1	SW-L01 (11042020)	70	84	89	92		89	89	79
500-190761-1 - DL	SW-L01 (11042020)					91			
500-190761-1 MS	SW-L01 (11042020)	64	76	81	83		83	82	73
500-190761-1 MS - DL	SW-L01 (11042020)					79			
500-190761-1 MSD	SW-L01 (11042020)	74	88	92	95		91	89	82
500-190761-1 MSD - DL	SW-L01 (11042020)					95			
500-190761-2	SW-L02 (11042020)	74	90	92	96	93	95	89	86
500-190761-2 - DL	SW-L02 (11042020)					96			
500-190761-3	SW-L03 (11042020)	76	92	97	97		94	91	92
500-190761-3 - DL	SW-L03 (11042020)					92			
500-190761-4	SW-L04 (11042020)	73	88	93	93	92	93	93	92
500-190761-5	SW-L05 (11042020)	72	86	91	93		95	91	88
500-190761-5 - DL	SW-L05 (11042020)					89			
500-190761-6	SW-L06 (11042020)	67	90	102	110		113	112	111
500-190761-6 - DL	SW-L06 (11042020)					89			
500-190761-7	SW-L07 (11042020)	63	85	97	107		103	104	101
500-190761-7 - DL	SW-L07 (11042020)					86			
500-190761-8	SW-L08 (11042020)	63	86	100	108		110	108	99
500-190761-8 - DL	SW-L08 (11042020)					86			
500-190761-9	SW-L09 (11042020)	70	99	113	122		121	122	119
500-190761-9 - DL	SW-L09 (11042020)					96			
500-190761-10	SW-L10 (11042020)	61	84	97	101		105	103	99
500-190761-10 - DL	SW-L10 (11042020)					82			
500-190761-11	DUP-01 (11042020)	73	88	97	98		96	94	89
500-190761-11 - DL	DUP-01 (11042020)					93			
500-190761-12	Field Blank-11-04-2020	88	91	88	91	89	87	89	86
500-190761-13	SW-39	73	87	95	97		96	95	88
500-190761-13 - DL	SW-39					91			
500-190761-14	SW-21	58	78	92	95	99	100	102	97
LCS 320-430871/2-A	Lab Control Sample	82	81	83	82	84	83	82	75
MB 320-430871/1-A	Method Blank	96	99	98	97	98	99	98	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)
500-190761-1	SW-L01 (11042020)	78	70	64	91	93	94	91	71
500-190761-1 - DL	SW-L01 (11042020)								
500-190761-1 MS	SW-L01 (11042020)	79	63	67	85	89	88	85	66
500-190761-1 MS - DL	SW-L01 (11042020)								
500-190761-1 MSD	SW-L01 (11042020)	84	65	73	89	96	96	92	72
500-190761-1 MSD - DL	SW-L01 (11042020)								
500-190761-2	SW-L02 (11042020)	89	67	68	90	98	95	92	71
500-190761-2 - DL	SW-L02 (11042020)								
500-190761-3	SW-L03 (11042020)	86	77	73	93	102	99	96	72
500-190761-3 - DL	SW-L03 (11042020)								
500-190761-4	SW-L04 (11042020)	81	84	76	93	97	100	95	67
500-190761-5	SW-L05 (11042020)	80	80	81	93	100	97	94	71
500-190761-5 - DL	SW-L05 (11042020)								
500-190761-6	SW-L06 (11042020)	98	88	77	102	117	114	111	87
500-190761-6 - DL	SW-L06 (11042020)								

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190761-1
Project/Site: Marinette 30062361.00001

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)
500-190761-7	SW-L07 (11042020)	97	84	79	99	108	106	102	83
500-190761-7 - DL	SW-L07 (11042020)								
500-190761-8	SW-L08 (11042020)	102	85	84	101	112	110	107	84
500-190761-8 - DL	SW-L08 (11042020)								
500-190761-9	SW-L09 (11042020)	120	102	102	111	122	125	121	92
500-190761-9 - DL	SW-L09 (11042020)								
500-190761-10	SW-L10 (11042020)	93	92	71	101	113	110	107	82
500-190761-10 - DL	SW-L10 (11042020)								
500-190761-11	DUP-01 (11042020)	86	77	72	95	102	97	96	74
500-190761-11 - DL	DUP-01 (11042020)								
500-190761-12	Field Blank-11-04-2020	89	89	98	90	92	91	86	72
500-190761-13	SW-39	86	76	89	93	97	99	94	74
500-190761-13 - DL	SW-39								
500-190761-14	SW-21	91	84	80	89	99	102	97	78
LCS 320-430871/2-A	Lab Control Sample	78	72	85	84	87	85	79	69
MB 320-430871/1-A	Method Blank	100	94	96	98	100	102	92	77

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (20-150)	dEtFOSA (20-150)	NMFM (10-120)	NEFM (10-120)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-190761-1	SW-L01 (11042020)	71	52	42	29	31	76	63	65
500-190761-1 - DL	SW-L01 (11042020)								
500-190761-1 MS	SW-L01 (11042020)	67	47	39	27	29	70	57	61
500-190761-1 MS - DL	SW-L01 (11042020)								
500-190761-1 MSD	SW-L01 (11042020)	75	54	45	32	32	83	64	68
500-190761-1 MSD - DL	SW-L01 (11042020)								
500-190761-2	SW-L02 (11042020)	75	52	42	32	30	83	70	65
500-190761-2 - DL	SW-L02 (11042020)								
500-190761-3	SW-L03 (11042020)	78	55	45	32	32	77	64	67
500-190761-3 - DL	SW-L03 (11042020)								
500-190761-4	SW-L04 (11042020)	73	53	44	31	34	76	63	70
500-190761-5	SW-L05 (11042020)	76	55	48	36	38	77	68	68
500-190761-5 - DL	SW-L05 (11042020)								
500-190761-6	SW-L06 (11042020)	89	75	64	53	47	122		98
500-190761-6 - DL	SW-L06 (11042020)							92	
500-190761-7	SW-L07 (11042020)	88	69	57	43	44	111		91
500-190761-7 - DL	SW-L07 (11042020)							83	
500-190761-8	SW-L08 (11042020)	92	66	58	52	52	116		94
500-190761-8 - DL	SW-L08 (11042020)							81	
500-190761-9	SW-L09 (11042020)	105	74	60	55	45	125		106
500-190761-9 - DL	SW-L09 (11042020)							93	
500-190761-10	SW-L10 (11042020)	91	62	52	37	35	105		96
500-190761-10 - DL	SW-L10 (11042020)							78	
500-190761-11	DUP-01 (11042020)	77	55	45	33	39	82	64	69
500-190761-11 - DL	DUP-01 (11042020)								
500-190761-12	Field Blank-11-04-2020	75	74	59	37	31	74	65	65
500-190761-13	SW-39	78	57	46	41	42	86	68	69
500-190761-13 - DL	SW-39								
500-190761-14	SW-21	83	57	48	37	37	110	108	97
LCS 320-430871/2-A	Lab Control Sample	72	63	49	26	21	68	64	62
MB 320-430871/1-A	Method Blank	81	72	56	33	25	76	73	71

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190761-1
Project/Site: Marinette 30062361.00001

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HFPODA (25-150)						
500-190761-1	SW-L01 (11042020)	88						
500-190761-1 - DL	SW-L01 (11042020)							
500-190761-1 MS	SW-L01 (11042020)	80						
500-190761-1 MS - DL	SW-L01 (11042020)							
500-190761-1 MSD	SW-L01 (11042020)	92						
500-190761-1 MSD - DL	SW-L01 (11042020)							
500-190761-2	SW-L02 (11042020)	92						
500-190761-2 - DL	SW-L02 (11042020)							
500-190761-3	SW-L03 (11042020)	95						
500-190761-3 - DL	SW-L03 (11042020)							
500-190761-4	SW-L04 (11042020)	92						
500-190761-5	SW-L05 (11042020)	90						
500-190761-5 - DL	SW-L05 (11042020)							
500-190761-6	SW-L06 (11042020)	104						
500-190761-6 - DL	SW-L06 (11042020)							
500-190761-7	SW-L07 (11042020)	99						
500-190761-7 - DL	SW-L07 (11042020)							
500-190761-8	SW-L08 (11042020)	102						
500-190761-8 - DL	SW-L08 (11042020)							
500-190761-9	SW-L09 (11042020)	115						
500-190761-9 - DL	SW-L09 (11042020)							
500-190761-10	SW-L10 (11042020)	100						
500-190761-10 - DL	SW-L10 (11042020)							
500-190761-11	DUP-01 (11042020)	92						
500-190761-11 - DL	DUP-01 (11042020)							
500-190761-12	Field Blank-11-04-2020	85						
500-190761-13	SW-39	90						
500-190761-13 - DL	SW-39							
500-190761-14	SW-21	89						
LCS 320-430871/2-A	Lab Control Sample	80						
MB 320-430871/1-A	Method Blank	97						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxDA = 13C2 PFHxDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190761-1

dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-190763-1
Client Project/Site: Marinette 30062361.00001

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski

Sandie Fredrick

Authorized for release by:
11/18/2020 9:55:56 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

Table of Contents

Job ID: 500-190763-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-190763-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2020 9:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 11 coolers at receipt time were 0.1º C, 1.0º C, 1.2º C, 1.4º C, 1.6º C, 1.8º C, 2.0º C, 2.5º C, 2.6º C, 2.7º C and 2.7º C.

LCMS
Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Perfluorododecanesulfonic acid (PFDoS) of preparation batch 320-431274 and analytical batch 320-431566 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 537 (modified): Due to the high concentration of several, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-431272 and analytical batch 320-431545 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): The matrix spike duplicate (MSD) recoveries for Perfluoroundecanoic acid (PFUnA) for preparation batch 320-431272 and analytical batch 320-431545 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 537 (modified): Due to the high concentration of Perfluorooctanoic acid (PFOA) and 6:2 FTS, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-431272 and analytical batch 320-431915 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): Results for samples 500-190763-1, 500-190763-10, 500-190763-11, 500-190764-A-1-A, 500-190764-A-1-B MS and 500-190764-A-1-C MSD were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Results for samples 500-190763-2, 500-190763-3, 500-190763-4, 500-190763-5, 500-190763-6, 500-190763-7, 500-190763-8 and 500-190763-9 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3535: The following samples are yellow and contain floating particulates at the bottom of the bottle prior to extraction: 500-190763-1, 500-190763-2, 500-190763-3, 500-190763-4, 500-190763-5, 500-190763-6, 500-190763-7, 500-190763-8 and 500-190763-9. preparation batch 320-431272 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow and contain floating particulates at the bottom of the bottle prior to extraction: 500-190763-10 and 500-190763-11. preparation batch 320-431274 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow after final voluming: 500-190763-1, 500-190763-2, 500-190763-3, 500-190763-4, 500-190763-5, 500-190763-6, 500-190763-7, 500-190763-8 and 500-190763-9. preparation batch 320-431272 Method: 3535 PFC Matrix: Water

Job ID: 500-190763-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

Method 3535: The following samples are yellow after final voluming: 500-190763-10 and 500-190763-11. preparation batch 320-431274
Method: 3535 PFC Matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-190763-1	SW-M01 (11042020)	Water	11/04/20 12:55	11/07/20 09:55	
500-190763-2	SW-M02 (11042020)	Water	11/04/20 13:00	11/07/20 09:55	
500-190763-3	SW-M03 (11042020)	Water	11/04/20 13:05	11/07/20 09:55	
500-190763-4	SW-M04 (11042020)	Water	11/04/20 13:10	11/07/20 09:55	
500-190763-5	SW-M05 (11042020)	Water	11/04/20 13:20	11/07/20 09:55	
500-190763-6	SW-M06 (11042020)	Water	11/04/20 13:15	11/07/20 09:55	
500-190763-7	SW-M07 (11042020)	Water	11/04/20 13:30	11/07/20 09:55	
500-190763-8	SW-M08 (11042020)	Water	11/04/20 13:55	11/07/20 09:55	
500-190763-9	SW-M09 (11042020)	Water	11/04/20 14:00	11/07/20 09:55	
500-190763-10	SW-M10 (11042020)	Water	11/04/20 14:05	11/07/20 09:55	
500-190763-11	DUP-02 (11042020)	Water	11/04/20 00:00	11/07/20 09:55	

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M01 (11042020)

Date Collected: 11/04/20 12:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**89**		4.5	2.2	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoropentanoic acid (PFPeA)	**270**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorohexanoic acid (PFHxA)	**330**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoroheptanoic acid (PFHpA)	**120**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorononanoic acid (PFNA)	**82**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorodecanoic acid (PFDA)	**4.0**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoroundecanoic acid (PFUnA)	**1.1**	**J**	1.8	0.99	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorobutanesulfonic acid (PFBS)	**6.2**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoropentanesulfonic acid (PFPeS)	**5.1**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorohexanesulfonic acid (PFHxS)	**67**		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.5**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 18:55	11/13/20 14:26	1
Perfluorooctanesulfonamide (FOSA)	**27**		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 14:26	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 14:26	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 14:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 14:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**5.2**		4.5	1.2	ng/L		11/12/20 18:55	11/13/20 14:26	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 14:26	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 14:26	1
4:2 FTS	**37**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:26	1
8:2 FTS	**140**		1.8	0.41	ng/L		11/12/20 18:55	11/13/20 14:26	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 18:55	11/13/20 14:26	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 14:26	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 14:26	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:26	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C5 PFPeA	*94*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C2 PFHxA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C4 PFHpA	*110*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C5 PFNA	*106*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M01 (11042020)

Date Collected: 11/04/20 12:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*104*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C2 PFUnA	*109*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C2 PFDoA	*99*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C2 PFTeDA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C2 PFHxDA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C3 PFBS	*102*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
18O2 PFHxS	*115*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C4 PFOS	*118*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C8 FOSA	*106*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d3-NMeFOSAA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d-N-MeFOSA-M	*63*		*20 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d-N-EtFOSA-M	*49*		*20 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d7-N-MeFOSE-M	*34*		*10 - 120*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
d9-N-EtFOSE-M	*30*		*10 - 120*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
M2-4:2 FTS	*126*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
M2-8:2 FTS	*112*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*
13C3 HFPO-DA	*106*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:26*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**2000**		18	7.7	ng/L		11/12/20 18:55	11/14/20 23:33	10
6:2 FTS	**2000**		45	23	ng/L		11/12/20 18:55	11/14/20 23:33	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*89*		*25 - 150*	*11/12/20 18:55*	*11/14/20 23:33*	*10*
M2-6:2 FTS	*92*		*25 - 150*	*11/12/20 18:55*	*11/14/20 23:33*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**8.5**		5.0	1.9	mg/L			11/09/20 17:53	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M02 (11042020)
Date Collected: 11/04/20 13:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**83**		4.4	2.1	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoropentanoic acid (PFPeA)	**270**		1.8	0.43	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorohexanoic acid (PFHxA)	**290**		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoroheptanoic acid (PFHpA)	**110**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorononanoic acid (PFNA)	**86**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorodecanoic acid (PFDA)	**4.0**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoroundecanoic acid (PFUnA)	**1.2**	**J**	1.8	0.96	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.48	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.1	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.64	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.82	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorobutanesulfonic acid (PFBS)	**5.0**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoropentanesulfonic acid (PFPeS)	**4.8**		1.8	0.26	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorohexanesulfonic acid (PFHxS)	**64**		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.9**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.47	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.32	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 14:35	1
Perfluorooctanesulfonamide (FOSA)	**31**		1.8	0.86	ng/L		11/12/20 18:55	11/13/20 14:35	1
NEtFOSA	<1.8		1.8	0.76	ng/L		11/12/20 18:55	11/13/20 14:35	1
NMeFOSA	<1.8		1.8	0.38	ng/L		11/12/20 18:55	11/13/20 14:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4	1.1	ng/L		11/12/20 18:55	11/13/20 14:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**5.5**		4.4	1.1	ng/L		11/12/20 18:55	11/13/20 14:35	1
NMeFOSE	<3.5		3.5	1.2	ng/L		11/12/20 18:55	11/13/20 14:35	1
NEtFOSE	<1.8		1.8	0.74	ng/L		11/12/20 18:55	11/13/20 14:35	1
4:2 FTS	**32**		1.8	0.21	ng/L		11/12/20 18:55	11/13/20 14:35	1
8:2 FTS	**160**		1.8	0.40	ng/L		11/12/20 18:55	11/13/20 14:35	1
10:2 FTS	<1.8		1.8	0.59	ng/L		11/12/20 18:55	11/13/20 14:35	1
DONA	<1.8		1.8	0.35	ng/L		11/12/20 18:55	11/13/20 14:35	1
HFPO-DA (GenX)	<3.5		3.5	1.3	ng/L		11/12/20 18:55	11/13/20 14:35	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 18:55	11/13/20 14:35	1
F-53B Minor	<1.8		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 14:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:35*	*1*
13C5 PFPeA	*93*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:35*	*1*
13C2 PFHxA	*103*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:35*	*1*
13C4 PFHpA	*110*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:35*	*1*
13C5 PFNA	*107*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:35*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M02 (11042020)
Date Collected: 11/04/20 13:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	109		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C2 PFUnA	106		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C2 PFDoA	98		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C2 PFTeDA	81		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C2 PFHxDA	89		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C3 PFBS	105		25 - 150	11/12/20 18:55	11/13/20 14:35	1
18O2 PFHxS	112		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C4 PFOS	121		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C8 FOSA	104		25 - 150	11/12/20 18:55	11/13/20 14:35	1
d3-NMeFOSAA	92		25 - 150	11/12/20 18:55	11/13/20 14:35	1
d5-NEtFOSAA	89		25 - 150	11/12/20 18:55	11/13/20 14:35	1
d-N-MeFOSA-M	65		20 - 150	11/12/20 18:55	11/13/20 14:35	1
d-N-EtFOSA-M	51		20 - 150	11/12/20 18:55	11/13/20 14:35	1
d7-N-MeFOSE-M	41		10 - 120	11/12/20 18:55	11/13/20 14:35	1
d9-N-EtFOSE-M	36		10 - 120	11/12/20 18:55	11/13/20 14:35	1
M2-4:2 FTS	140		25 - 150	11/12/20 18:55	11/13/20 14:35	1
M2-8:2 FTS	113		25 - 150	11/12/20 18:55	11/13/20 14:35	1
13C3 HFPO-DA	102		25 - 150	11/12/20 18:55	11/13/20 14:35	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1600		18	7.4	ng/L		11/12/20 18:55	11/15/20 11:41	10
6:2 FTS	2000		44	22	ng/L		11/12/20 18:55	11/15/20 11:41	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	89		25 - 150	11/12/20 18:55	11/15/20 11:41	10
M2-6:2 FTS	96		25 - 150	11/12/20 18:55	11/15/20 11:41	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	11		5.0	1.9	mg/L			11/09/20 17:54	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M03 (11042020)
Date Collected: 11/04/20 13:05
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-3
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**82**		4.3	2.1	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoropentanoic acid (PFPeA)	**250**		1.7	0.42	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorohexanoic acid (PFHxA)	**280**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoroheptanoic acid (PFHpA)	**110**		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorononanoic acid (PFNA)	**80**		1.7	0.23	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorodecanoic acid (PFDA)	**3.8**		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoroundecanoic acid (PFUnA)	**1.2**	**J**	1.7	0.94	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.63	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.76	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.81	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorobutanesulfonic acid (PFBS)	**4.7**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoropentanesulfonic acid (PFPeS)	**3.8**		1.7	0.26	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorohexanesulfonic acid (PFHxS)	**61**		1.7	0.49	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.1**		1.7	0.16	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.7	0.46	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.32	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.83	ng/L		11/12/20 18:55	11/13/20 14:44	1
Perfluorooctanesulfonamide (FOSA)	**25**		1.7	0.84	ng/L		11/12/20 18:55	11/13/20 14:44	1
NEtFOSA	<1.7		1.7	0.75	ng/L		11/12/20 18:55	11/13/20 14:44	1
NMeFOSA	<1.7		1.7	0.37	ng/L		11/12/20 18:55	11/13/20 14:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3	1.0	ng/L		11/12/20 18:55	11/13/20 14:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.3**		4.3	1.1	ng/L		11/12/20 18:55	11/13/20 14:44	1
NMeFOSE	<3.4		3.4	1.2	ng/L		11/12/20 18:55	11/13/20 14:44	1
NEtFOSE	<1.7		1.7	0.73	ng/L		11/12/20 18:55	11/13/20 14:44	1
4:2 FTS	**29**		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 14:44	1
8:2 FTS	**150**		1.7	0.39	ng/L		11/12/20 18:55	11/13/20 14:44	1
10:2 FTS	<1.7		1.7	0.57	ng/L		11/12/20 18:55	11/13/20 14:44	1
DONA	<1.7		1.7	0.34	ng/L		11/12/20 18:55	11/13/20 14:44	1
HFPO-DA (GenX)	<3.4		3.4	1.3	ng/L		11/12/20 18:55	11/13/20 14:44	1
F-53B Major	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 14:44	1
F-53B Minor	<1.7		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 14:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:44*	*1*
13C5 PFPeA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:44*	*1*
13C2 PFHxA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:44*	*1*
13C4 PFHpA	*110*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:44*	*1*
13C5 PFNA	*103*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:44*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M03 (11042020)

Date Collected: 11/04/20 13:05
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	105		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C2 PFUnA	99		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C2 PFDoA	91		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C2 PFTeDA	79		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C2 PFHxDA	88		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C3 PFBS	101		25 - 150	11/12/20 18:55	11/13/20 14:44	1
18O2 PFHxS	105		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C4 PFOS	110		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C8 FOSA	101		25 - 150	11/12/20 18:55	11/13/20 14:44	1
d3-NMeFOSAA	90		25 - 150	11/12/20 18:55	11/13/20 14:44	1
d5-NEtFOSAA	85		25 - 150	11/12/20 18:55	11/13/20 14:44	1
d-N-MeFOSA-M	57		20 - 150	11/12/20 18:55	11/13/20 14:44	1
d-N-EtFOSA-M	45		20 - 150	11/12/20 18:55	11/13/20 14:44	1
d7-N-MeFOSE-M	36		10 - 120	11/12/20 18:55	11/13/20 14:44	1
d9-N-EtFOSE-M	32		10 - 120	11/12/20 18:55	11/13/20 14:44	1
M2-4:2 FTS	124		25 - 150	11/12/20 18:55	11/13/20 14:44	1
M2-8:2 FTS	104		25 - 150	11/12/20 18:55	11/13/20 14:44	1
13C3 HFPO-DA	102		25 - 150	11/12/20 18:55	11/13/20 14:44	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1500		17	7.3	ng/L		11/12/20 18:55	11/15/20 11:50	10
6:2 FTS	1800		43	21	ng/L		11/12/20 18:55	11/15/20 11:50	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	90		25 - 150	11/12/20 18:55	11/15/20 11:50	10
M2-6:2 FTS	102		25 - 150	11/12/20 18:55	11/15/20 11:50	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	15		5.0	1.9	mg/L			11/09/20 17:55	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M04 (11042020)
Date Collected: 11/04/20 13:10
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**77**		4.5	2.2	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoropentanoic acid (PFPeA)	**230**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorohexanoic acid (PFHxA)	**250**		1.8	0.53	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoroheptanoic acid (PFHpA)	**97**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorononanoic acid (PFNA)	**78**		1.8	0.25	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorodecanoic acid (PFDA)	**3.5**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoropentanesulfonic acid (PFPeS)	**3.2**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorohexanesulfonic acid (PFHxS)	**51**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.9**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 14:53	1
Perfluorooctanesulfonamide (FOSA)	**15**		1.8	0.89	ng/L		11/12/20 18:55	11/13/20 14:53	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 18:55	11/13/20 14:53	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 14:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 14:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**2.1**	**J**	4.5	1.2	ng/L		11/12/20 18:55	11/13/20 14:53	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 14:53	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 14:53	1
4:2 FTS	**28**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:53	1
8:2 FTS	**130**		1.8	0.42	ng/L		11/12/20 18:55	11/13/20 14:53	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 18:55	11/13/20 14:53	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 14:53	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 14:53	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:53	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*
13C5 PFPeA	*86*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*
13C2 PFHxA	*87*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*
13C4 PFHpA	*93*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*
13C5 PFNA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*
13C2 PFDA	*97*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:53*	*1*

Client Sample ID: SW-M04 (11042020)
Date Collected: 11/04/20 13:10
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	86		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C2 PFDoA	85		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C2 PFTeDA	72		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C2 PFHxDA	75		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C3 PFBS	87		25 - 150	11/12/20 18:55	11/13/20 14:53	1
18O2 PFHxS	97		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C4 PFOS	102		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C8 FOSA	90		25 - 150	11/12/20 18:55	11/13/20 14:53	1
d3-NMeFOSAA	78		25 - 150	11/12/20 18:55	11/13/20 14:53	1
d5-NEtFOSAA	65		25 - 150	11/12/20 18:55	11/13/20 14:53	1
d-N-MeFOSA-M	52		20 - 150	11/12/20 18:55	11/13/20 14:53	1
d-N-EtFOSA-M	45		20 - 150	11/12/20 18:55	11/13/20 14:53	1
d7-N-MeFOSE-M	41		10 - 120	11/12/20 18:55	11/13/20 14:53	1
d9-N-EtFOSE-M	36		10 - 120	11/12/20 18:55	11/13/20 14:53	1
M2-4:2 FTS	114		25 - 150	11/12/20 18:55	11/13/20 14:53	1
M2-8:2 FTS	98		25 - 150	11/12/20 18:55	11/13/20 14:53	1
13C3 HFPO-DA	92		25 - 150	11/12/20 18:55	11/13/20 14:53	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1100		18	7.7	ng/L		11/12/20 18:55	11/15/20 11:59	10
6:2 FTS	1700		45	23	ng/L		11/12/20 18:55	11/15/20 11:59	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	87		25 - 150	11/12/20 18:55	11/15/20 11:59	10
M2-6:2 FTS	98		25 - 150	11/12/20 18:55	11/15/20 11:59	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	35		5.0	1.9	mg/L			11/09/20 17:56	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M05 (11042020)

Date Collected: 11/04/20 13:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**110**		4.4	2.1	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoropentanoic acid (PFPeA)	**330**		1.7	0.43	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoroheptanoic acid (PFHpA)	**160**		1.7	0.22	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorononanoic acid (PFNA)	**140**		1.7	0.24	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorodecanoic acid (PFDA)	**5.9**		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoroundecanoic acid (PFUnA)	**3.2**		1.7	0.96	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.48	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.64	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.78	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.82	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorobutanesulfonic acid (PFBS)	**8.4**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoropentanesulfonic acid (PFPeS)	**7.2**		1.7	0.26	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorohexanesulfonic acid (PFHxS)	**92**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	**4.6**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorooctanesulfonic acid (PFOS)	**230**		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.32	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.85	ng/L		11/12/20 18:55	11/13/20 15:02	1
Perfluorooctanesulfonamide (FOSA)	**56**		1.7	0.86	ng/L		11/12/20 18:55	11/13/20 15:02	1
NEtFOSA	<1.7		1.7	0.76	ng/L		11/12/20 18:55	11/13/20 15:02	1
NMeFOSA	<1.7		1.7	0.38	ng/L		11/12/20 18:55	11/13/20 15:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4	1.0	ng/L		11/12/20 18:55	11/13/20 15:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**7.4**		4.4	1.1	ng/L		11/12/20 18:55	11/13/20 15:02	1
NMeFOSE	<3.5		3.5	1.2	ng/L		11/12/20 18:55	11/13/20 15:02	1
NEtFOSE	<1.7		1.7	0.74	ng/L		11/12/20 18:55	11/13/20 15:02	1
4:2 FTS	**55**		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 15:02	1
8:2 FTS	**250**		1.7	0.40	ng/L		11/12/20 18:55	11/13/20 15:02	1
10:2 FTS	<1.7		1.7	0.59	ng/L		11/12/20 18:55	11/13/20 15:02	1
DONA	<1.7		1.7	0.35	ng/L		11/12/20 18:55	11/13/20 15:02	1
HFPO-DA (GenX)	<3.5		3.5	1.3	ng/L		11/12/20 18:55	11/13/20 15:02	1
F-53B Major	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 15:02	1
F-53B Minor	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 15:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*
13C5 PFPeA	*105*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*
13C4 PFHpA	*121*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*
13C5 PFNA	*121*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*
13C2 PFDA	*132*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*
13C2 PFUnA	*120*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:02*	*1*

Client Sample ID: SW-M05 (11042020)

Date Collected: 11/04/20 13:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	116		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C2 PFTeDA	94		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C2 PFHxDA	93		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C3 PFBS	117		25 - 150	11/12/20 18:55	11/13/20 15:02	1
18O2 PFHxS	123		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C4 PFOS	122		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C8 FOSA	113		25 - 150	11/12/20 18:55	11/13/20 15:02	1
d3-NMeFOSAA	107		25 - 150	11/12/20 18:55	11/13/20 15:02	1
d5-NEtFOSAA	100		25 - 150	11/12/20 18:55	11/13/20 15:02	1
d-N-MeFOSA-M	82		20 - 150	11/12/20 18:55	11/13/20 15:02	1
d-N-EtFOSA-M	71		20 - 150	11/12/20 18:55	11/13/20 15:02	1
d7-N-MeFOSE-M	56		10 - 120	11/12/20 18:55	11/13/20 15:02	1
d9-N-EtFOSE-M	46		10 - 120	11/12/20 18:55	11/13/20 15:02	1
M2-4:2 FTS	134		25 - 150	11/12/20 18:55	11/13/20 15:02	1
M2-8:2 FTS	117		25 - 150	11/12/20 18:55	11/13/20 15:02	1
13C3 HFPO-DA	114		25 - 150	11/12/20 18:55	11/13/20 15:02	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	430		35	10	ng/L		11/12/20 18:55	11/15/20 12:08	20
Perfluorooctanoic acid (PFOA)	2800		35	15	ng/L		11/12/20 18:55	11/15/20 12:08	20
6:2 FTS	2900		87	44	ng/L		11/12/20 18:55	11/15/20 12:08	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	95		25 - 150	11/12/20 18:55	11/15/20 12:08	20
13C4 PFOA	88		25 - 150	11/12/20 18:55	11/15/20 12:08	20
M2-6:2 FTS	99		25 - 150	11/12/20 18:55	11/15/20 12:08	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	5.5		5.0	1.9	mg/L			11/09/20 17:56	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M06 (11042020)

Date Collected: 11/04/20 13:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**100**		4.5	2.2	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoropentanoic acid (PFPeA)	**330**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoroheptanoic acid (PFHpA)	**150**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorononanoic acid (PFNA)	**140**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorodecanoic acid (PFDA)	**7.1**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoroundecanoic acid (PFUnA)	**2.9**		1.8	0.99	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorobutanesulfonic acid (PFBS)	**6.7**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoropentanesulfonic acid (PFPeS)	**5.6**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorohexanesulfonic acid (PFHxS)	**100**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	**4.1**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorooctanesulfonic acid (PFOS)	**230**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 15:30	1
Perfluorooctanesulfonamide (FOSA)	**52**		1.8	0.89	ng/L		11/12/20 18:55	11/13/20 15:30	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 18:55	11/13/20 15:30	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 15:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 15:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**4.7**		4.5	1.2	ng/L		11/12/20 18:55	11/13/20 15:30	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 15:30	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 15:30	1
4:2 FTS	**80**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 15:30	1
8:2 FTS	**250**		1.8	0.42	ng/L		11/12/20 18:55	11/13/20 15:30	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 18:55	11/13/20 15:30	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 15:30	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 15:30	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 15:30	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 15:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*
13C5 PFPeA	*107*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*
13C4 PFHpA	*122*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*
13C5 PFNA	*120*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*
13C2 PFDA	*123*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*
13C2 PFUnA	*119*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:30*	*1*

Client Sample ID: SW-M06 (11042020)

Date Collected: 11/04/20 13:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	111		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C2 PFTeDA	92		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C2 PFHxDA	90		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C3 PFBS	122		25 - 150	11/12/20 18:55	11/13/20 15:30	1
18O2 PFHxS	124		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C4 PFOS	129		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C8 FOSA	120		25 - 150	11/12/20 18:55	11/13/20 15:30	1
d3-NMeFOSAA	108		25 - 150	11/12/20 18:55	11/13/20 15:30	1
d5-NEtFOSAA	106		25 - 150	11/12/20 18:55	11/13/20 15:30	1
d-N-MeFOSA-M	83		20 - 150	11/12/20 18:55	11/13/20 15:30	1
d-N-EtFOSA-M	68		20 - 150	11/12/20 18:55	11/13/20 15:30	1
d7-N-MeFOSE-M	54		10 - 120	11/12/20 18:55	11/13/20 15:30	1
d9-N-EtFOSE-M	47		10 - 120	11/12/20 18:55	11/13/20 15:30	1
M2-4:2 FTS	86		25 - 150	11/12/20 18:55	11/13/20 15:30	1
M2-8:2 FTS	127		25 - 150	11/12/20 18:55	11/13/20 15:30	1
13C3 HFPO-DA	114		25 - 150	11/12/20 18:55	11/13/20 15:30	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	400		36	10	ng/L		11/12/20 18:55	11/15/20 12:17	20
Perfluorooctanoic acid (PFOA)	2300		36	15	ng/L		11/12/20 18:55	11/15/20 12:17	20
6:2 FTS	2500		90	45	ng/L		11/12/20 18:55	11/15/20 12:17	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	89		25 - 150	11/12/20 18:55	11/15/20 12:17	20
13C4 PFOA	94		25 - 150	11/12/20 18:55	11/15/20 12:17	20
M2-6:2 FTS	112		25 - 150	11/12/20 18:55	11/15/20 12:17	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	16		5.0	1.9	mg/L			11/09/20 17:57	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M07 (11042020)

Date Collected: 11/04/20 13:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**98**		4.2	2.0	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoropentanoic acid (PFPeA)	**320**		1.7	0.41	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorohexanoic acid (PFHxA)	**330**		1.7	0.49	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoroheptanoic acid (PFHpA)	**130**		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorononanoic acid (PFNA)	**110**		1.7	0.23	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorodecanoic acid (PFDA)	**4.2**		1.7	0.26	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		1.7	0.93	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.46	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.62	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.75	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.79	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoropentanesulfonic acid (PFPeS)	**3.6**		1.7	0.25	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorohexanesulfonic acid (PFHxS)	**65**		1.7	0.48	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.0**		1.7	0.16	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorooctanesulfonic acid (PFOS)	**170**		1.7	0.46	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.31	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.82	ng/L		11/12/20 18:55	11/13/20 15:39	1
Perfluorooctanesulfonamide (FOSA)	**40**		1.7	0.83	ng/L		11/12/20 18:55	11/13/20 15:39	1
NEtFOSA	<1.7		1.7	0.73	ng/L		11/12/20 18:55	11/13/20 15:39	1
NMeFOSA	<1.7		1.7	0.36	ng/L		11/12/20 18:55	11/13/20 15:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2	1.0	ng/L		11/12/20 18:55	11/13/20 15:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**3.0**	**J**	4.2	1.1	ng/L		11/12/20 18:55	11/13/20 15:39	1
NMeFOSE	<3.4		3.4	1.2	ng/L		11/12/20 18:55	11/13/20 15:39	1
NEtFOSE	<1.7		1.7	0.72	ng/L		11/12/20 18:55	11/13/20 15:39	1
4:2 FTS	**40**		1.7	0.20	ng/L		11/12/20 18:55	11/13/20 15:39	1
8:2 FTS	**170**		1.7	0.39	ng/L		11/12/20 18:55	11/13/20 15:39	1
10:2 FTS	<1.7		1.7	0.57	ng/L		11/12/20 18:55	11/13/20 15:39	1
DONA	<1.7		1.7	0.34	ng/L		11/12/20 18:55	11/13/20 15:39	1
HFPO-DA (GenX)	<3.4		3.4	1.3	ng/L		11/12/20 18:55	11/13/20 15:39	1
F-53B Major	<1.7		1.7	0.20	ng/L		11/12/20 18:55	11/13/20 15:39	1
F-53B Minor	<1.7		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 15:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:39*	*1*
13C5 PFPeA	*99*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:39*	*1*
13C2 PFHxA	*107*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:39*	*1*
13C4 PFHpA	*115*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:39*	*1*
13C5 PFNA	*112*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:39*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M07 (11042020)

Date Collected: 11/04/20 13:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	124		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C2 PFUnA	114		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C2 PFDoA	111		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C2 PFTeDA	94		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C2 PFHxDA	96		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C3 PFBS	109		25 - 150	11/12/20 18:55	11/13/20 15:39	1
18O2 PFHxS	117		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C4 PFOS	127		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C8 FOSA	111		25 - 150	11/12/20 18:55	11/13/20 15:39	1
d3-NMeFOSAA	105		25 - 150	11/12/20 18:55	11/13/20 15:39	1
d5-NEtFOSAA	102		25 - 150	11/12/20 18:55	11/13/20 15:39	1
d-N-MeFOSA-M	89		20 - 150	11/12/20 18:55	11/13/20 15:39	1
d-N-EtFOSA-M	79		20 - 150	11/12/20 18:55	11/13/20 15:39	1
d7-N-MeFOSE-M	63		10 - 120	11/12/20 18:55	11/13/20 15:39	1
d9-N-EtFOSE-M	59		10 - 120	11/12/20 18:55	11/13/20 15:39	1
M2-4:2 FTS	148		25 - 150	11/12/20 18:55	11/13/20 15:39	1
M2-8:2 FTS	117		25 - 150	11/12/20 18:55	11/13/20 15:39	1
13C3 HFPO-DA	112		25 - 150	11/12/20 18:55	11/13/20 15:39	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1400		34	14	ng/L		11/12/20 18:55	11/15/20 12:26	20
6:2 FTS	2100		84	42	ng/L		11/12/20 18:55	11/15/20 12:26	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	101		25 - 150	11/12/20 18:55	11/15/20 12:26	20
M2-6:2 FTS	115		25 - 150	11/12/20 18:55	11/15/20 12:26	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	36		5.0	1.9	mg/L			11/09/20 17:58	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M08 (11042020)

Date Collected: 11/04/20 13:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**72**		4.6	2.2	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoropentanoic acid (PFPeA)	**220**		1.8	0.45	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorohexanoic acid (PFHxA)	**220**		1.8	0.53	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoroheptanoic acid (PFHpA)	**85**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorononanoic acid (PFNA)	**50**		1.8	0.25	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorodecanoic acid (PFDA)	**2.6**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorobutanesulfonic acid (PFBS)	**4.1**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoropentanesulfonic acid (PFPeS)	**2.3**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorohexanesulfonic acid (PFHxS)	**37**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.5**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorooctanesulfonic acid (PFOS)	**130**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		11/12/20 18:55	11/13/20 15:48	1
Perfluorooctanesulfonamide (FOSA)	**1.5**	**J**	1.8	0.90	ng/L		11/12/20 18:55	11/13/20 15:48	1
NEtFOSA	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 15:48	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 15:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 18:55	11/13/20 15:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 18:55	11/13/20 15:48	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 18:55	11/13/20 15:48	1
NEtFOSE	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 15:48	1
4:2 FTS	**34**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 15:48	1
8:2 FTS	**90**		1.8	0.42	ng/L		11/12/20 18:55	11/13/20 15:48	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 18:55	11/13/20 15:48	1
DONA	<1.8		1.8	0.37	ng/L		11/12/20 18:55	11/13/20 15:48	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 18:55	11/13/20 15:48	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 15:48	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 15:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*68*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*
13C5 PFPeA	*82*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*
13C2 PFHxA	*85*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*
13C4 PFHpA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*
13C5 PFNA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*
13C2 PFDA	*83*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:48*	*1*

Client Sample ID: SW-M08 (11042020)
Date Collected: 11/04/20 13:55
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	79		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C2 PFDoA	76		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C2 PFTeDA	64		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C2 PFHxDA	71		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C3 PFBS	84		25 - 150	11/12/20 18:55	11/13/20 15:48	1
18O2 PFHxS	86		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C4 PFOS	90		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C8 FOSA	80		25 - 150	11/12/20 18:55	11/13/20 15:48	1
d3-NMeFOSAA	71		25 - 150	11/12/20 18:55	11/13/20 15:48	1
d5-NEtFOSAA	69		25 - 150	11/12/20 18:55	11/13/20 15:48	1
d-N-MeFOSA-M	49		20 - 150	11/12/20 18:55	11/13/20 15:48	1
d-N-EtFOSA-M	38		20 - 150	11/12/20 18:55	11/13/20 15:48	1
d7-N-MeFOSE-M	33		10 - 120	11/12/20 18:55	11/13/20 15:48	1
d9-N-EtFOSE-M	30		10 - 120	11/12/20 18:55	11/13/20 15:48	1
M2-4:2 FTS	53		25 - 150	11/12/20 18:55	11/13/20 15:48	1
M2-8:2 FTS	85		25 - 150	11/12/20 18:55	11/13/20 15:48	1
13C3 HFPO-DA	86		25 - 150	11/12/20 18:55	11/13/20 15:48	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	700		18	7.8	ng/L		11/12/20 18:55	11/15/20 12:35	10
6:2 FTS	1700		46	23	ng/L		11/12/20 18:55	11/15/20 12:35	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	80		25 - 150	11/12/20 18:55	11/15/20 12:35	10
M2-6:2 FTS	96		25 - 150	11/12/20 18:55	11/15/20 12:35	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	70		5.0	1.9	mg/L			11/09/20 17:59	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M09 (11042020)

Date Collected: 11/04/20 14:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**70**		4.3	2.1	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoropentanoic acid (PFPeA)	**220**		1.7	0.43	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorohexanoic acid (PFHxA)	**210**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoroheptanoic acid (PFHpA)	**79**		1.7	0.22	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorononanoic acid (PFNA)	**55**		1.7	0.23	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorodecanoic acid (PFDA)	**2.5**		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7	0.96	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.48	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.64	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.77	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.82	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.7	0.26	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorohexanesulfonic acid (PFHxS)	**34**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.6**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorooctanesulfonic acid (PFOS)	**130**		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.32	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.84	ng/L		11/12/20 18:55	11/13/20 15:57	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	1.7	0.85	ng/L		11/12/20 18:55	11/13/20 15:57	1
NEtFOSA	<1.7		1.7	0.76	ng/L		11/12/20 18:55	11/13/20 15:57	1
NMeFOSA	<1.7		1.7	0.37	ng/L		11/12/20 18:55	11/13/20 15:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3	1.0	ng/L		11/12/20 18:55	11/13/20 15:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3	1.1	ng/L		11/12/20 18:55	11/13/20 15:57	1
NMeFOSE	<3.5		3.5	1.2	ng/L		11/12/20 18:55	11/13/20 15:57	1
NEtFOSE	<1.7		1.7	0.74	ng/L		11/12/20 18:55	11/13/20 15:57	1
4:2 FTS	**18**		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 15:57	1
8:2 FTS	**95**		1.7	0.40	ng/L		11/12/20 18:55	11/13/20 15:57	1
10:2 FTS	<1.7		1.7	0.58	ng/L		11/12/20 18:55	11/13/20 15:57	1
DONA	<1.7		1.7	0.35	ng/L		11/12/20 18:55	11/13/20 15:57	1
HFPO-DA (GenX)	<3.5		3.5	1.3	ng/L		11/12/20 18:55	11/13/20 15:57	1
F-53B Major	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 15:57	1
F-53B Minor	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 15:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*
13C5 PFPeA	*78*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*
13C2 PFHxA	*84*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*
13C4 PFHpA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*
13C5 PFNA	*92*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*
13C2 PFDA	*88*		*25 - 150*	*11/12/20 18:55*	*11/13/20 15:57*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M09 (11042020)

Date Collected: 11/04/20 14:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	83		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C2 PFDoA	77		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C2 PFTeDA	71		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C2 PFHxDA	76		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C3 PFBS	86		25 - 150	11/12/20 18:55	11/13/20 15:57	1
18O2 PFHxS	88		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C4 PFOS	95		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C8 FOSA	86		25 - 150	11/12/20 18:55	11/13/20 15:57	1
d3-NMeFOSAA	73		25 - 150	11/12/20 18:55	11/13/20 15:57	1
d5-NEtFOSAA	76		25 - 150	11/12/20 18:55	11/13/20 15:57	1
d-N-MeFOSA-M	48		20 - 150	11/12/20 18:55	11/13/20 15:57	1
d-N-EtFOSA-M	41		20 - 150	11/12/20 18:55	11/13/20 15:57	1
d7-N-MeFOSE-M	35		10 - 120	11/12/20 18:55	11/13/20 15:57	1
d9-N-EtFOSE-M	34		10 - 120	11/12/20 18:55	11/13/20 15:57	1
M2-4:2 FTS	96		25 - 150	11/12/20 18:55	11/13/20 15:57	1
M2-8:2 FTS	90		25 - 150	11/12/20 18:55	11/13/20 15:57	1
13C3 HFPO-DA	87		25 - 150	11/12/20 18:55	11/13/20 15:57	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	650		17	7.4	ng/L		11/12/20 18:55	11/15/20 12:45	10
6:2 FTS	1600		43	22	ng/L		11/12/20 18:55	11/15/20 12:45	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	83		25 - 150	11/12/20 18:55	11/15/20 12:45	10
M2-6:2 FTS	94		25 - 150	11/12/20 18:55	11/15/20 12:45	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	37		5.0	1.9	mg/L			11/10/20 17:02	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: SW-M10 (11042020)
Date Collected: 11/04/20 14:05
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-10
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**66**		4.4	2.1	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoropentanoic acid (PFPeA)	**180**		1.8	0.44	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorohexanoic acid (PFHxA)	**180**		1.8	0.52	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoroheptanoic acid (PFHpA)	**75**		1.8	0.22	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorononanoic acid (PFNA)	**25**		1.8	0.24	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorodecanoic acid (PFDA)	**2.1**		1.8	0.28	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.98	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.79	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorobutanesulfonic acid (PFBS)	**3.0**		1.8	0.18	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.8	0.27	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorohexanesulfonic acid (PFHxS)	**33**		1.8	0.51	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.2**		1.8	0.17	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorooctanesulfonic acid (PFOS)	**170**		1.8	0.48	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.28	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.86	ng/L		11/12/20 19:01	11/13/20 22:03	1
Perfluorooctanesulfonamide (FOSA)	**0.89**	**J**	1.8	0.87	ng/L		11/12/20 19:01	11/13/20 22:03	1
NEtFOSA	<1.8		1.8	0.77	ng/L		11/12/20 19:01	11/13/20 22:03	1
NMeFOSA	<1.8		1.8	0.38	ng/L		11/12/20 19:01	11/13/20 22:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4	1.1	ng/L		11/12/20 19:01	11/13/20 22:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.4		4.4	1.2	ng/L		11/12/20 19:01	11/13/20 22:03	1
NMeFOSE	<3.6		3.6	1.2	ng/L		11/12/20 19:01	11/13/20 22:03	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 19:01	11/13/20 22:03	1
4:2 FTS	**13**		1.8	0.21	ng/L		11/12/20 19:01	11/13/20 22:03	1
8:2 FTS	**81**		1.8	0.41	ng/L		11/12/20 19:01	11/13/20 22:03	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 19:01	11/13/20 22:03	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 19:01	11/13/20 22:03	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 19:01	11/13/20 22:03	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 19:01	11/13/20 22:03	1
F-53B Minor	<1.8		1.8	0.28	ng/L		11/12/20 19:01	11/13/20 22:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C5 PFPeA	*84*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C2 PFHxA	*94*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C5 PFNA	*95*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C2 PFDA	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*

Client Sample ID: SW-M10 (11042020)

Lab Sample ID: 500-190763-10

Date Collected: 11/04/20 14:05

Matrix: Water

Date Received: 11/07/20 09:55

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFUnA	*91*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C2 PFDoA	*91*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C2 PFTeDA	*81*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C2 PFHxDA	*76*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C3 PFBS	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
18O2 PFHxS	*107*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C4 PFOS	*102*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C8 FOSA	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d3-NMeFOSAA	*90*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d5-NEtFOSAA	*83*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d-N-MeFOSA-M	*55*		*20 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d-N-EtFOSA-M	*47*		*20 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d7-N-MeFOSE-M	*36*		*10 - 120*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
d9-N-EtFOSE-M	*31*		*10 - 120*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
M2-8:2 FTS	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:03*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**420**		18	7.6	ng/L		11/12/20 19:01	11/14/20 22:20	10
6:2 FTS	**1200**		44	22	ng/L		11/12/20 19:01	11/14/20 22:20	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*94*		*25 - 150*	*11/12/20 19:01*	*11/14/20 22:20*	*10*
M2-6:2 FTS	*106*		*25 - 150*	*11/12/20 19:01*	*11/14/20 22:20*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**5.0**		5.0	1.9	mg/L			11/10/20 17:03	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Client Sample ID: DUP-02 (11042020)

Date Collected: 11/04/20 00:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**85**		4.4	2.1	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoropentanoic acid (PFPeA)	**240**		1.8	0.43	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorohexanoic acid (PFHxA)	**320**		1.8	0.51	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoroheptanoic acid (PFHpA)	**140**		1.8	0.22	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorononanoic acid (PFNA)	**78**		1.8	0.24	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorodecanoic acid (PFDA)	**3.4**		1.8	0.27	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoroundecanoic acid (PFUnA)	**1.3**	**J**	1.8	0.97	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorododecanoic acid (PFDoA)	**0.60**	**J**	1.8	0.49	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.1	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorotetradecanoic acid (PFTeA)	**0.73**	**J**	1.8	0.64	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.78	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.83	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorobutanesulfonic acid (PFBS)	**5.5**		1.8	0.18	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoropentanesulfonic acid (PFPeS)	**4.6**		1.8	0.26	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorohexanesulfonic acid (PFHxS)	**68**		1.8	0.50	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.3**		1.8	0.17	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorooctanesulfonic acid (PFOS)	**160**		1.8	0.48	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.28	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.86	ng/L		11/12/20 19:01	11/13/20 22:12	1
Perfluorooctanesulfonamide (FOSA)	**28**		1.8	0.86	ng/L		11/12/20 19:01	11/13/20 22:12	1
NEtFOSA	<1.8		1.8	0.77	ng/L		11/12/20 19:01	11/13/20 22:12	1
NMeFOSA	<1.8		1.8	0.38	ng/L		11/12/20 19:01	11/13/20 22:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4	1.1	ng/L		11/12/20 19:01	11/13/20 22:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**5.1**		4.4	1.1	ng/L		11/12/20 19:01	11/13/20 22:12	1
NMeFOSE	<3.5		3.5	1.2	ng/L		11/12/20 19:01	11/13/20 22:12	1
NEtFOSE	<1.8		1.8	0.75	ng/L		11/12/20 19:01	11/13/20 22:12	1
4:2 FTS	**29**		1.8	0.21	ng/L		11/12/20 19:01	11/13/20 22:12	1
8:2 FTS	**140**		1.8	0.41	ng/L		11/12/20 19:01	11/13/20 22:12	1
10:2 FTS	<1.8		1.8	0.59	ng/L		11/12/20 19:01	11/13/20 22:12	1
DONA	<1.8		1.8	0.35	ng/L		11/12/20 19:01	11/13/20 22:12	1
HFPO-DA (GenX)	<3.5		3.5	1.3	ng/L		11/12/20 19:01	11/13/20 22:12	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 19:01	11/13/20 22:12	1
F-53B Minor	<1.8		1.8	0.28	ng/L		11/12/20 19:01	11/13/20 22:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:12*	*1*
13C5 PFPeA	*98*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:12*	*1*
13C2 PFHxA	*103*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:12*	*1*
13C4 PFHpA	*113*		*25 - 150*	*11/12/20 19:01*	*11/13/20 22:12*	*1*

Client Sample ID: DUP-02 (11042020)

Date Collected: 11/04/20 00:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190763-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	109		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C2 PFDA	117		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C2 PFUnA	105		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C2 PFDoA	106		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C2 PFTeDA	93		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C2 PFHxDA	96		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C3 PFBS	105		25 - 150	11/12/20 19:01	11/13/20 22:12	1
18O2 PFHxS	116		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C4 PFOS	120		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C8 FOSA	113		25 - 150	11/12/20 19:01	11/13/20 22:12	1
d3-NMeFOSAA	94		25 - 150	11/12/20 19:01	11/13/20 22:12	1
d5-NEtFOSAA	95		25 - 150	11/12/20 19:01	11/13/20 22:12	1
d-N-MeFOSA-M	61		20 - 150	11/12/20 19:01	11/13/20 22:12	1
d-N-EtFOSA-M	49		20 - 150	11/12/20 19:01	11/13/20 22:12	1
d7-N-MeFOSE-M	38		10 - 120	11/12/20 19:01	11/13/20 22:12	1
d9-N-EtFOSE-M	33		10 - 120	11/12/20 19:01	11/13/20 22:12	1
M2-4:2 FTS	133		25 - 150	11/12/20 19:01	11/13/20 22:12	1
M2-8:2 FTS	115		25 - 150	11/12/20 19:01	11/13/20 22:12	1
13C3 HFPO-DA	104		25 - 150	11/12/20 19:01	11/13/20 22:12	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	1800		35	15	ng/L		11/12/20 19:01	11/14/20 22:29	20
6:2 FTS	2000		88	44	ng/L		11/12/20 19:01	11/14/20 22:29	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	92		25 - 150	11/12/20 19:01	11/14/20 22:29	20
M2-6:2 FTS	92		25 - 150	11/12/20 19:01	11/14/20 22:29	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	8.5		5.0	1.9	mg/L			11/10/20 17:04	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Job ID: 500-190763-1
Project/Site: Marinette 30062361.00001

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-431272/1-A
Matrix: Water
Analysis Batch: 431545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		11/12/20 18:55	11/13/20 11:51	1
NEtFOSA	<2.0		2.0	0.87	ng/L		11/12/20 18:55	11/13/20 11:51	1
NMeFOSA	<2.0		2.0	0.43	ng/L		11/12/20 18:55	11/13/20 11:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0	1.2	ng/L		11/12/20 18:55	11/13/20 11:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0	1.3	ng/L		11/12/20 18:55	11/13/20 11:51	1
NMeFOSE	<4.0		4.0	1.4	ng/L		11/12/20 18:55	11/13/20 11:51	1
NEtFOSE	<2.0		2.0	0.85	ng/L		11/12/20 18:55	11/13/20 11:51	1
4:2 FTS	<2.0		2.0	0.24	ng/L		11/12/20 18:55	11/13/20 11:51	1
6:2 FTS	<5.0		5.0	2.5	ng/L		11/12/20 18:55	11/13/20 11:51	1
8:2 FTS	<2.0		2.0	0.46	ng/L		11/12/20 18:55	11/13/20 11:51	1
10:2 FTS	<2.0		2.0	0.67	ng/L		11/12/20 18:55	11/13/20 11:51	1
DONA	<2.0		2.0	0.40	ng/L		11/12/20 18:55	11/13/20 11:51	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		11/12/20 18:55	11/13/20 11:51	1
F-53B Major	<2.0		2.0	0.24	ng/L		11/12/20 18:55	11/13/20 11:51	1
F-53B Minor	<2.0		2.0	0.32	ng/L		11/12/20 18:55	11/13/20 11:51	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C5 PFPeA	*90*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C2 PFHxA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C4 PFHpA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C4 PFOA	*96*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-431272/1-A
Matrix: Water
Analysis Batch: 431545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431272

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	87		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFDA	94		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFUnA	95		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFDoA	93		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFTeDA	79		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFHxDA	95		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C3 PFBS	86		25 - 150	11/12/20 18:55	11/13/20 11:51	1
18O2 PFHxS	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C4 PFOS	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C8 FOSA	85		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d3-NMeFOSAA	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d5-NEtFOSAA	83		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d-N-MeFOSA-M	62		20 - 150	11/12/20 18:55	11/13/20 11:51	1
d-N-EtFOSA-M	50		20 - 150	11/12/20 18:55	11/13/20 11:51	1
d7-N-MeFOSE-M	29		10 - 120	11/12/20 18:55	11/13/20 11:51	1
d9-N-EtFOSE-M	24		10 - 120	11/12/20 18:55	11/13/20 11:51	1
M2-4:2 FTS	101		25 - 150	11/12/20 18:55	11/13/20 11:51	1
M2-6:2 FTS	93		25 - 150	11/12/20 18:55	11/13/20 11:51	1
M2-8:2 FTS	101		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C3 HFPO-DA	83		25 - 150	11/12/20 18:55	11/13/20 11:51	1

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	46.5		ng/L		116	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	43.8		ng/L		109	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	44.8		ng/L		112	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	44.1		ng/L		110	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	43.6		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	40.0	49.1		ng/L		123	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	46.6		ng/L		116	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	39.4		ng/L		98	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	43.8		ng/L		110	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	50.0		ng/L		125	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	45.7		ng/L		114	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	42.2		ng/L		106	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	40.0	55.3		ng/L		138	58 - 145
Perfluorobutanesulfonic acid (PFBS)	35.4	40.1		ng/L		113	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	45.5		ng/L		121	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	39.9		ng/L		110	59 - 119

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	43.0		ng/L		113	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	43.8		ng/L		118	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	44.7		ng/L		116	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	40.2		ng/L		104	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.7	39.0		ng/L		101	67 - 127
Perfluorooctanesulfonamide (FOSA)	40.0	49.5		ng/L		124	73 - 133
NMeFOSA	40.0	42.9		ng/L		107	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.1		ng/L		108	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.9		ng/L		110	76 - 136
NMeFOSE	40.0	42.3		ng/L		106	70 - 130
NEtFOSE	40.0	43.9		ng/L		110	71 - 131
4:2 FTS	37.4	42.4		ng/L		114	79 - 139
6:2 FTS	37.9	37.2		ng/L		98	59 - 175
8:2 FTS	38.3	40.4		ng/L		105	75 - 135
10:2 FTS	38.6	32.4		ng/L		84	64 - 142
DONA	37.7	41.9		ng/L		111	79 - 139
HFPO-DA (GenX)	40.0	45.2		ng/L		113	51 - 173
F-53B Major	37.3	39.6		ng/L		106	75 - 135
F-53B Minor	37.7	40.3		ng/L		107	54 - 114

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*91*		*25 - 150*
13C2 PFDA	*89*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2 PFTeDA	*91*		*25 - 150*
13C2 PFHxDA	*95*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*97*		*25 - 150*
13C8 FOSA	*83*		*25 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*94*		*25 - 150*
d-N-MeFOSA-M	*75*		*20 - 150*
d-N-EtFOSA-M	*71*		*20 - 150*
d7-N-MeFOSE-M	*53*		*10 - 120*
d9-N-EtFOSE-M	*41*		*10 - 120*
M2-4:2 FTS	*92*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-6:2 FTS	96		25 - 150
M2-8:2 FTS	99		25 - 150
13C3 HFPO-DA	85		25 - 150

Lab Sample ID: MB 320-431274/1-A
Matrix: Water
Analysis Batch: 431566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431274

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		11/12/20 19:01	11/13/20 21:45	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		11/12/20 19:01	11/13/20 21:45	1
NEtFOSA	<2.0		2.0	0.87	ng/L		11/12/20 19:01	11/13/20 21:45	1
NMeFOSA	<2.0		2.0	0.43	ng/L		11/12/20 19:01	11/13/20 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0	1.2	ng/L		11/12/20 19:01	11/13/20 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0	1.3	ng/L		11/12/20 19:01	11/13/20 21:45	1
NMeFOSE	<4.0		4.0	1.4	ng/L		11/12/20 19:01	11/13/20 21:45	1
NEtFOSE	<2.0		2.0	0.85	ng/L		11/12/20 19:01	11/13/20 21:45	1
4:2 FTS	<2.0		2.0	0.24	ng/L		11/12/20 19:01	11/13/20 21:45	1
6:2 FTS	<5.0		5.0	2.5	ng/L		11/12/20 19:01	11/13/20 21:45	1
8:2 FTS	<2.0		2.0	0.46	ng/L		11/12/20 19:01	11/13/20 21:45	1
10:2 FTS	<2.0		2.0	0.67	ng/L		11/12/20 19:01	11/13/20 21:45	1
DONA	<2.0		2.0	0.40	ng/L		11/12/20 19:01	11/13/20 21:45	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		11/12/20 19:01	11/13/20 21:45	1
F-53B Major	<2.0		2.0	0.24	ng/L		11/12/20 19:01	11/13/20 21:45	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-431274/1-A
Matrix: Water
Analysis Batch: 431566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431274

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
F-53B Minor	<2.0		2.0	0.32	ng/L		11/12/20 19:01	11/13/20 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C5 PFPeA	*93*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFHxA	*94*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C4 PFHpA	*97*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C4 PFOA	*96*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C5 PFNA	*88*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFDA	*94*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFUnA	*91*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFDoA	*86*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFTeDA	*89*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C2 PFHxDA	*96*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C3 PFBS	*90*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
18O2 PFHxS	*102*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C4 PFOS	*98*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C8 FOSA	*83*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d3-NMeFOSAA	*87*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d-N-MeFOSA-M	*66*		*20 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d-N-EtFOSA-M	*51*		*20 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d7-N-MeFOSE-M	*27*		*10 - 120*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
d9-N-EtFOSE-M	*21*		*10 - 120*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
M2-4:2 FTS	*93*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
M2-6:2 FTS	*102*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*
13C3 HFPO-DA	*89*		*25 - 150*	*11/12/20 19:01*	*11/13/20 21:45*	*1*

Lab Sample ID: LCS 320-431274/2-A
Matrix: Water
Analysis Batch: 431566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431274

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	44.1		ng/L		110	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	37.7		ng/L		94	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	42.9		ng/L		107	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	41.9		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	40.0	45.4		ng/L		114	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	44.0		ng/L		110	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	39.4		ng/L		99	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	49.0		ng/L		123	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	47.6		ng/L		119	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	44.0		ng/L		110	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431274/2-A
Matrix: Water
Analysis Batch: 431566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431274

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	41.1		ng/L		103	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	40.0	48.6		ng/L		121	58 - 145
Perfluorobutanesulfonic acid (PFBS)	35.4	37.8		ng/L		107	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	45.3		ng/L		121	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	37.8		ng/L		104	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.5		ng/L		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	38.1		ng/L		103	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	37.0		ng/L		96	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	38.7		ng/L		100	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.7	33.5		ng/L		86	67 - 127
Perfluorooctanesulfonamide (FOSA)	40.0	45.9		ng/L		115	73 - 133
NMeFOSA	40.0	40.8		ng/L		102	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	42.0		ng/L		105	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.5		ng/L		109	76 - 136
NMeFOSE	40.0	36.7		ng/L		92	70 - 130
NEtFOSE	40.0	43.9		ng/L		110	71 - 131
4:2 FTS	37.4	38.6		ng/L		103	79 - 139
6:2 FTS	37.9	36.0		ng/L		95	59 - 175
8:2 FTS	38.3	43.2		ng/L		113	75 - 135
10:2 FTS	38.6	29.8		ng/L		77	64 - 142
DONA	37.7	39.1		ng/L		104	79 - 139
HFPO-DA (GenX)	40.0	43.1		ng/L		108	51 - 173
F-53B Major	37.3	37.9		ng/L		102	75 - 135
F-53B Minor	37.7	37.7		ng/L		100	54 - 114

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*96*		*25 - 150*
13C5 PFPeA	*98*		*25 - 150*
13C2 PFHxA	*92*		*25 - 150*
13C4 PFHpA	*107*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*94*		*25 - 150*
13C2 PFDA	*95*		*25 - 150*
13C2 PFUnA	*99*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*104*		*25 - 150*
13C2 PFHxDA	*103*		*25 - 150*
13C3 PFBS	*93*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431274/2-A
Matrix: Water
Analysis Batch: 431566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431274

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFOS	*101*		*25 - 150*
13C8 FOSA	*94*		*25 - 150*
d3-NMeFOSAA	*84*		*25 - 150*
d5-NEtFOSAA	*85*		*25 - 150*
d-N-MeFOSA-M	*92*		*20 - 150*
d-N-EtFOSA-M	*93*		*20 - 150*
d7-N-MeFOSE-M	*80*		*10 - 120*
d9-N-EtFOSE-M	*78*		*10 - 120*
M2-4:2 FTS	*95*		*25 - 150*
M2-6:2 FTS	*97*		*25 - 150*
M2-8:2 FTS	*103*		*25 - 150*
13C3 HFPO-DA	*93*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-571124/1
Matrix: Water
Analysis Batch: 571124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			11/09/20 17:40	1

Lab Sample ID: LCS 500-571124/2
Matrix: Water
Analysis Batch: 571124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	175		mg/L		88	80 - 120

Lab Sample ID: MB 500-571370/1
Matrix: Water
Analysis Batch: 571370

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			11/10/20 17:00	1

Lab Sample ID: LCS 500-571370/2
Matrix: Water
Analysis Batch: 571370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	191		mg/L		96	80 - 120

Client Sample ID: SW-M01 (11042020)

Lab Sample ID: 500-190763-1

Date Collected: 11/04/20 12:55

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:26	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431915	11/14/20 23:33	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:53		
						(End) 11/09/20 17:54		

Client Sample ID: SW-M02 (11042020)

Lab Sample ID: 500-190763-2

Date Collected: 11/04/20 13:00

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:35	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431936	11/15/20 11:41	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:54		
						(End) 11/09/20 17:55		

Client Sample ID: SW-M03 (11042020)

Lab Sample ID: 500-190763-3

Date Collected: 11/04/20 13:05

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:44	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431936	11/15/20 11:50	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:55		
						(End) 11/09/20 17:56		

Client Sample ID: SW-M04 (11042020)

Lab Sample ID: 500-190763-4

Date Collected: 11/04/20 13:10

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:53	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431936	11/15/20 11:59	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:56		
						(End) 11/09/20 17:56		

Client Sample ID: SW-M05 (11042020)

Lab Sample ID: 500-190763-5

Date Collected: 11/04/20 13:20

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 15:02	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	20	431936	11/15/20 12:08	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:56		
						(End) 11/09/20 17:57		

Client Sample ID: SW-M06 (11042020)

Lab Sample ID: 500-190763-6

Date Collected: 11/04/20 13:15

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 15:30	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	20	431936	11/15/20 12:17	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:57		
						(End) 11/09/20 17:58		

Client Sample ID: SW-M07 (11042020)

Lab Sample ID: 500-190763-7

Date Collected: 11/04/20 13:30

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 15:39	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	20	431936	11/15/20 12:26	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:58		
						(End) 11/09/20 17:59		

Client Sample ID: SW-M08 (11042020)

Lab Sample ID: 500-190763-8

Date Collected: 11/04/20 13:55

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 15:48	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431936	11/15/20 12:35	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571124		SMO	TAL CHI
						(Start) 11/09/20 17:59		
						(End) 11/09/20 18:00		

Client Sample ID: SW-M09 (11042020)

Lab Sample ID: 500-190763-9

Date Collected: 11/04/20 14:00

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 15:57	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431936	11/15/20 12:45	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:02		
						(End) 11/10/20 17:03		

Client Sample ID: SW-M10 (11042020)

Lab Sample ID: 500-190763-10

Date Collected: 11/04/20 14:05

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431274	11/12/20 19:01	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431566	11/13/20 22:03	D1R	TAL SAC
Total/NA	Prep	3535	DL		431274	11/12/20 19:01	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431915	11/14/20 22:20	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:03		
						(End) 11/10/20 17:04		

Client Sample ID: DUP-02 (11042020)

Lab Sample ID: 500-190763-11

Date Collected: 11/04/20 00:00

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431274	11/12/20 19:01	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431566	11/13/20 22:12	D1R	TAL SAC
Total/NA	Prep	3535	DL		431274	11/12/20 19:01	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	20	431915	11/14/20 22:29	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:04		
						(End) 11/10/20 17:04		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190763-1
Project/Site: Marinette 30062361.00001

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: AS, KK, SK	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-86744-39116.1
Client Contact: Elizabeth Hover	Phone:	E-Mail: sandra.fredrick@eurofinset.com		Page: Page 1 of 1
Company: ARCADIS U S., Inc.				Job #: 500-190763

Address: 126 North Jefferson Street Suite 400	Due Date Requested:	Analysis Requested
City: Milwaukee	TAT Requested (days): Standard	
State, Zip: WI, 53202	PO #: 30062361.00001	
Phone:	WO #:	
Email: Elizabeth.Hover@arcadis.com	Project #: 50017363	
Project Name: Marinette 30062361.00001	SSOW#:	
Site: Marinette, WI		

500-190763 COC

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS, Extended List (36 Analytes)	9060A - TOC	2320B - Alkalinity (Total/Bicarb/Carb)	6010C - Total Iron	9060A_Diss - DOC	6010C - Dissolved Iron	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	S	N	D	N	N		
1 SW-M01 (11042020)	11/4/20	1255	G	Water	N		X	X							
2 SW-M02 (11042020)		1300		Water			X								
3 SW-M03 (11042020)		1305		Water			X								
4 SW-M04 (11042020)		1310		Water			X								
5 SW-M05 (11042020)		1320		Water			X								
6 SW-M06 (11042020)		1315		Water			X								
7 SW-M07 (11042020)		1330		Water			X								
8 SW-M08 (11042020)		1355		Water			X								
9 SW-M09 (11042020)		1400		Water			X								
10 SW-M10 (11042020)		1405		Water			X								
11 DUP-02 (11042020)		—		Water											Duplicate

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

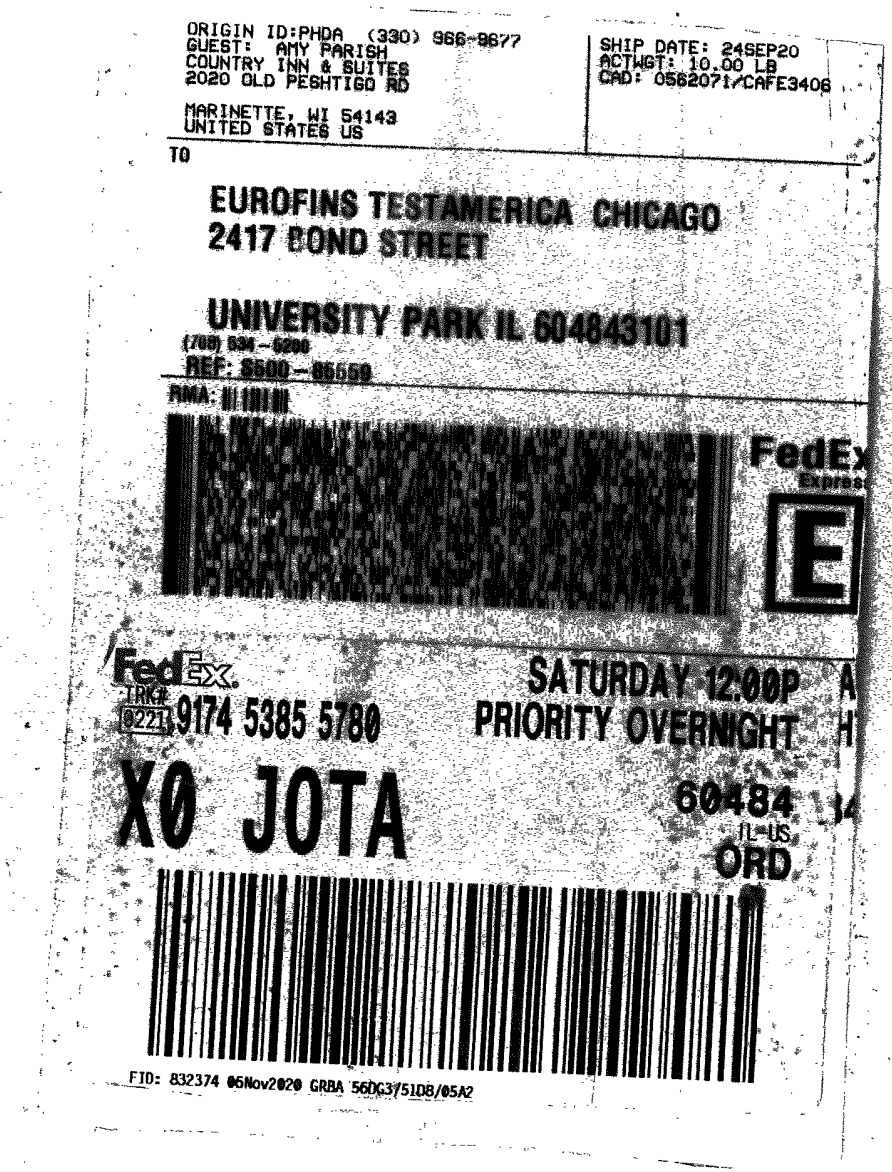
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Amy Seifker	11/6/20 1500	Arcadis	[illegible]	11/7/20 0955	ESTA-CHI
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

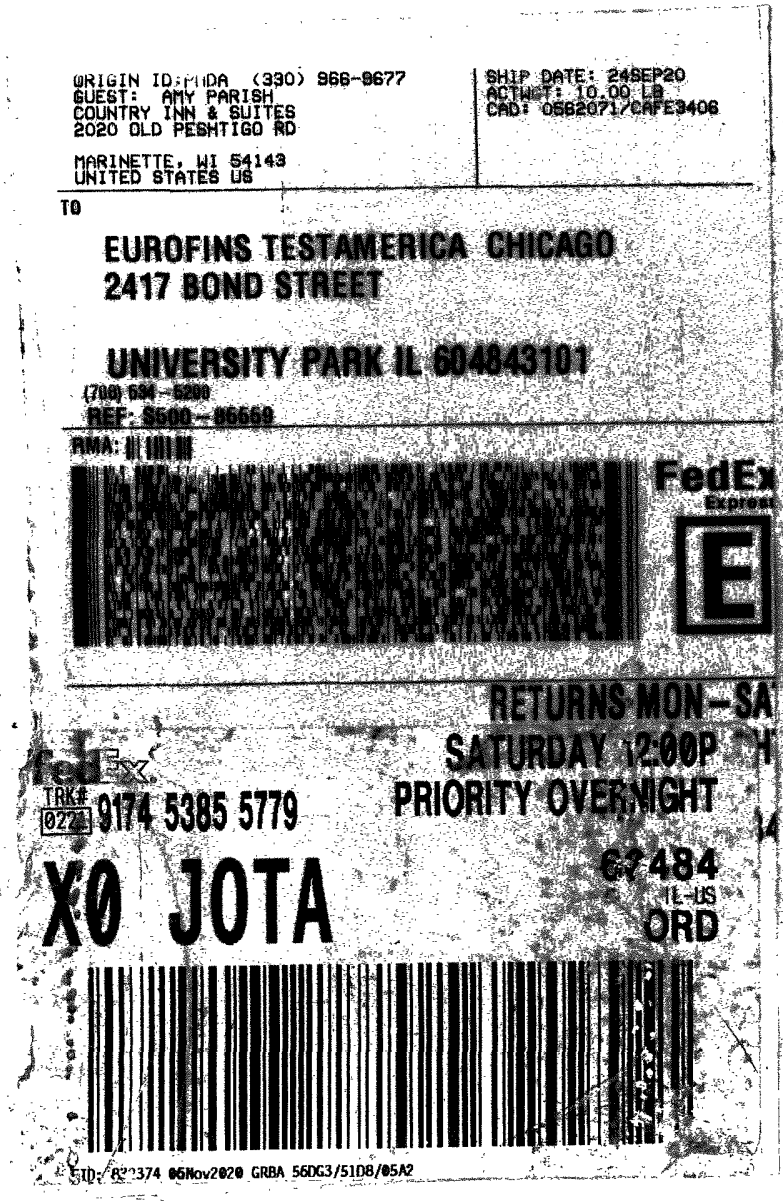
Cooler Temperature(s) °C and Other Remarks: 2.2→2.6, 2.3→2.7, 2.1→2.5, 1.7→1.8, 2.3→2.7, 1.5→1.6, 0.9→1.0, 1.9→2.0, 1.1→1.2, 0.0→0.1, 1.3→1.4


ORIGIN ID:RRLA (262) 202-5955
GUEST: AMY PARISH
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 06OCT2(
ACTWGT: 25.00 LB
CAD: 525155/CAFE34
TO
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-310
500-190763 Wayb
(708) 534-5200
INV:
PO:
REF:
DEPT:
RMA:
FedEx
TRK# 0221 7125 4943 3272
RETURNS MON-
PRIORITY OVERN
X0 JOTA
60
IL-US
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05


ORIGIN ID:RRLA (262) 202-5955
GUEST: AMY PARISH
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 06OCT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3408
TO
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
(708) 534-5200
INV:
PO:
REF:
DEPT:
RMA:
FedEx
Express
RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK# 0221 7125 4943 3261
X0 JOTA
60484
IL-US
ORD
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


ORIGIN ID:PHDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0562071/CAFE3406
TO
EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60843101
REF: S600-85659
RMA:
FedEx
Express
FedEx.
TRK# 0221 9174 5385 5780
SATURDAY 12:00P
PRIORITY OVERNIGHT
XØ JOTA
60484
IL-US
ORD
FID: 832374 06Nov2020 GRBA 56DG3/51DB/05A2


ORIGIN ID:PHDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD
MARINETTE, WI 54143
UNITED STATES US
SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0562071/CAFE3406
TO
EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60843101
REF: S600-85659
RMA:
FedEx
Express
FedEx.
TRK# 0221 9174 5385 5768
RETURNS MON-SA
SATURDAY 12:00P
PRIORITY OVERNIGHT
XØ JOTA
60484
IL-US
ORD
FID: 832374 06Nov2020 GRBA 56DG3/51DB/05A2



ORIGIN ID:MIDA (330) 966-9677
GUEST: AMY PARISH
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 24SEP20
ACTWGT: 10.00 LB
CAD: 0662071/CAFE3406

TO

EUROFINS TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484 3101
(708) 534-5200
REF: 5500-85668

RMA:

FedEx Express

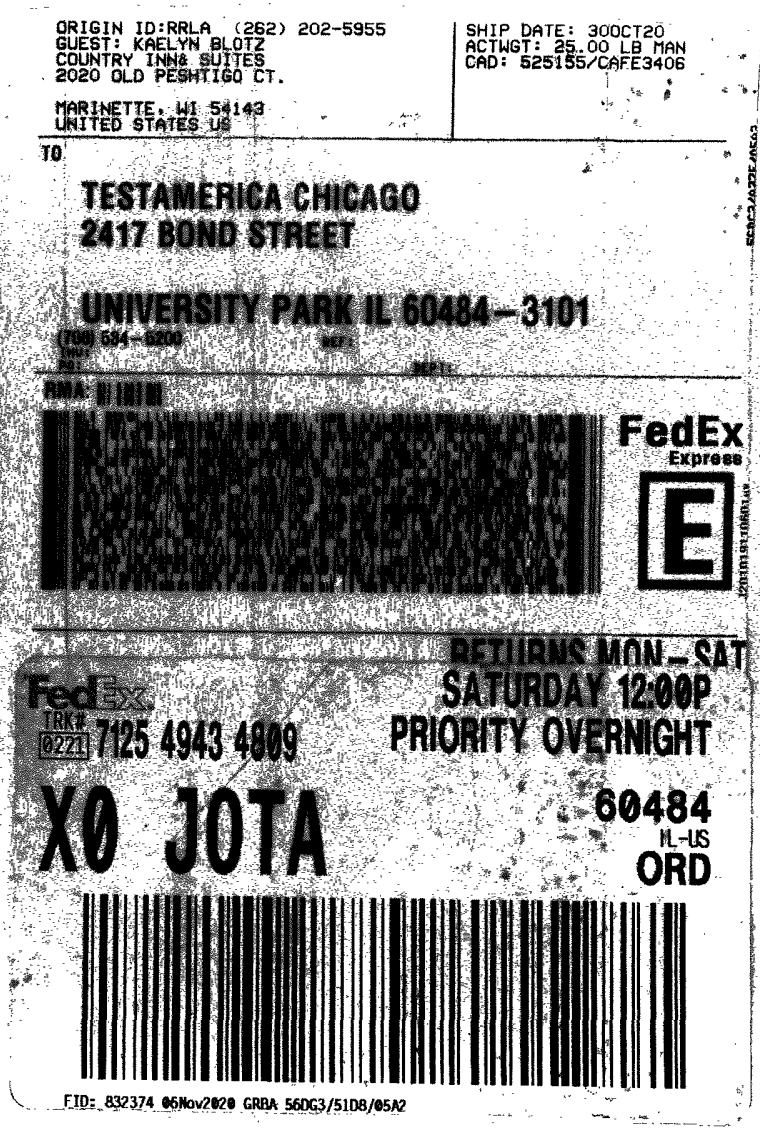
RETURNS MON-SA
SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0221 9174 5385 5779

60484
IL-US
ORD

XO JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2



ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3406

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200

RMA:

FedEx Express

RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

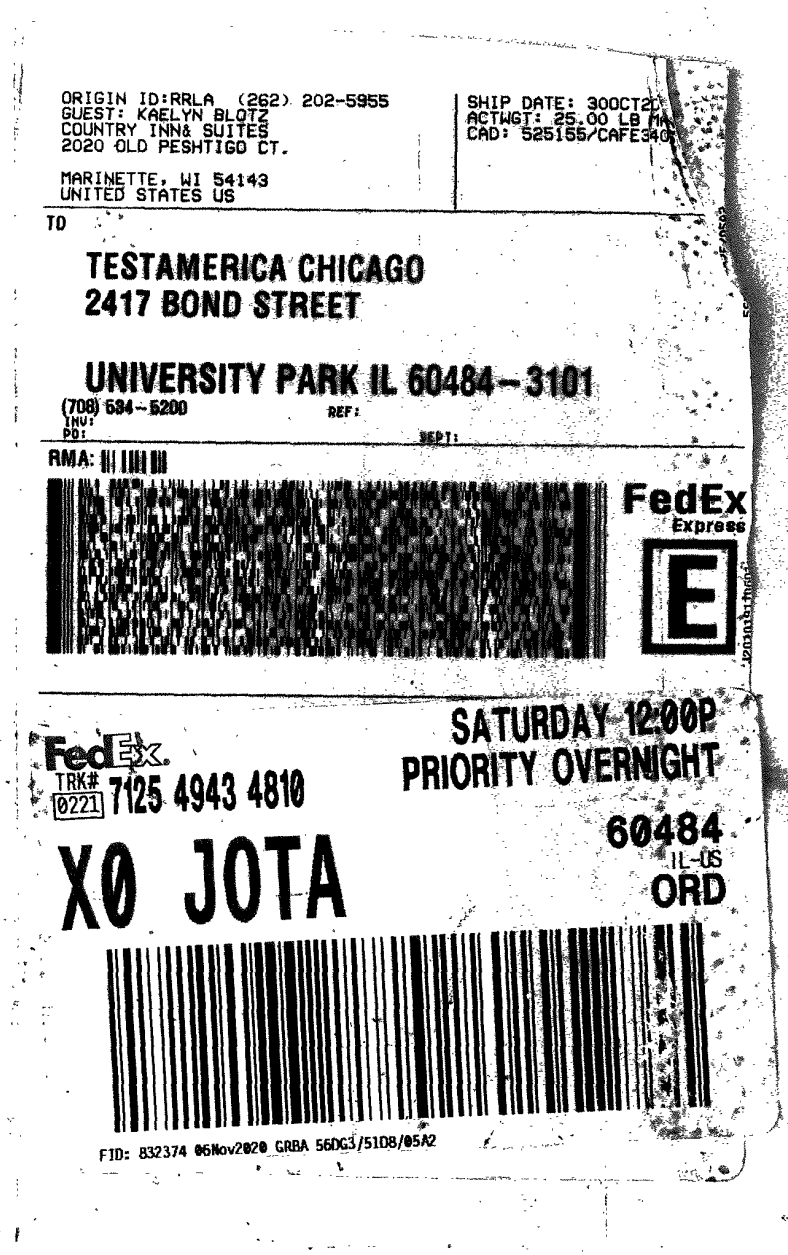
TRK# 0221 7125 4943 4809

60484
IL-US
ORD

XO JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3406
ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.
MARINETTE, WI 54143
UNITED STATES US
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
(708) 534-5200
FedEx Express
RETURNS MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT
FedEx
TRK# 0221 7125 4943 4820
60484
IL-US
ORD
XØ JOTA
FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2



ORIGIN ID:RRLA (262) 202-5955
GUEST: KAELYN BLOTZ
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 30OCT20
ACTWGT: 25.00 LB MA
CAD: 525155/CAFE340

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx Express

FedEx
TRK# 0221 7125 4943 4810

SATURDAY 12:00P
PRIORITY OVERNIGHT

60484
IL-US
ORD

XØ JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN & SUITES
2020 OLD PESHTIGO RD

MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 06MAR20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101
(708) 534-5200
INV:
PO:
REF:
DEPT:

RMA:

FedEx Express

FedEx
TRK# 0221 7125 4942 2106

SATURDAY 12:00P
PRIORITY OVERNIGHT

60484
IL-US
ORD

XØ JOTA

FID: 832374 06Nov2020 GRBA 56DG3/51D8/05A2


SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK# 7125 4943 3250
0221
60484
IL-US
ORD
XØ JOTA

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141912.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190763-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List(36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-M01 (11042020) (500-190763-1)	11/4/20	12:55 Central		Water			X	2	
SW-M02 (11042020) (500-190763-2)	11/4/20	13:00 Central		Water			X	2	
SW-M03 (11042020) (500-190763-3)	11/4/20	13:05 Central		Water			X	2	
SW-M04 (11042020) (500-190763-4)	11/4/20	13:10 Central		Water			X	2	
SW-M05 (11042020) (500-190763-5)	11/4/20	13:20 Central		Water			X	2	
SW-M06 (11042020) (500-190763-6)	11/4/20	13:15 Central		Water			X	2	
SW-M07 (11042020) (500-190763-7)	11/4/20	13:30 Central		Water			X	2	
SW-M08 (11042020) (500-190763-8)	11/4/20	13:55 Central		Water			X	2	
SW-M09 (11042020) (500-190763-9)	11/4/20	14:00 Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/9/20 1600	ETA	[signature]	11/10/20 09:45	ETA-SAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes △ No	Custody Seal No.: 1363728/1363726/1363731/1363730	Cooler Temperature(s) °C and Other Remarks: OB: 2.1/0.7/1.0/2.3 COOR: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

11/18/2020

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141912.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190763-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-M10 (11042020) (500-190763-10)	11/4/20	14:05 Central		Water			X	2	
DUP-02 (11042020) (500-190763-11)	11/4/20	Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/9/20 1600	ETA	[signature]	11/10/20 09:45	ETA-SAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes Δ No	Custody Seal No.: 1363728/1363726/1363731/1363730	Cooler Temperature(s) °C and Other Remarks: OB: 2.1/0.7/1.0/2.3 CF: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190763-1

Login Number: 190763
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6,2.7,2.5,1.8,2.7,1.6,1.0,2.0,1.2,0.1,1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190763-1

Login Number: 190763
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 11/10/20 01:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1363728/1363726/1363731/1363730
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 2.1/0.7/1.0/2.3c corr: 1.6/0.8/1.1/2.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

500-190763 Field Sheet

Job: _____

Tracking # : 893445008666

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-5 Corr. Factor: (+ (-)0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363728

Cooler ID: 1 OF 4

Temp Observed: 2.1 °C Corrected: 1.6 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

WR3-116

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 189344500877

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+)/- 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363726

Cooler ID: 2 OF 4

Temp Observed: 0.7 °C Corrected: 0.8 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

WR3-NC

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Tracking # : 189344500888

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363731

Cooler ID: 3 OF 4

Temp Observed: 1.0 °C Corrected: 1.1 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

WR3-11C

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 1893445008 99

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363730

Cooler ID: 4 OF 4

Temp Observed: 2.3 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190763-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-190763-1	SW-M01 (11042020)	80	94	100	110		106	104	109
500-190763-1 - DL	SW-M01 (11042020)					89			
500-190763-2	SW-M02 (11042020)	79	93	103	110		107	109	106
500-190763-2 - DL	SW-M02 (11042020)					89			
500-190763-3	SW-M03 (11042020)	76	91	100	110		103	105	99
500-190763-3 - DL	SW-M03 (11042020)					90			
500-190763-4	SW-M04 (11042020)	71	86	87	93		91	97	86
500-190763-4 - DL	SW-M04 (11042020)					87			
500-190763-5	SW-M05 (11042020)	87	105		121		121	132	120
500-190763-5 - DL	SW-M05 (11042020)			95		88			
500-190763-6	SW-M06 (11042020)	89	107		122		120	123	119
500-190763-6 - DL	SW-M06 (11042020)			89		94			
500-190763-7	SW-M07 (11042020)	83	99	107	115		112	124	114
500-190763-7 - DL	SW-M07 (11042020)					101			
500-190763-8	SW-M08 (11042020)	68	82	85	89		91	83	79
500-190763-8 - DL	SW-M08 (11042020)					80			
500-190763-9	SW-M09 (11042020)	66	78	84	91		92	88	83
500-190763-9 - DL	SW-M09 (11042020)					83			
500-190763-10	SW-M10 (11042020)	72	84	94	97		95	97	91
500-190763-10 - DL	SW-M10 (11042020)					94			
500-190763-11	DUP-02 (11042020)	82	98	103	113		109	117	105
500-190763-11 - DL	DUP-02 (11042020)					92			
LCS 320-431272/2-A	Lab Control Sample	91	91	95	94	92	91	89	92
LCS 320-431274/2-A	Lab Control Sample	96	98	92	107	97	94	95	99
MB 320-431272/1-A	Method Blank	85	90	89	91	96	87	94	95
MB 320-431274/1-A	Method Blank	91	93	94	97	96	88	94	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)
500-190763-1	SW-M01 (11042020)	99	89	91	102	115	118	106	89
500-190763-1 - DL	SW-M01 (11042020)								
500-190763-2	SW-M02 (11042020)	98	81	89	105	112	121	104	92
500-190763-2 - DL	SW-M02 (11042020)								
500-190763-3	SW-M03 (11042020)	91	79	88	101	105	110	101	90
500-190763-3 - DL	SW-M03 (11042020)								
500-190763-4	SW-M04 (11042020)	85	72	75	87	97	102	90	78
500-190763-4 - DL	SW-M04 (11042020)								
500-190763-5	SW-M05 (11042020)	116	94	93	117	123	122	113	107
500-190763-5 - DL	SW-M05 (11042020)								
500-190763-6	SW-M06 (11042020)	111	92	90	122	124	129	120	108
500-190763-6 - DL	SW-M06 (11042020)								
500-190763-7	SW-M07 (11042020)	111	94	96	109	117	127	111	105
500-190763-7 - DL	SW-M07 (11042020)								
500-190763-8	SW-M08 (11042020)	76	64	71	84	86	90	80	71
500-190763-8 - DL	SW-M08 (11042020)								
500-190763-9	SW-M09 (11042020)	77	71	76	86	88	95	86	73
500-190763-9 - DL	SW-M09 (11042020)								
500-190763-10	SW-M10 (11042020)	91	81	76	97	107	102	97	90
500-190763-10 - DL	SW-M10 (11042020)								

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190763-1
Project/Site: Marinette 30062361.00001

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water
Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)
500-190763-11	DUP-02 (11042020)	106	93	96	105	116	120	113	94
500-190763-11 - DL	DUP-02 (11042020)								
LCS 320-431272/2-A	Lab Control Sample	93	91	95	92	94	97	83	97
LCS 320-431274/2-A	Lab Control Sample	89	104	103	93	106	101	94	84
MB 320-431272/1-A	Method Blank	93	79	95	86	92	92	85	92
MB 320-431274/1-A	Method Blank	86	89	96	90	102	98	83	87

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (20-150)	dEtFOSA (20-150)	NMFM (10-120)	NEFM (10-120)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-190763-1	SW-M01 (11042020)	91	63	49	34	30	126		112
500-190763-1 - DL	SW-M01 (11042020)							92	
500-190763-2	SW-M02 (11042020)	89	65	51	41	36	140		113
500-190763-2 - DL	SW-M02 (11042020)							96	
500-190763-3	SW-M03 (11042020)	85	57	45	36	32	124		104
500-190763-3 - DL	SW-M03 (11042020)							102	
500-190763-4	SW-M04 (11042020)	65	52	45	41	36	114		98
500-190763-4 - DL	SW-M04 (11042020)							98	
500-190763-5	SW-M05 (11042020)	100	82	71	56	46	134		117
500-190763-5 - DL	SW-M05 (11042020)							99	
500-190763-6	SW-M06 (11042020)	106	83	68	54	47	86		127
500-190763-6 - DL	SW-M06 (11042020)							112	
500-190763-7	SW-M07 (11042020)	102	89	79	63	59	148		117
500-190763-7 - DL	SW-M07 (11042020)							115	
500-190763-8	SW-M08 (11042020)	69	49	38	33	30	53		85
500-190763-8 - DL	SW-M08 (11042020)							96	
500-190763-9	SW-M09 (11042020)	76	48	41	35	34	96		90
500-190763-9 - DL	SW-M09 (11042020)							94	
500-190763-10	SW-M10 (11042020)	83	55	47	36	31	131		97
500-190763-10 - DL	SW-M10 (11042020)							106	
500-190763-11	DUP-02 (11042020)	95	61	49	38	33	133		115
500-190763-11 - DL	DUP-02 (11042020)							92	
LCS 320-431272/2-A	Lab Control Sample	94	75	71	53	41	92	96	99
LCS 320-431274/2-A	Lab Control Sample	85	92	93	80	78	95	97	103
MB 320-431272/1-A	Method Blank	83	62	50	29	24	101	93	101
MB 320-431274/1-A	Method Blank	84	66	51	27	21	93	102	95

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)
500-190763-1	SW-M01 (11042020)	106
500-190763-1 - DL	SW-M01 (11042020)	
500-190763-2	SW-M02 (11042020)	102
500-190763-2 - DL	SW-M02 (11042020)	
500-190763-3	SW-M03 (11042020)	102
500-190763-3 - DL	SW-M03 (11042020)	
500-190763-4	SW-M04 (11042020)	92
500-190763-4 - DL	SW-M04 (11042020)	
500-190763-5	SW-M05 (11042020)	114
500-190763-5 - DL	SW-M05 (11042020)	
500-190763-6	SW-M06 (11042020)	114

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190763-1
Project/Site: Marinette 30062361.00001

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HFPODA						
Lab Sample ID	Client Sample ID	(25-150)						
500-190763-6 - DL	SW-M06 (11042020)							
500-190763-7	SW-M07 (11042020)	112						
500-190763-7 - DL	SW-M07 (11042020)							
500-190763-8	SW-M08 (11042020)	86						
500-190763-8 - DL	SW-M08 (11042020)							
500-190763-9	SW-M09 (11042020)	87						
500-190763-9 - DL	SW-M09 (11042020)							
500-190763-10	SW-M10 (11042020)	96						
500-190763-10 - DL	SW-M10 (11042020)							
500-190763-11	DUP-02 (11042020)	104						
500-190763-11 - DL	DUP-02 (11042020)							
LCS 320-431272/2-A	Lab Control Sample	85						
LCS 320-431274/2-A	Lab Control Sample	93						
MB 320-431272/1-A	Method Blank	83						
MB 320-431274/1-A	Method Blank	89						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxDA = 13C2 PFHxDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-190764-1
Client Project/Site: Marinette 30062361.00001

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski

Sandie Fredrick

Authorized for release by:
11/18/2020 10:02:50 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

Table of Contents

Job ID: 500-190764-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-190764-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2020 9:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 11 coolers at receipt time were 0.1º C, 1.0º C, 1.2º C, 1.4º C, 1.6º C, 1.8º C, 2.0º C, 2.5º C, 2.6º C, 2.7º C and 2.7º C.

LCMS
Method 537 (modified): Due to the high concentration of several, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-431272 and analytical batch 320-431545 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): The matrix spike duplicate (MSD) recoveries for Perfluoroundecanoic acid (PFUnA) for preparation batch 320-431272 and analytical batch 320-431545 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 537 (modified): Due to the high concentration of Perfluorooctanoic acid (PFOA) and 6:2 FTS, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-431272 and analytical batch 320-431915 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): Results for samples 500-190764-1, 500-190764-1[MS], 500-190764-1[MSD], 500-190764-2 and 500-190764-3 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3535: The following samples are yellow and contain floating particulates at the bottom of the bottle prior to extraction: 500-190764-1, 500-190764-1[MS], 500-190764-1[MSD], 500-190764-2, 500-190764-3, 500-190764-4, 500-190764-5, 500-190764-6, 500-190764-7, 500-190764-8, 500-190764-9, 500-190764-10 and 500-190764-11. preparation batch 320-431272 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow after final voluming: 500-190764-1, 500-190764-1[MS], 500-190764-1[MSD], 500-190764-2, 500-190764-3, 500-190764-4, 500-190764-5, 500-190764-6, 500-190764-7, 500-190764-8, 500-190764-9, 500-190764-10 and 500-190764-11.
preparation batch 320-431272 Method: 3535 PFC Matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-190764-1	SW-U01 (11042020)	Water	11/04/20 14:15	11/07/20 09:55	
500-190764-2	SW-U02 (11042020)	Water	11/04/20 14:20	11/07/20 09:55	
500-190764-3	SW-U03 (11042020)	Water	11/04/20 14:25	11/07/20 09:55	
500-190764-4	SW-U04 (11042020)	Water	11/04/20 14:30	11/07/20 09:55	
500-190764-5	SW-U05 (11042020)	Water	11/04/20 15:00	11/07/20 09:55	
500-190764-6	SW-U06 (11042020)	Water	11/04/20 15:05	11/07/20 09:55	
500-190764-7	SW-U07 (11042020)	Water	11/04/20 15:10	11/07/20 09:55	
500-190764-8	SW-U08 (11042020)	Water	11/04/20 15:15	11/07/20 09:55	
500-190764-9	SW-U09 (11042020)	Water	11/04/20 15:20	11/07/20 09:55	
500-190764-10	SW-U10 (11042020)	Water	11/04/20 15:25	11/07/20 09:55	
500-190764-11	DUP-03 (11042020)	Water	11/04/20 00:00	11/07/20 09:55	

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U01 (11042020)
Date Collected: 11/04/20 14:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**63**		4.6	2.2	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoropentanoic acid (PFPeA)	**190**		1.8	0.45	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorohexanoic acid (PFHxA)	**180**		1.8	0.53	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoroheptanoic acid (PFHpA)	**70**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorononanoic acid (PFNA)	**24**		1.8	0.25	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorodecanoic acid (PFDA)	**2.0**		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoroundecanoic acid (PFUnA)	<1.8	F1	1.8	1.0	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoropentanesulfonic acid (PFPeS)	**2.9**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorohexanesulfonic acid (PFHxS)	**35**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.0**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorooctanesulfonic acid (PFOS)	**150**		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		11/12/20 18:55	11/13/20 12:09	1
Perfluorooctanesulfonamide (FOSA)	**1.1**	**J**	1.8	0.90	ng/L		11/12/20 18:55	11/13/20 12:09	1
NEtFOSA	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 12:09	1
NMeFOSA	<1.8		1.8	0.40	ng/L		11/12/20 18:55	11/13/20 12:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 18:55	11/13/20 12:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 18:55	11/13/20 12:09	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 18:55	11/13/20 12:09	1
NEtFOSE	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 12:09	1
4:2 FTS	**14**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 12:09	1
8:2 FTS	**83**		1.8	0.42	ng/L		11/12/20 18:55	11/13/20 12:09	1
10:2 FTS	<1.8		1.8	0.62	ng/L		11/12/20 18:55	11/13/20 12:09	1
DONA	<1.8		1.8	0.37	ng/L		11/12/20 18:55	11/13/20 12:09	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 18:55	11/13/20 12:09	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 12:09	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*
13C5 PFPeA	*86*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*
13C2 PFHxA	*93*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*
13C4 PFHpA	*103*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*
13C5 PFNA	*98*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*
13C2 PFDA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:09*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U01 (11042020)

Date Collected: 11/04/20 14:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	103		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C2 PFDoA	96		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C2 PFTeDA	77		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C2 PFHxDA	80		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C3 PFBS	90		25 - 150	11/12/20 18:55	11/13/20 12:09	1
18O2 PFHxS	108		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C4 PFOS	111		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C8 FOSA	100		25 - 150	11/12/20 18:55	11/13/20 12:09	1
d3-NMeFOSAA	102		25 - 150	11/12/20 18:55	11/13/20 12:09	1
d5-NEtFOSAA	90		25 - 150	11/12/20 18:55	11/13/20 12:09	1
d-N-MeFOSA-M	91		20 - 150	11/12/20 18:55	11/13/20 12:09	1
d-N-EtFOSA-M	79		20 - 150	11/12/20 18:55	11/13/20 12:09	1
d7-N-MeFOSE-M	72		10 - 120	11/12/20 18:55	11/13/20 12:09	1
d9-N-EtFOSE-M	67		10 - 120	11/12/20 18:55	11/13/20 12:09	1
M2-4:2 FTS	125		25 - 150	11/12/20 18:55	11/13/20 12:09	1
M2-8:2 FTS	113		25 - 150	11/12/20 18:55	11/13/20 12:09	1
13C3 HFPO-DA	94		25 - 150	11/12/20 18:55	11/13/20 12:09	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	420		18	7.8	ng/L		11/12/20 18:55	11/14/20 22:47	10
6:2 FTS	1300		46	23	ng/L		11/12/20 18:55	11/14/20 22:47	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	99		25 - 150	11/12/20 18:55	11/14/20 22:47	10
M2-6:2 FTS	104		25 - 150	11/12/20 18:55	11/14/20 22:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	5.5		5.0	1.9	mg/L			11/10/20 17:04	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U02 (11042020)
Date Collected: 11/04/20 14:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**59**		4.5	2.1	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoropentanoic acid (PFPeA)	**180**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorohexanoic acid (PFHxA)	**150**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoroheptanoic acid (PFHpA)	**63**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorononanoic acid (PFNA)	**20**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorodecanoic acid (PFDA)	**2.4**		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.98	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorobutanesulfonic acid (PFBS)	**3.1**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoropentanesulfonic acid (PFPeS)	**2.5**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	**36**		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.0**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorooctanesulfonic acid (PFOS)	**170**		1.8	0.48	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		11/12/20 18:55	11/13/20 12:37	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 12:37	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 12:37	1
NMeFOSA	<1.8		1.8	0.38	ng/L		11/12/20 18:55	11/13/20 12:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 12:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 18:55	11/13/20 12:37	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 12:37	1
NEtFOSE	<1.8		1.8	0.76	ng/L		11/12/20 18:55	11/13/20 12:37	1
4:2 FTS	**9.8**		1.8	0.21	ng/L		11/12/20 18:55	11/13/20 12:37	1
8:2 FTS	**97**		1.8	0.41	ng/L		11/12/20 18:55	11/13/20 12:37	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 18:55	11/13/20 12:37	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 12:37	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 12:37	1
F-53B Major	<1.8		1.8	0.21	ng/L		11/12/20 18:55	11/13/20 12:37	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C5 PFPeA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C2 PFHxA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C4 PFHpA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C5 PFNA	*101*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C2 PFDA	*107*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*
13C2 PFUnA	*105*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:37*	*1*

Client Sample ID: SW-U02 (11042020)

Date Collected: 11/04/20 14:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	96		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C2 PFTeDA	76		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C2 PFHxDA	85		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C3 PFBS	97		25 - 150	11/12/20 18:55	11/13/20 12:37	1
18O2 PFHxS	107		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C4 PFOS	114		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C8 FOSA	95		25 - 150	11/12/20 18:55	11/13/20 12:37	1
d3-NMeFOSAA	89		25 - 150	11/12/20 18:55	11/13/20 12:37	1
d5-NEtFOSAA	87		25 - 150	11/12/20 18:55	11/13/20 12:37	1
d-N-MeFOSA-M	59		20 - 150	11/12/20 18:55	11/13/20 12:37	1
d-N-EtFOSA-M	47		20 - 150	11/12/20 18:55	11/13/20 12:37	1
d7-N-MeFOSE-M	38		10 - 120	11/12/20 18:55	11/13/20 12:37	1
d9-N-EtFOSE-M	33		10 - 120	11/12/20 18:55	11/13/20 12:37	1
M2-4:2 FTS	129		25 - 150	11/12/20 18:55	11/13/20 12:37	1
M2-8:2 FTS	105		25 - 150	11/12/20 18:55	11/13/20 12:37	1
13C3 HFPO-DA	91		25 - 150	11/12/20 18:55	11/13/20 12:37	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	410		18	7.6	ng/L		11/12/20 18:55	11/14/20 23:15	10
6:2 FTS	1100		45	22	ng/L		11/12/20 18:55	11/14/20 23:15	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	95		25 - 150	11/12/20 18:55	11/14/20 23:15	10
M2-6:2 FTS	109		25 - 150	11/12/20 18:55	11/14/20 23:15	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	6.5		5.0	1.9	mg/L			11/10/20 17:07	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U03 (11042020)

Date Collected: 11/04/20 14:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**44**		4.8	2.3	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoropentanoic acid (PFPeA)	**110**		1.9	0.47	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorohexanoic acid (PFHxA)	**110**		1.9	0.55	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoroheptanoic acid (PFHpA)	**48**		1.9	0.24	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorooctanoic acid (PFOA)	**250**		1.9	0.81	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorononanoic acid (PFNA)	**7.5**		1.9	0.26	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorodecanoic acid (PFDA)	**0.94**	**J**	1.9	0.30	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.52	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.70	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.85	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.90	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		1.9	0.19	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.9	0.29	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorohexanesulfonic acid (PFHxS)	**31**		1.9	0.54	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.0**		1.9	0.18	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.9	0.52	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.35	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.31	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.93	ng/L		11/12/20 18:55	11/13/20 12:46	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	0.94	ng/L		11/12/20 18:55	11/13/20 12:46	1
NEtFOSA	<1.9		1.9	0.83	ng/L		11/12/20 18:55	11/13/20 12:46	1
NMeFOSA	<1.9		1.9	0.41	ng/L		11/12/20 18:55	11/13/20 12:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.8		4.8	1.1	ng/L		11/12/20 18:55	11/13/20 12:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.8		4.8	1.2	ng/L		11/12/20 18:55	11/13/20 12:46	1
NMeFOSE	<3.8		3.8	1.3	ng/L		11/12/20 18:55	11/13/20 12:46	1
NEtFOSE	<1.9		1.9	0.81	ng/L		11/12/20 18:55	11/13/20 12:46	1
4:2 FTS	**4.8**		1.9	0.23	ng/L		11/12/20 18:55	11/13/20 12:46	1
8:2 FTS	**24**		1.9	0.44	ng/L		11/12/20 18:55	11/13/20 12:46	1
10:2 FTS	<1.9		1.9	0.64	ng/L		11/12/20 18:55	11/13/20 12:46	1
DONA	<1.9		1.9	0.38	ng/L		11/12/20 18:55	11/13/20 12:46	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		11/12/20 18:55	11/13/20 12:46	1
F-53B Major	<1.9		1.9	0.23	ng/L		11/12/20 18:55	11/13/20 12:46	1
F-53B Minor	<1.9		1.9	0.31	ng/L		11/12/20 18:55	11/13/20 12:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C5 PFPeA	*83*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C2 PFHxA	*86*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C4 PFHpA	*92*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C4 PFOA	*94*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C5 PFNA	*92*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U03 (11042020)

Date Collected: 11/04/20 14:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*96*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C2 PFUnA	*92*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C2 PFDoA	*82*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C2 PFTeDA	*72*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C2 PFHxDA	*73*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C3 PFBS	*86*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
18O2 PFHxS	*98*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C4 PFOS	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C8 FOSA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d5-NEtFOSAA	*78*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d-N-MeFOSA-M	*86*		*20 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d-N-EtFOSA-M	*82*		*20 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d7-N-MeFOSE-M	*77*		*10 - 120*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
d9-N-EtFOSE-M	*62*		*10 - 120*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
M2-4:2 FTS	*108*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:46*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	**410**		24	12	ng/L		11/12/20 18:55	11/14/20 23:24	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*104*		*25 - 150*	*11/12/20 18:55*	*11/14/20 23:24*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**6.5**		5.0	1.9	mg/L			11/10/20 17:08	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U04 (11042020)

Date Collected: 11/04/20 14:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**38**		4.5	2.2	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoropentanoic acid (PFPeA)	**90**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorohexanoic acid (PFHxA)	**79**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoroheptanoic acid (PFHpA)	**38**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorooctanoic acid (PFOA)	**200**		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorononanoic acid (PFNA)	**5.7**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorodecanoic acid (PFDA)	**0.48**	**J**	1.8	0.28	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorobutanesulfonic acid (PFBS)	**3.0**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorohexanesulfonic acid (PFHxS)	**30**		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.0**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 12:55	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 12:55	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 12:55	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 12:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 12:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 18:55	11/13/20 12:55	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 12:55	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 12:55	1
4:2 FTS	**2.4**		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 12:55	1
6:2 FTS	**180**		4.5	2.3	ng/L		11/12/20 18:55	11/13/20 12:55	1
8:2 FTS	**10**		1.8	0.42	ng/L		11/12/20 18:55	11/13/20 12:55	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 18:55	11/13/20 12:55	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 12:55	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 12:55	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 12:55	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 12:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:55*	*1*
13C5 PFPeA	*68*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:55*	*1*
13C2 PFHxA	*72*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:55*	*1*
13C4 PFHpA	*78*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:55*	*1*
13C4 PFOA	*79*		*25 - 150*	*11/12/20 18:55*	*11/13/20 12:55*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U04 (11042020)

Date Collected: 11/04/20 14:30
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	79		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C2 PFDA	76		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C2 PFUnA	69		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C2 PFDoA	64		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C2 PFTeDA	52		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C2 PFHxDA	67		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C3 PFBS	72		25 - 150	11/12/20 18:55	11/13/20 12:55	1
18O2 PFHxS	82		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C4 PFOS	81		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C8 FOSA	71		25 - 150	11/12/20 18:55	11/13/20 12:55	1
d3-NMeFOSAA	66		25 - 150	11/12/20 18:55	11/13/20 12:55	1
d5-NEtFOSAA	52		25 - 150	11/12/20 18:55	11/13/20 12:55	1
d-N-MeFOSA-M	43		20 - 150	11/12/20 18:55	11/13/20 12:55	1
d-N-EtFOSA-M	36		20 - 150	11/12/20 18:55	11/13/20 12:55	1
d7-N-MeFOSE-M	31		10 - 120	11/12/20 18:55	11/13/20 12:55	1
d9-N-EtFOSE-M	28		10 - 120	11/12/20 18:55	11/13/20 12:55	1
M2-4:2 FTS	90		25 - 150	11/12/20 18:55	11/13/20 12:55	1
M2-6:2 FTS	84		25 - 150	11/12/20 18:55	11/13/20 12:55	1
M2-8:2 FTS	82		25 - 150	11/12/20 18:55	11/13/20 12:55	1
13C3 HFPO-DA	73		25 - 150	11/12/20 18:55	11/13/20 12:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	40		5.0	1.9	mg/L			11/10/20 17:08	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U05 (11042020)
Date Collected: 11/04/20 15:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**33**		4.6	2.2	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoropentanoic acid (PFPeA)	**72**		1.9	0.45	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorohexanoic acid (PFHxA)	**61**		1.9	0.54	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoroheptanoic acid (PFHpA)	**29**		1.9	0.23	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorooctanoic acid (PFOA)	**100**		1.9	0.79	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorononanoic acid (PFNA)	**4.3**		1.9	0.25	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	0.29	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.83	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.9	0.19	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.9	0.28	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorohexanesulfonic acid (PFHxS)	**28**		1.9	0.53	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.3**		1.9	0.18	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.9	0.50	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		11/12/20 18:55	11/13/20 13:04	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	0.91	ng/L		11/12/20 18:55	11/13/20 13:04	1
NEtFOSA	<1.9		1.9	0.81	ng/L		11/12/20 18:55	11/13/20 13:04	1
NMeFOSA	<1.9		1.9	0.40	ng/L		11/12/20 18:55	11/13/20 13:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 18:55	11/13/20 13:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 18:55	11/13/20 13:04	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 18:55	11/13/20 13:04	1
NEtFOSE	<1.9		1.9	0.79	ng/L		11/12/20 18:55	11/13/20 13:04	1
4:2 FTS	**1.8**	**J**	1.9	0.22	ng/L		11/12/20 18:55	11/13/20 13:04	1
6:2 FTS	**42**		4.6	2.3	ng/L		11/12/20 18:55	11/13/20 13:04	1
8:2 FTS	**2.7**		1.9	0.43	ng/L		11/12/20 18:55	11/13/20 13:04	1
10:2 FTS	<1.9		1.9	0.62	ng/L		11/12/20 18:55	11/13/20 13:04	1
DONA	<1.9		1.9	0.37	ng/L		11/12/20 18:55	11/13/20 13:04	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 18:55	11/13/20 13:04	1
F-53B Major	<1.9		1.9	0.22	ng/L		11/12/20 18:55	11/13/20 13:04	1
F-53B Minor	<1.9		1.9	0.30	ng/L		11/12/20 18:55	11/13/20 13:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:04*	*1*
13C5 PFPeA	*73*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:04*	*1*
13C2 PFHxA	*76*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:04*	*1*
13C4 PFHpA	*83*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:04*	*1*
13C4 PFOA	*85*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:04*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U05 (11042020)

Date Collected: 11/04/20 15:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	80		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C2 PFDA	86		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C2 PFUnA	80		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C2 PFDoA	74		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C2 PFTeDA	61		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C2 PFHxDA	71		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C3 PFBS	78		25 - 150	11/12/20 18:55	11/13/20 13:04	1
18O2 PFHxS	90		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C4 PFOS	86		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C8 FOSA	80		25 - 150	11/12/20 18:55	11/13/20 13:04	1
d3-NMeFOSAA	74		25 - 150	11/12/20 18:55	11/13/20 13:04	1
d5-NEtFOSAA	63		25 - 150	11/12/20 18:55	11/13/20 13:04	1
d-N-MeFOSA-M	45		20 - 150	11/12/20 18:55	11/13/20 13:04	1
d-N-EtFOSA-M	37		20 - 150	11/12/20 18:55	11/13/20 13:04	1
d7-N-MeFOSE-M	28		10 - 120	11/12/20 18:55	11/13/20 13:04	1
d9-N-EtFOSE-M	26		10 - 120	11/12/20 18:55	11/13/20 13:04	1
M2-4:2 FTS	61		25 - 150	11/12/20 18:55	11/13/20 13:04	1
M2-6:2 FTS	92		25 - 150	11/12/20 18:55	11/13/20 13:04	1
M2-8:2 FTS	97		25 - 150	11/12/20 18:55	11/13/20 13:04	1
13C3 HFPO-DA	81		25 - 150	11/12/20 18:55	11/13/20 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	16		5.0	1.9	mg/L			11/10/20 17:09	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U06 (11042020)
Date Collected: 11/04/20 15:05
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-6
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**		4.3	2.1	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoropentanoic acid (PFPeA)	**54**		1.7	0.42	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorohexanoic acid (PFHxA)	**40**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoroheptanoic acid (PFHpA)	**22**		1.7	0.22	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorooctanoic acid (PFOA)	**40**		1.7	0.73	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorononanoic acid (PFNA)	**3.0**		1.7	0.23	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorodecanoic acid (PFDA)	**0.34**	**J**	1.7	0.27	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7	0.95	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.63	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.77	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.81	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorobutanesulfonic acid (PFBS)	**3.0**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.7	0.26	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorohexanesulfonic acid (PFHxS)	**32**		1.7	0.49	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.3**		1.7	0.16	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.32	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.84	ng/L		11/12/20 18:55	11/13/20 13:13	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7	0.85	ng/L		11/12/20 18:55	11/13/20 13:13	1
NEtFOSA	<1.7		1.7	0.75	ng/L		11/12/20 18:55	11/13/20 13:13	1
NMeFOSA	<1.7		1.7	0.37	ng/L		11/12/20 18:55	11/13/20 13:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3	1.0	ng/L		11/12/20 18:55	11/13/20 13:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3	1.1	ng/L		11/12/20 18:55	11/13/20 13:13	1
NMeFOSE	<3.4		3.4	1.2	ng/L		11/12/20 18:55	11/13/20 13:13	1
NEtFOSE	<1.7		1.7	0.73	ng/L		11/12/20 18:55	11/13/20 13:13	1
4:2 FTS	**0.42**	**J**	1.7	0.21	ng/L		11/12/20 18:55	11/13/20 13:13	1
6:2 FTS	**27**		4.3	2.2	ng/L		11/12/20 18:55	11/13/20 13:13	1
8:2 FTS	**1.8**		1.7	0.40	ng/L		11/12/20 18:55	11/13/20 13:13	1
10:2 FTS	<1.7		1.7	0.58	ng/L		11/12/20 18:55	11/13/20 13:13	1
DONA	<1.7		1.7	0.34	ng/L		11/12/20 18:55	11/13/20 13:13	1
HFPO-DA (GenX)	<3.4		3.4	1.3	ng/L		11/12/20 18:55	11/13/20 13:13	1
F-53B Major	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 13:13	1
F-53B Minor	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 13:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*67*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:13*	*1*
13C5 PFPeA	*77*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:13*	*1*
13C2 PFHxA	*84*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:13*	*1*
13C4 PFHpA	*88*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:13*	*1*
13C4 PFOA	*90*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:13*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U06 (11042020)

Date Collected: 11/04/20 15:05
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	87		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C2 PFDA	84		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C2 PFUnA	90		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C2 PFDoA	79		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C2 PFTeDA	74		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C2 PFHxDA	77		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C3 PFBS	84		25 - 150	11/12/20 18:55	11/13/20 13:13	1
18O2 PFHxS	88		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C4 PFOS	86		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C8 FOSA	82		25 - 150	11/12/20 18:55	11/13/20 13:13	1
d3-NMeFOSAA	73		25 - 150	11/12/20 18:55	11/13/20 13:13	1
d5-NEtFOSAA	77		25 - 150	11/12/20 18:55	11/13/20 13:13	1
d-N-MeFOSA-M	43		20 - 150	11/12/20 18:55	11/13/20 13:13	1
d-N-EtFOSA-M	39		20 - 150	11/12/20 18:55	11/13/20 13:13	1
d7-N-MeFOSE-M	35		10 - 120	11/12/20 18:55	11/13/20 13:13	1
d9-N-EtFOSE-M	31		10 - 120	11/12/20 18:55	11/13/20 13:13	1
M2-4:2 FTS	105		25 - 150	11/12/20 18:55	11/13/20 13:13	1
M2-6:2 FTS	99		25 - 150	11/12/20 18:55	11/13/20 13:13	1
M2-8:2 FTS	95		25 - 150	11/12/20 18:55	11/13/20 13:13	1
13C3 HFPO-DA	85		25 - 150	11/12/20 18:55	11/13/20 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	14		5.0	1.9	mg/L			11/10/20 17:10	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U07 (11042020)
Date Collected: 11/04/20 15:10
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-7
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**24**		4.6	2.2	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoropentanoic acid (PFPeA)	**48**		1.8	0.45	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorohexanoic acid (PFHxA)	**38**		1.8	0.53	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoroheptanoic acid (PFHpA)	**19**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorooctanoic acid (PFOA)	**34**		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorononanoic acid (PFNA)	**3.0**		1.8	0.25	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorodecanoic acid (PFDA)	<1.8		1.8	0.28	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoropentanesulfonic acid (PFPeS)	**2.2**		1.8	0.27	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorohexanesulfonic acid (PFHxS)	**33**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.3**		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 13:40	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.89	ng/L		11/12/20 18:55	11/13/20 13:40	1
NEtFOSA	<1.8		1.8	0.79	ng/L		11/12/20 18:55	11/13/20 13:40	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 13:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 18:55	11/13/20 13:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 18:55	11/13/20 13:40	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 13:40	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 13:40	1
4:2 FTS	**0.40**	**J**	1.8	0.22	ng/L		11/12/20 18:55	11/13/20 13:40	1
6:2 FTS	**25**		4.6	2.3	ng/L		11/12/20 18:55	11/13/20 13:40	1
8:2 FTS	**1.4**	**J**	1.8	0.42	ng/L		11/12/20 18:55	11/13/20 13:40	1
10:2 FTS	<1.8		1.8	0.61	ng/L		11/12/20 18:55	11/13/20 13:40	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 13:40	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 13:40	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 13:40	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 13:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:40*	*1*
13C5 PFPeA	*72*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:40*	*1*
13C2 PFHxA	*72*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:40*	*1*
13C4 PFHpA	*74*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:40*	*1*
13C4 PFOA	*75*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:40*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U07 (11042020)

Date Collected: 11/04/20 15:10
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	76		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C2 PFDA	71		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C2 PFUnA	73		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C2 PFDoA	69		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C2 PFTeDA	58		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C2 PFHxDA	66		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C3 PFBS	71		25 - 150	11/12/20 18:55	11/13/20 13:40	1
18O2 PFHxS	75		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C4 PFOS	76		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C8 FOSA	70		25 - 150	11/12/20 18:55	11/13/20 13:40	1
d3-NMeFOSAA	64		25 - 150	11/12/20 18:55	11/13/20 13:40	1
d5-NEtFOSAA	63		25 - 150	11/12/20 18:55	11/13/20 13:40	1
d-N-MeFOSA-M	45		20 - 150	11/12/20 18:55	11/13/20 13:40	1
d-N-EtFOSA-M	34		20 - 150	11/12/20 18:55	11/13/20 13:40	1
d7-N-MeFOSE-M	25		10 - 120	11/12/20 18:55	11/13/20 13:40	1
d9-N-EtFOSE-M	23		10 - 120	11/12/20 18:55	11/13/20 13:40	1
M2-4:2 FTS	94		25 - 150	11/12/20 18:55	11/13/20 13:40	1
M2-6:2 FTS	87		25 - 150	11/12/20 18:55	11/13/20 13:40	1
M2-8:2 FTS	79		25 - 150	11/12/20 18:55	11/13/20 13:40	1
13C3 HFPO-DA	72		25 - 150	11/12/20 18:55	11/13/20 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	58		6.3	2.4	mg/L			11/10/20 17:11	1

Client Sample ID: SW-U08 (11042020)
Date Collected: 11/04/20 15:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**22**		4.8	2.3	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoropentanoic acid (PFPeA)	**46**		1.9	0.47	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorohexanoic acid (PFHxA)	**36**		1.9	0.56	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoroheptanoic acid (PFHpA)	**19**		1.9	0.24	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorooctanoic acid (PFOA)	**29**		1.9	0.82	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorononanoic acid (PFNA)	**2.9**		1.9	0.26	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	0.30	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.1	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.53	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.3	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.70	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.86	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.90	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**		1.9	0.19	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoropentanesulfonic acid (PFPeS)	**1.9**		1.9	0.29	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorohexanesulfonic acid (PFHxS)	**31**		1.9	0.55	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	**3.2**		1.9	0.18	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorooctanesulfonic acid (PFOS)	**140**		1.9	0.52	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.36	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.31	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.93	ng/L		11/12/20 18:55	11/13/20 13:50	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	0.94	ng/L		11/12/20 18:55	11/13/20 13:50	1
NEtFOSA	<1.9		1.9	0.84	ng/L		11/12/20 18:55	11/13/20 13:50	1
NMeFOSA	<1.9		1.9	0.41	ng/L		11/12/20 18:55	11/13/20 13:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.8		4.8	1.2	ng/L		11/12/20 18:55	11/13/20 13:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.8		4.8	1.3	ng/L		11/12/20 18:55	11/13/20 13:50	1
NMeFOSE	<3.8		3.8	1.3	ng/L		11/12/20 18:55	11/13/20 13:50	1
NEtFOSE	<1.9		1.9	0.82	ng/L		11/12/20 18:55	11/13/20 13:50	1
4:2 FTS	**0.33**	**J**	1.9	0.23	ng/L		11/12/20 18:55	11/13/20 13:50	1
6:2 FTS	**23**		4.8	2.4	ng/L		11/12/20 18:55	11/13/20 13:50	1
8:2 FTS	**1.6**	**J**	1.9	0.44	ng/L		11/12/20 18:55	11/13/20 13:50	1
10:2 FTS	<1.9		1.9	0.64	ng/L		11/12/20 18:55	11/13/20 13:50	1
DONA	<1.9		1.9	0.38	ng/L		11/12/20 18:55	11/13/20 13:50	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		11/12/20 18:55	11/13/20 13:50	1
F-53B Major	<1.9		1.9	0.23	ng/L		11/12/20 18:55	11/13/20 13:50	1
F-53B Minor	<1.9		1.9	0.31	ng/L		11/12/20 18:55	11/13/20 13:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:50*	*1*
13C5 PFPeA	*62*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:50*	*1*
13C2 PFHxA	*65*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:50*	*1*
13C4 PFHpA	*67*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:50*	*1*
13C4 PFOA	*70*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:50*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U08 (11042020)

Date Collected: 11/04/20 15:15
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	65		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C2 PFDA	67		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C2 PFUnA	66		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C2 PFDoA	57		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C2 PFTeDA	50		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C2 PFHxDA	60		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C3 PFBS	64		25 - 150	11/12/20 18:55	11/13/20 13:50	1
18O2 PFHxS	70		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C4 PFOS	72		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C8 FOSA	72		25 - 150	11/12/20 18:55	11/13/20 13:50	1
d3-NMeFOSAA	59		25 - 150	11/12/20 18:55	11/13/20 13:50	1
d5-NEtFOSAA	56		25 - 150	11/12/20 18:55	11/13/20 13:50	1
d-N-MeFOSA-M	39		20 - 150	11/12/20 18:55	11/13/20 13:50	1
d-N-EtFOSA-M	32		20 - 150	11/12/20 18:55	11/13/20 13:50	1
d7-N-MeFOSE-M	24		10 - 120	11/12/20 18:55	11/13/20 13:50	1
d9-N-EtFOSE-M	22		10 - 120	11/12/20 18:55	11/13/20 13:50	1
M2-4:2 FTS	74		25 - 150	11/12/20 18:55	11/13/20 13:50	1
M2-6:2 FTS	72		25 - 150	11/12/20 18:55	11/13/20 13:50	1
M2-8:2 FTS	75		25 - 150	11/12/20 18:55	11/13/20 13:50	1
13C3 HFPO-DA	61		25 - 150	11/12/20 18:55	11/13/20 13:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	54		5.0	1.9	mg/L			11/10/20 17:12	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U09 (11042020)
Date Collected: 11/04/20 15:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**20**		4.4	2.1	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoropentanoic acid (PFPeA)	**38**		1.7	0.43	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorohexanoic acid (PFHxA)	**28**		1.7	0.51	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoroheptanoic acid (PFHpA)	**15**		1.7	0.22	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorooctanoic acid (PFOA)	**24**		1.7	0.74	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorononanoic acid (PFNA)	**2.3**		1.7	0.24	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7	0.27	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7	0.96	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	0.48	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7	1.1	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7	0.64	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.7		1.7	0.78	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.7		1.7	0.82	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorobutanesulfonic acid (PFBS)	**2.5**		1.7	0.17	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.67**	**J**	1.7	0.26	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorohexanesulfonic acid (PFHxS)	**13**		1.7	0.50	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.65**	**J**	1.7	0.17	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorooctanesulfonic acid (PFOS)	**68**		1.7	0.47	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	0.32	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	0.85	ng/L		11/12/20 18:55	11/13/20 13:59	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7	0.85	ng/L		11/12/20 18:55	11/13/20 13:59	1
NEtFOSA	<1.7		1.7	0.76	ng/L		11/12/20 18:55	11/13/20 13:59	1
NMeFOSA	<1.7		1.7	0.37	ng/L		11/12/20 18:55	11/13/20 13:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4	1.0	ng/L		11/12/20 18:55	11/13/20 13:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.4		4.4	1.1	ng/L		11/12/20 18:55	11/13/20 13:59	1
NMeFOSE	<3.5		3.5	1.2	ng/L		11/12/20 18:55	11/13/20 13:59	1
NEtFOSE	<1.7		1.7	0.74	ng/L		11/12/20 18:55	11/13/20 13:59	1
4:2 FTS	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 13:59	1
6:2 FTS	**17**		4.4	2.2	ng/L		11/12/20 18:55	11/13/20 13:59	1
8:2 FTS	**0.98**	**J**	1.7	0.40	ng/L		11/12/20 18:55	11/13/20 13:59	1
10:2 FTS	<1.7		1.7	0.58	ng/L		11/12/20 18:55	11/13/20 13:59	1
DONA	<1.7		1.7	0.35	ng/L		11/12/20 18:55	11/13/20 13:59	1
HFPO-DA (GenX)	<3.5		3.5	1.3	ng/L		11/12/20 18:55	11/13/20 13:59	1
F-53B Major	<1.7		1.7	0.21	ng/L		11/12/20 18:55	11/13/20 13:59	1
F-53B Minor	<1.7		1.7	0.28	ng/L		11/12/20 18:55	11/13/20 13:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*68*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:59*	*1*
13C5 PFPeA	*82*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:59*	*1*
13C2 PFHxA	*87*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:59*	*1*
13C4 PFHpA	*98*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:59*	*1*
13C4 PFOA	*95*		*25 - 150*	*11/12/20 18:55*	*11/13/20 13:59*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U09 (11042020)

Date Collected: 11/04/20 15:20
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	94		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C2 PFDA	93		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C2 PFUnA	93		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C2 PFDoA	93		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C2 PFTeDA	73		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C2 PFHxDA	79		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C3 PFBS	84		25 - 150	11/12/20 18:55	11/13/20 13:59	1
18O2 PFHxS	95		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C4 PFOS	95		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C8 FOSA	86		25 - 150	11/12/20 18:55	11/13/20 13:59	1
d3-NMeFOSAA	81		25 - 150	11/12/20 18:55	11/13/20 13:59	1
d5-NEtFOSAA	85		25 - 150	11/12/20 18:55	11/13/20 13:59	1
d-N-MeFOSA-M	54		20 - 150	11/12/20 18:55	11/13/20 13:59	1
d-N-EtFOSA-M	42		20 - 150	11/12/20 18:55	11/13/20 13:59	1
d7-N-MeFOSE-M	35		10 - 120	11/12/20 18:55	11/13/20 13:59	1
d9-N-EtFOSE-M	31		10 - 120	11/12/20 18:55	11/13/20 13:59	1
M2-4:2 FTS	126		25 - 150	11/12/20 18:55	11/13/20 13:59	1
M2-6:2 FTS	108		25 - 150	11/12/20 18:55	11/13/20 13:59	1
M2-8:2 FTS	97		25 - 150	11/12/20 18:55	11/13/20 13:59	1
13C3 HFPO-DA	91		25 - 150	11/12/20 18:55	11/13/20 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.0		5.0	1.9	mg/L			11/10/20 17:12	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U10 (11042020)

Date Collected: 11/04/20 15:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**19**		4.5	2.2	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoropentanoic acid (PFPeA)	**33**		1.8	0.44	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorohexanoic acid (PFHxA)	**27**		1.8	0.52	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoroheptanoic acid (PFHpA)	**14**		1.8	0.23	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorooctanoic acid (PFOA)	**21**		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorononanoic acid (PFNA)	**2.3**		1.8	0.24	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorodecanoic acid (PFDA)	**0.35**	**J**	1.8	0.28	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**		1.8	0.18	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoropentanesulfonic acid (PFPeS)	**0.38**	**J**	1.8	0.27	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorohexanesulfonic acid (PFHxS)	**4.7**		1.8	0.51	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.8		1.8	0.17	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorooctanesulfonic acid (PFOS)	**7.9**		1.8	0.49	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 14:08	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.88	ng/L		11/12/20 18:55	11/13/20 14:08	1
NEtFOSA	<1.8		1.8	0.78	ng/L		11/12/20 18:55	11/13/20 14:08	1
NMeFOSA	<1.8		1.8	0.39	ng/L		11/12/20 18:55	11/13/20 14:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5	1.1	ng/L		11/12/20 18:55	11/13/20 14:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5	1.2	ng/L		11/12/20 18:55	11/13/20 14:08	1
NMeFOSE	<3.6		3.6	1.3	ng/L		11/12/20 18:55	11/13/20 14:08	1
NEtFOSE	<1.8		1.8	0.77	ng/L		11/12/20 18:55	11/13/20 14:08	1
4:2 FTS	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:08	1
6:2 FTS	**16**		4.5	2.3	ng/L		11/12/20 18:55	11/13/20 14:08	1
8:2 FTS	**1.0**	**J**	1.8	0.42	ng/L		11/12/20 18:55	11/13/20 14:08	1
10:2 FTS	<1.8		1.8	0.60	ng/L		11/12/20 18:55	11/13/20 14:08	1
DONA	<1.8		1.8	0.36	ng/L		11/12/20 18:55	11/13/20 14:08	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		11/12/20 18:55	11/13/20 14:08	1
F-53B Major	<1.8		1.8	0.22	ng/L		11/12/20 18:55	11/13/20 14:08	1
F-53B Minor	<1.8		1.8	0.29	ng/L		11/12/20 18:55	11/13/20 14:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:08*	*1*
13C5 PFPeA	*88*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:08*	*1*
13C2 PFHxA	*85*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:08*	*1*
13C4 PFHpA	*102*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:08*	*1*
13C4 PFOA	*100*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:08*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U10 (11042020)

Date Collected: 11/04/20 15:25
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	97		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C2 PFDA	97		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C2 PFUnA	96		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C2 PFDoA	84		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C2 PFTeDA	78		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C2 PFHxDA	76		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C3 PFBS	89		25 - 150	11/12/20 18:55	11/13/20 14:08	1
18O2 PFHxS	97		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C4 PFOS	98		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C8 FOSA	89		25 - 150	11/12/20 18:55	11/13/20 14:08	1
d3-NMeFOSAA	77		25 - 150	11/12/20 18:55	11/13/20 14:08	1
d5-NEtFOSAA	75		25 - 150	11/12/20 18:55	11/13/20 14:08	1
d-N-MeFOSA-M	58		20 - 150	11/12/20 18:55	11/13/20 14:08	1
d-N-EtFOSA-M	55		20 - 150	11/12/20 18:55	11/13/20 14:08	1
d7-N-MeFOSE-M	43		10 - 120	11/12/20 18:55	11/13/20 14:08	1
d9-N-EtFOSE-M	40		10 - 120	11/12/20 18:55	11/13/20 14:08	1
M2-4:2 FTS	113		25 - 150	11/12/20 18:55	11/13/20 14:08	1
M2-6:2 FTS	107		25 - 150	11/12/20 18:55	11/13/20 14:08	1
M2-8:2 FTS	99		25 - 150	11/12/20 18:55	11/13/20 14:08	1
13C3 HFPO-DA	96		25 - 150	11/12/20 18:55	11/13/20 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.5	J	5.0	1.9	mg/L			11/10/20 17:13	1

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: DUP-03 (11042020)

Date Collected: 11/04/20 00:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**19**		4.6	2.2	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoropentanoic acid (PFPeA)	**37**		1.9	0.45	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorohexanoic acid (PFHxA)	**27**		1.9	0.54	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoroheptanoic acid (PFHpA)	**14**		1.9	0.23	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorooctanoic acid (PFOA)	**23**		1.9	0.79	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorononanoic acid (PFNA)	**2.4**		1.9	0.25	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	0.29	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.83	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorobutanesulfonic acid (PFBS)	**2.1**		1.9	0.19	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoropentanesulfonic acid (PFPeS)	**0.42**	**J**	1.9	0.28	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	**4.8**		1.9	0.53	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9	0.18	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorooctanesulfonic acid (PFOS)	**8.1**		1.9	0.50	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		11/12/20 18:55	11/13/20 14:17	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	0.91	ng/L		11/12/20 18:55	11/13/20 14:17	1
NEtFOSA	<1.9		1.9	0.81	ng/L		11/12/20 18:55	11/13/20 14:17	1
NMeFOSA	<1.9		1.9	0.40	ng/L		11/12/20 18:55	11/13/20 14:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		4.6	1.1	ng/L		11/12/20 18:55	11/13/20 14:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		4.6	1.2	ng/L		11/12/20 18:55	11/13/20 14:17	1
NMeFOSE	<3.7		3.7	1.3	ng/L		11/12/20 18:55	11/13/20 14:17	1
NEtFOSE	<1.9		1.9	0.79	ng/L		11/12/20 18:55	11/13/20 14:17	1
4:2 FTS	<1.9		1.9	0.22	ng/L		11/12/20 18:55	11/13/20 14:17	1
6:2 FTS	**16**		4.6	2.3	ng/L		11/12/20 18:55	11/13/20 14:17	1
8:2 FTS	**1.0**	**J**	1.9	0.43	ng/L		11/12/20 18:55	11/13/20 14:17	1
10:2 FTS	<1.9		1.9	0.62	ng/L		11/12/20 18:55	11/13/20 14:17	1
DONA	<1.9		1.9	0.37	ng/L		11/12/20 18:55	11/13/20 14:17	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		11/12/20 18:55	11/13/20 14:17	1
F-53B Major	<1.9		1.9	0.22	ng/L		11/12/20 18:55	11/13/20 14:17	1
F-53B Minor	<1.9		1.9	0.30	ng/L		11/12/20 18:55	11/13/20 14:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*67*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:17*	*1*
13C5 PFPeA	*82*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:17*	*1*
13C2 PFHxA	*87*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:17*	*1*
13C4 PFHpA	*92*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:17*	*1*
13C4 PFOA	*94*		*25 - 150*	*11/12/20 18:55*	*11/13/20 14:17*	*1*

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: DUP-03 (11042020)

Date Collected: 11/04/20 00:00
Date Received: 11/07/20 09:55

Lab Sample ID: 500-190764-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	93		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C2 PFDA	93		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C2 PFUnA	96		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C2 PFDoA	86		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C2 PFTeDA	73		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C2 PFHxDA	72		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C3 PFBS	85		25 - 150	11/12/20 18:55	11/13/20 14:17	1
18O2 PFHxS	91		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C4 PFOS	102		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C8 FOSA	94		25 - 150	11/12/20 18:55	11/13/20 14:17	1
d3-NMeFOSAA	84		25 - 150	11/12/20 18:55	11/13/20 14:17	1
d5-NEtFOSAA	81		25 - 150	11/12/20 18:55	11/13/20 14:17	1
d-N-MeFOSA-M	88		20 - 150	11/12/20 18:55	11/13/20 14:17	1
d-N-EtFOSA-M	84		20 - 150	11/12/20 18:55	11/13/20 14:17	1
d7-N-MeFOSE-M	73		10 - 120	11/12/20 18:55	11/13/20 14:17	1
d9-N-EtFOSE-M	68		10 - 120	11/12/20 18:55	11/13/20 14:17	1
M2-4:2 FTS	121		25 - 150	11/12/20 18:55	11/13/20 14:17	1
M2-6:2 FTS	110		25 - 150	11/12/20 18:55	11/13/20 14:17	1
M2-8:2 FTS	95		25 - 150	11/12/20 18:55	11/13/20 14:17	1
13C3 HFPO-DA	86		25 - 150	11/12/20 18:55	11/13/20 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.0	J	5.0	1.9	mg/L			11/10/20 17:14	1

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-431272/1-A
Matrix: Water
Analysis Batch: 431545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		11/12/20 18:55	11/13/20 11:51	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		11/12/20 18:55	11/13/20 11:51	1
NEtFOSA	<2.0		2.0	0.87	ng/L		11/12/20 18:55	11/13/20 11:51	1
NMeFOSA	<2.0		2.0	0.43	ng/L		11/12/20 18:55	11/13/20 11:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0	1.2	ng/L		11/12/20 18:55	11/13/20 11:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0	1.3	ng/L		11/12/20 18:55	11/13/20 11:51	1
NMeFOSE	<4.0		4.0	1.4	ng/L		11/12/20 18:55	11/13/20 11:51	1
NEtFOSE	<2.0		2.0	0.85	ng/L		11/12/20 18:55	11/13/20 11:51	1
4:2 FTS	<2.0		2.0	0.24	ng/L		11/12/20 18:55	11/13/20 11:51	1
6:2 FTS	<5.0		5.0	2.5	ng/L		11/12/20 18:55	11/13/20 11:51	1
8:2 FTS	<2.0		2.0	0.46	ng/L		11/12/20 18:55	11/13/20 11:51	1
10:2 FTS	<2.0		2.0	0.67	ng/L		11/12/20 18:55	11/13/20 11:51	1
DONA	<2.0		2.0	0.40	ng/L		11/12/20 18:55	11/13/20 11:51	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		11/12/20 18:55	11/13/20 11:51	1
F-53B Major	<2.0		2.0	0.24	ng/L		11/12/20 18:55	11/13/20 11:51	1
F-53B Minor	<2.0		2.0	0.32	ng/L		11/12/20 18:55	11/13/20 11:51	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C5 PFPeA	*90*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C2 PFHxA	*89*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C4 PFHpA	*91*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*
13C4 PFOA	*96*		*25 - 150*	*11/12/20 18:55*	*11/13/20 11:51*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-431272/1-A
Matrix: Water
Analysis Batch: 431545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431272

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	87		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFDA	94		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFUnA	95		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFDoA	93		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFTeDA	79		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C2 PFHxDA	95		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C3 PFBS	86		25 - 150	11/12/20 18:55	11/13/20 11:51	1
18O2 PFHxS	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C4 PFOS	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C8 FOSA	85		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d3-NMeFOSAA	92		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d5-NEtFOSAA	83		25 - 150	11/12/20 18:55	11/13/20 11:51	1
d-N-MeFOSA-M	62		20 - 150	11/12/20 18:55	11/13/20 11:51	1
d-N-EtFOSA-M	50		20 - 150	11/12/20 18:55	11/13/20 11:51	1
d7-N-MeFOSE-M	29		10 - 120	11/12/20 18:55	11/13/20 11:51	1
d9-N-EtFOSE-M	24		10 - 120	11/12/20 18:55	11/13/20 11:51	1
M2-4:2 FTS	101		25 - 150	11/12/20 18:55	11/13/20 11:51	1
M2-6:2 FTS	93		25 - 150	11/12/20 18:55	11/13/20 11:51	1
M2-8:2 FTS	101		25 - 150	11/12/20 18:55	11/13/20 11:51	1
13C3 HFPO-DA	83		25 - 150	11/12/20 18:55	11/13/20 11:51	1

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	46.5		ng/L		116	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	43.8		ng/L		109	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	44.8		ng/L		112	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	44.1		ng/L		110	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	43.6		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	40.0	49.1		ng/L		123	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	46.6		ng/L		116	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	39.4		ng/L		98	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	43.8		ng/L		110	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	50.0		ng/L		125	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	45.7		ng/L		114	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	42.2		ng/L		106	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	40.0	55.3		ng/L		138	58 - 145
Perfluorobutanesulfonic acid (PFBS)	35.4	40.1		ng/L		113	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	45.5		ng/L		121	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	39.9		ng/L		110	59 - 119

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	43.0		ng/L		113	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	43.8		ng/L		118	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	44.7		ng/L		116	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	40.2		ng/L		104	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.7	39.0		ng/L		101	67 - 127
Perfluorooctanesulfonamide (FOSA)	40.0	49.5		ng/L		124	73 - 133
NMeFOSA	40.0	42.9		ng/L		107	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.1		ng/L		108	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.9		ng/L		110	76 - 136
NMeFOSE	40.0	42.3		ng/L		106	70 - 130
NEtFOSE	40.0	43.9		ng/L		110	71 - 131
4:2 FTS	37.4	42.4		ng/L		114	79 - 139
6:2 FTS	37.9	37.2		ng/L		98	59 - 175
8:2 FTS	38.3	40.4		ng/L		105	75 - 135
10:2 FTS	38.6	32.4		ng/L		84	64 - 142
DONA	37.7	41.9		ng/L		111	79 - 139
HFPO-DA (GenX)	40.0	45.2		ng/L		113	51 - 173
F-53B Major	37.3	39.6		ng/L		106	75 - 135
F-53B Minor	37.7	40.3		ng/L		107	54 - 114

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*91*		*25 - 150*
13C2 PFDA	*89*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2 PFTeDA	*91*		*25 - 150*
13C2 PFHxDA	*95*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*97*		*25 - 150*
13C8 FOSA	*83*		*25 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*94*		*25 - 150*
d-N-MeFOSA-M	*75*		*20 - 150*
d-N-EtFOSA-M	*71*		*20 - 150*
d7-N-MeFOSE-M	*53*		*10 - 120*
d9-N-EtFOSE-M	*41*		*10 - 120*
M2-4:2 FTS	*92*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-431272/2-A
Matrix: Water
Analysis Batch: 431915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431272

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-6:2 FTS	96		25 - 150
M2-8:2 FTS	99		25 - 150
13C3 HFPO-DA	85		25 - 150

Lab Sample ID: 500-190764-1 MS
Matrix: Water
Analysis Batch: 431545

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	63		34.4	99.0		ng/L		104	76 - 136
Perfluoropentanoic acid (PFPeA)	190		34.4	229	4	ng/L		106	71 - 131
Perfluorohexanoic acid (PFHxA)	180		34.4	208	4	ng/L		88	73 - 133
Perfluoroheptanoic acid (PFHpA)	70		34.4	101		ng/L		91	72 - 132
Perfluorononanoic acid (PFNA)	24		34.4	54.2		ng/L		88	75 - 135
Perfluorodecanoic acid (PFDA)	2.0		34.4	36.3		ng/L		100	76 - 136
Perfluoroundecanoic acid (PFUnA)	<1.8	F1	34.4	40.7		ng/L		118	68 - 128
Perfluorododecanoic acid (PFDoA)	<1.8		34.4	36.3		ng/L		106	71 - 131
Perfluorotridecanoic acid (PFTriA)	<1.8		34.4	35.3		ng/L		103	71 - 131
Perfluorotetradecanoic acid (PFTeA)	<1.8		34.4	35.2		ng/L		102	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		34.4	33.4		ng/L		97	76 - 136
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		34.4	43.8		ng/L		127	58 - 145
Perfluorobutanesulfonic acid (PFBS)	3.3		30.4	34.7		ng/L		103	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	2.9		32.3	40.2		ng/L		116	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	35		31.3	63.0		ng/L		88	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	3.0		32.8	34.1		ng/L		95	76 - 136
Perfluorooctanesulfonic acid (PFOS)	150		31.9	188	4	ng/L		116	70 - 130
Perfluorononanesulfonic acid (PFNS)	<1.8		33.0	32.6		ng/L		99	75 - 135
Perfluorodecanesulfonic acid (PFDS)	<1.8		33.2	33.0		ng/L		99	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	<1.8		33.3	22.5		ng/L		68	67 - 127
Perfluorooctanesulfonamide (FOSA)	1.1	J	34.4	40.2		ng/L		114	73 - 133
NMeFOSA	<1.8		34.4	33.4		ng/L		97	67 - 154
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		34.4	37.4		ng/L		109	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		34.4	40.5		ng/L		118	76 - 136
NMeFOSE	<3.7		34.4	35.4		ng/L		103	70 - 130
NEtFOSE	<1.8		34.4	36.4		ng/L		106	71 - 131
4:2 FTS	14		32.1	52.0		ng/L		119	79 - 139

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190764-1 MS
Matrix: Water
Analysis Batch: 431545

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
8:2 FTS	83		33.0	115		ng/L		95	75 - 135
10:2 FTS	<1.8		33.2	27.4		ng/L		83	64 - 142
DONA	<1.8		32.4	32.1		ng/L		99	79 - 139
HFPO-DA (GenX)	<3.7		34.4	37.0		ng/L		107	51 - 173
F-53B Major	<1.8		32.1	32.6		ng/L		102	75 - 135
F-53B Minor	<1.8		32.4	30.4		ng/L		94	54 - 114

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*74*		*25 - 150*
13C5 PFPeA	*85*		*25 - 150*
13C2 PFHxA	*93*		*25 - 150*
13C4 PFHpA	*102*		*25 - 150*
13C5 PFNA	*103*		*25 - 150*
13C2 PFDA	*102*		*25 - 150*
13C2 PFUnA	*98*		*25 - 150*
13C2 PFDoA	*88*		*25 - 150*
13C2 PFTeDA	*74*		*25 - 150*
13C2 PFHxDA	*88*		*25 - 150*
13C3 PFBS	*95*		*25 - 150*
18O2 PFHxS	*110*		*25 - 150*
13C4 PFOS	*107*		*25 - 150*
13C8 FOSA	*97*		*25 - 150*
d3-NMeFOSAA	*87*		*25 - 150*
d5-NEtFOSAA	*64*		*25 - 150*
d-N-MeFOSA-M	*62*		*20 - 150*
d-N-EtFOSA-M	*45*		*20 - 150*
d7-N-MeFOSE-M	*40*		*10 - 120*
d9-N-EtFOSE-M	*32*		*10 - 120*
M2-4:2 FTS	*118*		*25 - 150*
M2-8:2 FTS	*108*		*25 - 150*
13C3 HFPO-DA	*100*		*25 - 150*

Lab Sample ID: 500-190764-1 MSD
Matrix: Water
Analysis Batch: 431545

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	63		34.7	104		ng/L		117	76 - 136	5	30
Perfluoropentanoic acid (PFPeA)	190		34.7	232	4	ng/L		114	71 - 131	1	30
Perfluorohexanoic acid (PFHxA)	180		34.7	222	4	ng/L		125	73 - 133	6	30
Perfluoroheptanoic acid (PFHpA)	70		34.7	107		ng/L		108	72 - 132	6	30
Perfluorononanoic acid (PFNA)	24		34.7	59.7		ng/L		103	75 - 135	10	30
Perfluorodecanoic acid (PFDA)	2.0		34.7	37.5		ng/L		102	76 - 136	3	30
Perfluoroundecanoic acid (PFUnA)	<1.8	F1	34.7	48.4	F1	ng/L		139	68 - 128	17	30
Perfluorododecanoic acid (PFDoA)	<1.8		34.7	38.8		ng/L		112	71 - 131	7	30
Perfluorotridecanoic acid (PFTriA)	<1.8		34.7	37.5		ng/L		108	71 - 131	6	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190764-1 MSD
Matrix: Water
Analysis Batch: 431545

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeA)	<1.8		34.7	40.7		ng/L		117	70 - 130	14	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		34.7	37.9		ng/L		109	76 - 136	13	30
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		34.7	45.5		ng/L		131	58 - 145	4	30
Perfluorobutanesulfonic acid (PFBS)	3.3		30.7	39.3		ng/L		117	67 - 127	13	30
Perfluoropentanesulfonic acid (PFPeS)	2.9		32.6	43.0		ng/L		123	66 - 126	7	30
Perfluorohexanesulfonic acid (PFHxS)	35		31.6	62.3		ng/L		85	59 - 119	1	30
Perfluoroheptanesulfonic Acid (PFHpS)	3.0		33.1	33.6		ng/L		93	76 - 136	1	30
Perfluorooctanesulfonic acid (PFOS)	150		32.2	180	4	ng/L		90	70 - 130	4	30
Perfluorononanesulfonic acid (PFNS)	<1.8		33.3	33.8		ng/L		101	75 - 135	4	30
Perfluorodecanesulfonic acid (PFDS)	<1.8		33.5	34.7		ng/L		104	71 - 131	5	30
Perfluorododecanesulfonic acid (PFDoS)	<1.8		33.6	25.3		ng/L		75	67 - 127	12	30
Perfluorooctanesulfonamide (FOSA)	1.1	J	34.7	45.6		ng/L		128	73 - 133	13	30
NMeFOSA	<1.8		34.7	35.3		ng/L		102	67 - 154	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.6		34.7	39.5		ng/L		114	76 - 136	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.6		34.7	41.1		ng/L		118	76 - 136	1	30
NMeFOSE	<3.7		34.7	37.2		ng/L		107	70 - 130	5	30
NEtFOSE	<1.8		34.7	38.0		ng/L		109	71 - 131	4	30
4:2 FTS	14		32.4	51.0		ng/L		115	79 - 139	2	30
8:2 FTS	83		33.3	123		ng/L		121	75 - 135	7	30
10:2 FTS	<1.8		33.5	31.4		ng/L		94	64 - 142	13	30
DONA	<1.8		32.7	31.0		ng/L		95	79 - 139	4	30
HFPO-DA (GenX)	<3.7		34.7	38.3		ng/L		110	51 - 173	3	30
F-53B Major	<1.8		32.4	34.8		ng/L		108	75 - 135	7	30
F-53B Minor	<1.8		32.7	30.0		ng/L		92	54 - 114	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*74*		*25 - 150*
13C5 PFPeA	*85*		*25 - 150*
13C2 PFHxA	*89*		*25 - 150*
13C4 PFHpA	*98*		*25 - 150*
13C5 PFNA	*101*		*25 - 150*
13C2 PFDA	*102*		*25 - 150*
13C2 PFUnA	*104*		*25 - 150*
13C2 PFDoA	*98*		*25 - 150*
13C2 PFTeDA	*83*		*25 - 150*
13C2 PFHxDA	*87*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-190764-1 MSD
Matrix: Water
Analysis Batch: 431545

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFOS	110		25 - 150
13C8 FOSA	94		25 - 150
d3-NMeFOSAA	91		25 - 150
d5-NEtFOSAA	90		25 - 150
d-N-MeFOSA-M	60		20 - 150
d-N-EtFOSA-M	49		20 - 150
d7-N-MeFOSE-M	38		10 - 120
d9-N-EtFOSE-M	33		10 - 120
M2-4:2 FTS	119		25 - 150
M2-8:2 FTS	101		25 - 150
13C3 HFPO-DA	96		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Lab Sample ID: 500-190764-1 MS
Matrix: Water
Analysis Batch: 431915

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA) - DL	420		34.4	489	4	ng/L		201	70 - 130
6:2 FTS - DL	1300		32.6	1280	4	ng/L		-83	59 - 175

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFOA - DL	85		25 - 150
M2-6:2 FTS - DL	100		25 - 150

Lab Sample ID: 500-190764-1 MSD
Matrix: Water
Analysis Batch: 431915

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA
Prep Batch: 431272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA) - DL	420		34.7	443	4	ng/L		68	70 - 130	10	30
6:2 FTS - DL	1300		32.9	1300	4	ng/L		-9	59 - 175	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFOA - DL	95		25 - 150
M2-6:2 FTS - DL	105		25 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-571370/1
Matrix: Water
Analysis Batch: 571370

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			11/10/20 17:00	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 500-571370/2
Matrix: Water
Analysis Batch: 571370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	191		mg/L		96	80 - 120

Lab Sample ID: 500-190764-1 MS
Matrix: Water
Analysis Batch: 571370

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	5.5		100	83.0		mg/L		78	75 - 125

Lab Sample ID: 500-190764-1 MSD
Matrix: Water
Analysis Batch: 571370

Client Sample ID: SW-U01 (11042020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	5.5		100	101		mg/L		96	75 - 125	20	20

Client Sample ID: SW-U01 (11042020)

Lab Sample ID: 500-190764-1

Date Collected: 11/04/20 14:15

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 12:09	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431915	11/14/20 22:47	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:04		
						(End) 11/10/20 17:05		

Client Sample ID: SW-U02 (11042020)

Lab Sample ID: 500-190764-2

Date Collected: 11/04/20 14:20

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 12:37	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	431915	11/14/20 23:15	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:07		
						(End) 11/10/20 17:08		

Client Sample ID: SW-U03 (11042020)

Lab Sample ID: 500-190764-3

Date Collected: 11/04/20 14:25

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 12:46	K1S	TAL SAC
Total/NA	Prep	3535	DL		431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5	431915	11/14/20 23:24	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:08		
						(End) 11/10/20 17:08		

Client Sample ID: SW-U04 (11042020)

Lab Sample ID: 500-190764-4

Date Collected: 11/04/20 14:30

Matrix: Water

Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 12:55	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:08		
						(End) 11/10/20 17:09		

Client Sample ID: SW-U05 (11042020)
Lab Sample ID: 500-190764-5
Date Collected: 11/04/20 15:00
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 13:04	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
					(Start)	11/10/20 17:09		
					(End)	11/10/20 17:10		

Client Sample ID: SW-U06 (11042020)
Lab Sample ID: 500-190764-6
Date Collected: 11/04/20 15:05
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 13:13	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
					(Start)	11/10/20 17:10		
					(End)	11/10/20 17:11		

Client Sample ID: SW-U07 (11042020)
Lab Sample ID: 500-190764-7
Date Collected: 11/04/20 15:10
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 13:40	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
					(Start)	11/10/20 17:11		
					(End)	11/10/20 17:12		

Client Sample ID: SW-U08 (11042020)
Lab Sample ID: 500-190764-8
Date Collected: 11/04/20 15:15
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 13:50	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
					(Start)	11/10/20 17:12		
					(End)	11/10/20 17:12		

Client Sample ID: SW-U09 (11042020)
Lab Sample ID: 500-190764-9
Date Collected: 11/04/20 15:20
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 13:59	K1S	TAL SAC

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Client Sample ID: SW-U09 (11042020)

Lab Sample ID: 500-190764-9

Date Collected: 11/04/20 15:20
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI

Client Sample ID: SW-U10 (11042020)

Lab Sample ID: 500-190764-10

Date Collected: 11/04/20 15:25
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:08	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:13		
						(End) 11/10/20 17:14		

Client Sample ID: DUP-03 (11042020)

Lab Sample ID: 500-190764-11

Date Collected: 11/04/20 00:00
Matrix: Water
Date Received: 11/07/20 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			431272	11/12/20 18:55	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	431545	11/13/20 14:17	K1S	TAL SAC
Total/NA	Analysis	SM 2540D		1	571370		SMO	TAL CHI
						(Start) 11/10/20 17:14		
						(End) 11/10/20 17:15		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190764-1
Project/Site: Marinette 30062361.00001

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: AS, KK, SK	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-86744-39116.2
Client Contact: Elizabeth Hover	Phone:	E-Mail: sandra.fredrick@eurofinset.com		Page: Page 2 of 16
Company: ARCADIS U.S., Inc.				Job #: 500-190764

Address: 126 North Jefferson Street Suite 400	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Milwaukee	TAT Requested (days): Standard		A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
State, Zip: WI, 53202	PO #: 30062361.00001		
Phone:	WO #:		Other:
Email: Elizabeth.Hover@arcadis.com	Project #: 50017363		
Project Name: Marinette 30062361.00001	SSOW#:		
Site: Marinette, WI			

500-190764 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS, Extended List (36 Analytes)	9060A - TOC	2320B - Alkalinity (Total/Bicarb/Carb)	6010C - Total Iron	9056A_Diss - DOC	6010C - Dissolved Iron	Total Number of containers	Special Instructions/Note:
			Preservation Code:		N	Y	N	N	S	N	D	N	N		
1 SW-U01 (11042020)	11/4/20	1415	G	Water	N	Y	X	X							MS/MSD
2 SW-U02 (11042020)		1420		Water		N	X								
3 SW-U03 (11042020)		1425		Water			X								
4 SW-U04 (11042020)		1430		Water			X								
5 SW-U05 (11042020)		1500		Water											
6 SW-U06 (11042020)		1505		Water			X								
7 SW-U07 (11042020)		1510		Water			X								
8 SW-U08 (11042020)		1515		Water											
9 SW-U09 (11042020)		1520		Water			X								
10 SW-U10 (11042020)		1525		Water			X								
11 DUP-03 (11042020)		—		Water											Duplicate

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Amy Siefker	Date/Time: 11/6/20 1500	Company: Arcadis	Received by: [illegible] Date/Time: 11/7/20 0955 Company: ETA Corr
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.2→2.6, 2.3→2.7, 2.1→2.5, 1.2→1.8, 2.3→2.7, 1.5→1.6, 0.9→1.0, 1.9→2.0, 1.1→1.2, 0.0→0.1, 1.3→1.4

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141915.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190764-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-U01 (11042020) (500-190764-1)	11/4/20	14:15 Central		Water			X	2	
SW-U01 (11042020) (500-190764-1MS)	11/4/20	14:15 Central	MS	Water			X	2	
SW-U01 (11042020) (500-190764-1MSD)	11/4/20	14:15 Central	MSD	Water			X	2	
SW-U02 (11042020) (500-190764-2)	11/4/20	14:20 Central		Water			X	2	
SW-U03 (11042020) (500-190764-3)	11/4/20	14:25 Central		Water			X	2	
SW-U04 (11042020) (500-190764-4)	11/4/20	14:30 Central		Water			X	2	
SW-U05 (11042020) (500-190764-5)	11/4/20	15:00 Central		Water			X	2	
SW-U06 (11042020) (500-190764-6)	11/4/20	15:05 Central		Water			X	2	
SW-U07 (11042020) (500-190764-7)	11/4/20	15:10 Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/9/20 1600	ETA	[signature]	11/10/20 09:45	ETA-SAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
	1363728/1363726/1363731/1363730	06: 2.1/0.7/1.0/2.3 cooler: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-141915.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		Job #: 500-190764-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Marinette 30062361.00001	Project #: 50017363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Extended List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-U08 (11042020) (500-190764-8)	11/4/20	15:15 Central		Water			X	2	
SW-U09 (11042020) (500-190764-9)	11/4/20	15:20 Central		Water			X	2	
SW-U10 (11042020) (500-190764-10)	11/4/20	15:25 Central		Water			X	2	
DUP-03 (11042020) (500-190764-11)	11/4/20	Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/9/20 1600	ETA		11/10/20 09:45	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ▲ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
	1363728/1363726/1363731/1363730	OB: 2.1/0.7/1.0/2.3 corr: 1.6/0.8/1.1/2.4

Ver: 01/16/2019

11/18/2020

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190764-1

Login Number: 190764
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6,2.7,2.5,1.8,2.7,1.6,1.0,2.0,1.2,0.1,1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-190764-1

Login Number: 190764
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 11/10/20 01:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1363728/1363726/1363731/1363730
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 2.1/0.7/1.0/2.3c corr: 1.6/0.8/1.1/2.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

500-190764 Field Sheet

Job: _____

Tracking # : 893445008666

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-5 Corr. Factor: (+ (-)0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363728

Cooler ID: 1 OF 4

Temp Observed: 2.1 °C Corrected: 1.6 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: CS Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: CS Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: CS Date: 11/10/20

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 189344500877

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+)0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363726

Cooler ID: 2 OF 4

Temp Observed: 0.7 °C Corrected: 0.8 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

NSR3-HC

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Job: _____

Tracking # : 1893445008 88

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363731

Cooler ID: 3 OF 4

Temp Observed: 1.0 °C Corrected: 1.1 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

WR3-11C

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Place Field Sheet Label Here

Tracking # : 1893445008 99

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1363730

Cooler ID: 4 OF 4

Temp Observed: 2.3 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 11/10/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 11/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 11/10/20

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-190764-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-190764-1	SW-U01 (11042020)	74	86	93	103		98	100	103
500-190764-1 - DL	SW-U01 (11042020)					99			
500-190764-1 MS	SW-U01 (11042020)	74	85	93	102		103	102	98
500-190764-1 MS - DL	SW-U01 (11042020)					85			
500-190764-1 MSD	SW-U01 (11042020)	74	85	89	98		101	102	104
500-190764-1 MSD - DL	SW-U01 (11042020)					95			
500-190764-2	SW-U02 (11042020)	73	89	100	100		101	107	105
500-190764-2 - DL	SW-U02 (11042020)					95			
500-190764-3	SW-U03 (11042020)	70	83	86	92	94	92	96	92
500-190764-3 - DL	SW-U03 (11042020)								
500-190764-4	SW-U04 (11042020)	59	68	72	78	79	79	76	69
500-190764-5	SW-U05 (11042020)	62	73	76	83	85	80	86	80
500-190764-6	SW-U06 (11042020)	67	77	84	88	90	87	84	90
500-190764-7	SW-U07 (11042020)	59	72	72	74	75	76	71	73
500-190764-8	SW-U08 (11042020)	54	62	65	67	70	65	67	66
500-190764-9	SW-U09 (11042020)	68	82	87	98	95	94	93	93
500-190764-10	SW-U10 (11042020)	71	88	85	102	100	97	97	96
500-190764-11	DUP-03 (11042020)	67	82	87	92	94	93	93	96
LCS 320-431272/2-A	Lab Control Sample	91	91	95	94	92	91	89	92
MB 320-431272/1-A	Method Blank	85	90	89	91	96	87	94	95

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOSA (25-150)
500-190764-1	SW-U01 (11042020)	96	77	80	90	108	111	100	102
500-190764-1 - DL	SW-U01 (11042020)								
500-190764-1 MS	SW-U01 (11042020)	88	74	88	95	110	107	97	87
500-190764-1 MS - DL	SW-U01 (11042020)								
500-190764-1 MSD	SW-U01 (11042020)	98	83	87	92	104	110	94	91
500-190764-1 MSD - DL	SW-U01 (11042020)								
500-190764-2	SW-U02 (11042020)	96	76	85	97	107	114	95	89
500-190764-2 - DL	SW-U02 (11042020)								
500-190764-3	SW-U03 (11042020)	82	72	73	86	98	100	91	82
500-190764-3 - DL	SW-U03 (11042020)								
500-190764-4	SW-U04 (11042020)	64	52	67	72	82	81	71	66
500-190764-5	SW-U05 (11042020)	74	61	71	78	90	86	80	74
500-190764-6	SW-U06 (11042020)	79	74	77	84	88	86	82	73
500-190764-7	SW-U07 (11042020)	69	58	66	71	75	76	70	64
500-190764-8	SW-U08 (11042020)	57	50	60	64	70	72	72	59
500-190764-9	SW-U09 (11042020)	93	73	79	84	95	95	86	81
500-190764-10	SW-U10 (11042020)	84	78	76	89	97	98	89	77
500-190764-11	DUP-03 (11042020)	86	73	72	85	91	102	94	84
LCS 320-431272/2-A	Lab Control Sample	93	91	95	92	94	97	83	97
MB 320-431272/1-A	Method Blank	93	79	95	86	92	92	85	92

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOSA (25-150)	dMeFOSAA (20-150)	dEtFOSAA (20-150)	NMFM (10-120)	NEFM (10-120)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-190764-1	SW-U01 (11042020)	90	91	79	72	67	125		113
500-190764-1 - DL	SW-U01 (11042020)							104	
500-190764-1 MS	SW-U01 (11042020)	64	62	45	40	32	118		108

Isotope Dilution Summary

Client: ARCADIS U.S., Inc. Job ID: 500-190764-1
Project/Site: Marinette 30062361.00001

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (20-150)	dEtFOSA (20-150)	NMFM (10-120)	NEFM (10-120)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-190764-1 MS - DL	SW-U01 (11042020)							100	
500-190764-1 MSD	SW-U01 (11042020)	90	60	49	38	33	119		101
500-190764-1 MSD - DL	SW-U01 (11042020)							105	
500-190764-2	SW-U02 (11042020)	87	59	47	38	33	129		105
500-190764-2 - DL	SW-U02 (11042020)							109	
500-190764-3	SW-U03 (11042020)	78	86	82	77	62	108		101
500-190764-3 - DL	SW-U03 (11042020)							104	
500-190764-4	SW-U04 (11042020)	52	43	36	31	28	90	84	82
500-190764-5	SW-U05 (11042020)	63	45	37	28	26	61	92	97
500-190764-6	SW-U06 (11042020)	77	43	39	35	31	105	99	95
500-190764-7	SW-U07 (11042020)	63	45	34	25	23	94	87	79
500-190764-8	SW-U08 (11042020)	56	39	32	24	22	74	72	75
500-190764-9	SW-U09 (11042020)	85	54	42	35	31	126	108	97
500-190764-10	SW-U10 (11042020)	75	58	55	43	40	113	107	99
500-190764-11	DUP-03 (11042020)	81	88	84	73	68	121	110	95
LCS 320-431272/2-A	Lab Control Sample	94	75	71	53	41	92	96	99
MB 320-431272/1-A	Method Blank	83	62	50	29	24	101	93	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (25-150)							
500-190764-1	SW-U01 (11042020)	94							
500-190764-1 - DL	SW-U01 (11042020)								
500-190764-1 MS	SW-U01 (11042020)	100							
500-190764-1 MS - DL	SW-U01 (11042020)								
500-190764-1 MSD	SW-U01 (11042020)	96							
500-190764-1 MSD - DL	SW-U01 (11042020)								
500-190764-2	SW-U02 (11042020)	91							
500-190764-2 - DL	SW-U02 (11042020)								
500-190764-3	SW-U03 (11042020)	86							
500-190764-3 - DL	SW-U03 (11042020)								
500-190764-4	SW-U04 (11042020)	73							
500-190764-5	SW-U05 (11042020)	81							
500-190764-6	SW-U06 (11042020)	85							
500-190764-7	SW-U07 (11042020)	72							
500-190764-8	SW-U08 (11042020)	61							
500-190764-9	SW-U09 (11042020)	91							
500-190764-10	SW-U10 (11042020)	96							
500-190764-11	DUP-03 (11042020)	86							
LCS 320-431272/2-A	Lab Control Sample	85							
MB 320-431272/1-A	Method Blank	83							

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Job ID: 500-190764-1
Project/Site: Marinette 30062361.00001

PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxDA = 13C2 PFHxDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA