

Alyssa Sellwood Complex Sites Project Manager – Remediation and Redevelopment Program Wisconsin Department of Natural Resources 101 South Webster Street Madison, Wisconsin 53703

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

Date: February 14, 2023 Our Ref: 30128077 Subject: 2022 Foam Monitoring Interim Action Report Tyco Fire Technology Center BRRTS #: 02-38-580694

Dear Ms. Sellwood,

Arcadis U.S., Inc. (Arcadis) has prepared this 2022 Foam Monitoring Interim Action Report on behalf of Tyco Fire Products LP (Tyco) summarizing foam monitoring and removal activities completed in 2022 on waterways (Ditches A, B, C, D, and E) in the City of Marinette, Wisconsin, and the Town of Peshtigo, Wisconsin. All work related to foam collection activities performed in 2022 was completed per the *2021 Foam Monitoring Interim Action Report and Foam Monitoring Work Plan Modifications* (work plan) submitted to the Wisconsin Department of Natural Resources (WDNR) on February 15, 2022.

Site Location and Contact Information

The Tyco Fire Technology Center is located at 2700 Industrial Parkway South in Marinette, Wisconsin (Site), as shown on **Figure 1**. The Site location is also described as:

- Public Land Survey System Description: NE ¼ of the NE ¼ of Section 13, Township 30N, Range 23E.
- County: Marinette.
- **Coordinates:** Coordinates describing the approximate locations of the Site boundaries are shown in **Figure 1**.

Contact information for the responsible party (Tyco) is listed below:

- Name: Denice Nelson Senior Director, Remediation and Strategy
- Address: 5757 N. Green Bay Avenue, Milwaukee, Wisconsin 53209
- Telephone Number: 651-280-7259

Field Implementation

Floating booms were deployed on Ditches B, C (Southwest Branch), and D on March 17, 2022 and on Ditches A, C (East Branch), and E on April 5, 2022 after the dissipation of ice at the locations shown in **Figure 2**. Notifications were made to WDNR, U.S. Army Corps. Of Engineers, the Town of Peshtigo, and the City of Marinette prior to implementing the interim action. Per the work plan, inspections of Ditches A, C, D, and E were conducted once per week and inspections of Ditch B were conducted twice per week. Following reports of foam reported to Tyco by others prior to a routine inspection, Tyco collected the foam as soon as practicable. For any

ditches where foam was observed, daily inspections resumed at that location until foam was not observed for 3 consecutive days. Ditch inspections and foam removal activities concluded on December 5, 2022, and all floating booms were removed from Ditches A-E due to the onset of freezing conditions.

Foam Observations and Removal

No foam accumulation was observed on Ditches A, C, or E during weekly inspections throughout the 2022 monitoring period. Foam was observed and collected 57 times on Ditch B and 1 time on Ditch D. A summary of the daily inspection logs for Ditches A, B, C (East Branch), C (Southwest Branch), D, and E are provided as **Tables 1, 2, 3, 4, 5, and 6**, respectively. Observed foam was collected via manual skimming with a pool skimmer, transferred into sealed, leak-proof 55-gallon drums, and stored at the Tyco Fire Technology Center (FTC) pending disposal, as described in the Waste Characterization and Disposal section below. Per the work plan, the WDNR project manager was notified via email within 2 days of a foam accumulation event.

A cumulative total of approximately 254 gallons of uncollapsed foam were removed from Ditch B and approximately 0.25 gallons of uncollapsed foam were removed from Ditch D throughout the 2022 reporting period. The structure of the collected foam naturally collapsed over time reducing to approximately 10 gallons of liquid.

Foam observations dates, locations, and foam volume removal estimates are shown on **Figure 2**. Photos and descriptions of the observed foam and descriptions of weather conditions are included as **Attachment 1**.

Waste Characterization and Disposal

Per the work plan, all foam was removed from the site within 90 days of collection. Foam was first collected on March 18, 2022 and was containerized in a leak proof 55-gallon drum for storage at the FTC pending transport offsite on June 9, 2022 by Endpoint Solutions Corporation (Endpoint). Foam collected from all monitored ditches was consolidated into a single drum. One analytical sample was collected from the drum on May 17, 2022 and submitted to Eurofins TestAmerica of West Sacramento, California (Eurofins Sacramento) for analysis of per- and polyfluoroalkyl substances (PFAS) by U.S. Environmental Protection Agency (U.S. EPA) Method 537 Modified under standard chain-of-custody procedures. The drum contained approximately 9 gallons of collapsed foam collected between March 18, 2022 and May 17, 2022 at the time of sampling. The drum was sealed following sampling and no additional material was added.

Foam collection starting May 18, 2022 and ending June 3, 2022 (the last time foam was observed and collected) was containerized in a new leak proof 55-gallon drum and stored at the FTC pending transport offsite on August 10, 2022 by Endpoint. Foam collected from all monitored ditches was consolidated into a single drum. One analytical sample was collected from the drum on July 20, 2022 and submitted to Eurofins Sacramento for analysis of PFAS by U.S. EPA Method 537 Modified under standard chain-of-custody procedures. The drum contained approximately 1 gallon of collapsed foam at the time of sampling. The drum was sealed following sampling and no additional material was added.

Both drums were transported to Endpoint's waste transfer facility located in Hartford, Wisconsin, and were consolidated with previously collected foam for more efficient transportation and disposal. All collected foam staged at Endpoint's facility was transported to Waste Management in Arlington, Oregon (WM Arlington), for disposal on June 17, 2022, and November 17, 2022. Spent booms from the 2022 season were transferred to drums and are being stored at the FTC pending disposal. Spent booms from previous seasons were shipped to WM Arlington on November 17, 2022. Transportation documentation for the collected foam and spent booms is included in **Attachment 2**.

Analytical Results and Significance

Analytical results of the characterization samples are presented in **Table 7**. Laboratory analytical reports are included in **Attachment 3**.

Historically, aqueous film-forming foams were used as part of the firefighting, development, and quality testing activities conducted at the Site. Outdoor use of PFAS-containing foam was discontinued at the Site in 2017. Surface water foam is generated by turbulence caused by naturally occurring elements such as stream obstructions, changes in stream flow direction, and wind. Furthermore, natural decomposition of plants in surface water bodies release organic compounds which make it easier for foam to form¹. Foam observed on surface water as part of this ongoing foam monitoring program is naturally generated foam, it is not aqueous film-forming foam (AFFF).

PFAS concentrations in foam are predictably higher than the concentrations in groundwater or surface water due to the physical properties of PFAS at the molecular level. PFAS will accumulate in foam, and amplification of PFAS concentrations in foam will occur regardless of the source of PFAS^{2,3}. In instances where PFAS are present in water, the foam has been found to accumulate PFAS at 100 to 1000 times higher concentrations than is present in the water^{4,5}. Accordingly, the concentrations of PFAS in surface water cannot be used to accurately estimate the concentrations of PFAS in foam.

The significance of these results include:

- 1. Foam is naturally occurring in the environment, and foam observed in the ditches as part of this monitoring program is natural foam, not AFFF foam.
- 2. PFAS concentrations amplify in foam, regardless of their source.
- 3. Collecting and properly disposing of foam also removes PFAS from the environment because PFAS aggregates in foam.

Future Activities

Tyco will continue to inspect and remove observed foam from Ditches A-E in 2023 using the same methods approved in the work plan and outlined below.

- Inspections of Ditches A, C, D, and E will be conducted on a weekly basis
- Inspections of Ditch B will be conducted twice per week (i.e., once every 3 to 5 days)
- If foam observations are reported to Tyco by others prior to a routine inspection, Tyco will collect the foam as soon as possible and daily inspections will resume at the location where the foam was sighted until foam is not observed for 3 consecutive days.
- Foam from all ditches will be combined, stored in leak-proof containers, and removed from the site within 90 days of collection.

⁵ https://dnr.wisconsin.gov/sites/default/files/topic/PFAS/jci/PeshtigoRiver20191030.pdf (access 2/8/2022)

¹ PFAS Response - PFAS Foam on Lakes and Streams (michigan.gov)

² https://www.epa.gov/sciencematters/understanding-pfas-environment

³ Rankin, K., Mabury, S.A., Jenkins, T.M. and Washington, J.W., 2016. A North American and global survey of perfluoroalkyl substances in surface soils: Distribution patterns and mode of occurrence. Chemosphere, 161, pp.333-341

⁴ <u>https://dnr.wi.gov/topic/Contaminants/documents/pfas/Starkweather20191219.pdf</u> (accessed 2/8/2022)

- One sample will be collected from each container and analyzed for PFAS (36 compounds) for waste characterization and disposal purposes.
- Tyco will provide an email to the WDNR Project Manager within 2 business days of a foam accumulation event that includes a photo of the foam and a summary of the date, location, weather conditions, and volume of foam recovered.
- Tyco will submit an Annual Foam Monitoring Interim Action Report, in accordance with Wisconsin Administrative Code Chapter NR 708 by February 15, 2024 for the previous calendar year.

Closing

Tyco has completed the foam monitoring and removal tasks for 2022. Floating booms were removed from Ditches A, B, C, D, and E on December 5, 2022 due to the onset of freezing conditions. In 2023, new booms will be deployed and inspection and foam removal activities will resume as outlined above when allowed by ambient weather conditions.

Please do not hesitate to contact me if there are any questions.

Sincerely, Arcadis U.S., Inc.

Ben Verburg, PE Principal Engineer

Email: Ben.Verburg@arcadis.com Direct Line: 414-277-6231

CC.

Denice Nelson (Tyco) Scott Potter (Arcadis)

Enclosures:

NR 712.09 Certification

Tables

- 1 Ditch A Inspection Summary
- 2 Ditch B Inspection Summary
- 3 Ditch C (East Branch) Inspection Summary
- 4 Ditch C (Southwest Branch) Inspection Summary
- 5 Ditch D Inspection Summary
- 6 Ditch E Inspection Summary
- 7 Laboratory Analytical Results

Figures

- 1 Site Location Map
- 2 Boom Deployment and Foam Removal Locations

Attachments

- 1 Foam Observation Photo Log
- 2 Transportation and Disposal Documentation
- 3 Laboratory Analytical Reports

NR 712.09 Certification

NR 712.09 Certification

I, Benjamin J. Verburg, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wisconsin Administrative Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wisconsin Administrative Code; and that all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wisconsin Administrative Code.

Burne, title, and P.E. number

Principal Engineer, 31794



Tables



					Ditch A				
		Weather Conditi	ons			Inspection	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
4/5/2022	0.12	2	North-Northeast	New	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/12/2022	0.05	3	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/18/2022	0.2	6	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/25/2022	0.03	7	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/2/2022	0	5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/10/2022	0.29	4.7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/26/2022	0.31	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/31/2022	0	6	Southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/6/2022	0.4	3.5	Northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest						
9/19/2022	0	3	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0	4.3	East	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/21/2022	0	9	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/29/2022	0	3	Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
12/5/2022	0	4	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
							Total:	0	

Notes:

Booms were deployed at Ditch A on 4/5/22.

Booms were removed at Ditch A on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection Bold = Foam Observed



					Ditch B				
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
3/17/2022	0	4	East-Southeast	New	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/18/2022	0.07	5	North-Northwest	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	1	
3/19/2022	0.11	6.7	North-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/20/2022	0	2	North-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/21/2022	0.44	5	North-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/24/2022	0.01	3	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White, frothy	63	Additional booms deployed
3/25/2022	0.04	7	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan, frothy	70	
3/26/2022	0	10	North-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	3	
3/27/2022	0	8.5	North-Northwest	Good	Downstream	West Bay Shore St. Crossing	White, frothy	4	
3/28/2022	0	7	North-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	2	
3/29/2022	0.1	7.7	East-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/30/2022	0.86	2	East-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/31/2022	0.26	10	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/4/2022	0.36	2	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	3	
4/5/2022	0.12	2	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White, frothy	1	
4/6/2022	0.82	3	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/7/2022	0	4.7	South	Good	Downstream	West Bay Shore St. Crossing	White, frothy	11	
4/8/2022	0.01	6.5	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White, frothy	19	
4/9/2022	0	4.5	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	2	
4/10/2022	0	5	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White, frothy	2	
4/11/2022	0	10	West	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	2	
4/12/2022	0.05	3	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	7	
4/13/2022	0.53	4	Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	1	
4/14/2022	0.13	8	West-Southwest	Good	Downstream	West Bay Shore St. Crossing	White, frothy	2	
4/15/2022	0	7	West-Southwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	5	
4/16/2022	0	9	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	2	
4/17/2022	0	4.7	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	2	
4/18/2022	0.2	6	Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	5	
4/19/2022	0	6	Northwest	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	2	
4/20/2022	0.52	4	North-northwest	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	0.5	
4/21/2022	0.01	4.5	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/22/2022	0.26	4	Northwest	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	1	Fallen tree removed from stream at West Bay Shore St. Crossing
4/23/2022	0.01	4.5	Southeast	Good	Downstream	West Bay Shore St. Crossing	Whte/tan, frothy	1	
4/24/2022	0	11.5	Southwest	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	0.5	
4/25/2022	0.03	7	West	Good	Downstream	West Bay Shore St. Crossing	White/tan, frothy	1	
4/26/2022	0.01	7	West	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	1	
4/27/2022	0	6	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	1	
4/28/2022	0	6	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	0.5	
4/29/2022	0	3	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	0.5	
4/30/2022	0.77	3	West-Southwest	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	0.5	
5/1/2022	0.01	5	West	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	0.5	

Notes on Page 4.



					Ditch B				
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
5/2/2022	0	5	West-Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	3	
5/3/2022	0	6	East-Northeast	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	3	
5/4/2022	0	4.7	North-Northeast	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	3	
5/5/2022	0	0		Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	3	
5/6/2022	0	7	East-Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	1	
5/7/2022	0	7	Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	0.5	
5/8/2022	0	8	East-Northeast	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	0.5	
5/9/2022	0	4	East-Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	1	
5/10/2022	0.29	4.7	South	Good	Upstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/11/2022	0	4	East-Northeast	Good	Downstream	West Bay Shore St. Crossing	Brown, Some Froth	0.5	
5/12/2022	1.06	4	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/13/2022	0	2	South-Southeast	Good	Downstream	West Bay Shore St. Crossing	White, some froth	0.5	
5/14/2022	0.2	3	South-Southeast	Good	Downstream	West Bay Shore St. Crossing	Tan, frothy	3	
5/15/2022	0	5	Southwest	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	1	
5/16/2022	0	3	South-Southwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	2	
5/17/2022	0	5	North	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	0.5	
5/18/2022	0.08	1.7	South-Southwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	1	
5/19/2022	0.36	4	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/20/2022	0.83	2	South-Southeast	Good	Downstream	West Bay Shore St. Crossing	White, some froth	0.5	
5/21/2022	0.01	5	Southeast	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	1	
5/22/2022	0.01	4.5	Northwest	Good	Downstream	West Bay Shore St. Crossing	White/tan, some froth	1	
5/23/2022	0	3	North-Northwest	Good	Downstream	West Bay Shore St. Crossing	Tan, frothy	2	
5/24/2022	0	3	Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	1	
5/25/2022	1.2	3	Northeast	Good	Downstream	West Bay Shore St. Crossing	Tan/brown, some froth	1	
5/26/2022	0.31	0	Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/27/2022 5/27/2022	0.01	4	North-northwest	Good	Downstream	West Bay Shore St. Crossing	White, frothy	2	
5/28/2022	0.02	2	South-southeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	2	
5/29/2022	0.02	3	Southeast	Good	Downstream	West Bay Shore St. Crossing	Tan, some froth	2	
5/29/2022	0.03	4	South-southeast	Good	Downstream	West Bay Shore St. Crossing	,	1	
5/31/2022	0	6	Southwest	Good	Downstream	No Foam Observed	Tan/brown, some froth No Foam Observed	No Foam Collected	
		5		Good			No Foam Observed		
6/1/2022	0		Northwest		Downstream	No Foam Observed		No Foam Collected	
6/2/2022	0	2.5	West-southwest West-northwest	Good	Downstream	No Foam Observed	No Foam Observed No Foam Observed	No Foam Collected No Foam Collected	
6/3/2022	-	-			Downstream				
6/6/2022	0.4	3.5	Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/8/2022	0.03	0.3	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/15/2022	0.1	3	South	Good	Downestream	No Foam Observed	No Foam Observed	No Foam Collected	
6/17/2022	0	5.5	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/23/2022	0	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/27/2022	0	7.5	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/1/2022	0	7	North-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/8/2022	0.03	4	East-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	

Notes on Page 4.



					Ditch B				
		Weather Conditions				Inspection S	Gummary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
7/13/2022	0.01	4	North-northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/15/2022	0.01	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/20/2022	0.08	8.5	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/22/2022	0	4.7	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/29/2022	0	4.5	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/4/2022	0	7.5	Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/5/2022	0	0	East -south-east	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/10/202	0	3	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/11/2022	0	3.7	North-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/16/2022	0	3.3	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/18/2022	0	1	Southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/25/2022	0	0	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/26/2022	0	2	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/1/2022	0	0	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/2/2022	0	5.7	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/8/2022	0	0	East	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/15/2022	0	0	South-southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/19/2022	0	3	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/21/2022	0	1.7	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/23/2022	0	0	North	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/28/2022	0	4.5	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/6/2022	0	3	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/7/2022	0	6.5	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/12/2022	0.17	8	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/13/2022	0	2	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/20/2022	0.00	0	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/27/2022	0.07	0	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/28/2022	0	1	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/9/2022	0	3.3	South-southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/11/2022	0.05	9.7	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0.00	4.3	East	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	

Notes on Page 4.



					Ditch B						
		Weather Conditions		Inspection Summary							
Date	Precipitation (inches)	' ' Wind Direction Room Condition Ecom Observation Location Ecom Description					Uncollapsed Foam Volume Collected (gal)	Comments			
11/17/2022	0	2.5	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/18/2022	0	5	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/21/2022	0	9	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/22/2022	0	0.5	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/23/2022	0	0	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/29/2022	0	3	Southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
11/30/2022 0 6 West-southwest Good Downstream No Foam Observed No Foam Observed No Foam								No Foam Collected			
12/2/2022	0	4	South-southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
12/5/2022	0	4	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
							Total	254			

Notes:

Boldy visual insepctions of Ditch B began on 3/17/22 Booms were deployed at Ditch B on 3/17/22. Booms were removed at Ditch B on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection **Bold** = Foam Observed



					Ditch C (East Bra	anch)			
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
4/5/2022	0.12	2	North-Northeast	New	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/12/2022	0.05	3	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/18/2022	0.2	6	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/25/2022	0.03	7	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/2/2022	0	5	West-Northwest	No	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/10/2022	0.29	4.7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/26/2022	0.31	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/31/2022	0	6	Southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/6/2022	0.4	3.5	Northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/19/2022	0	3	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0	4.3	East	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/21/2022	0	9	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/29/2022	0	3	Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
12/5/2022	0	4	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
	<u> </u>	· · ·	22001 00001	0000			Total:	0	

Notes:

Booms were deployed at Ditch C on 4/5/22. Booms were removed at Ditch C on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection **Bold** = Foam Observed

Table 4 Ditch C (Southwest Branch) Inspection Summary Tyco Fire Products LP Marinette, Wisconsin



					Ditch C (Southwest	Branch)			
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
4/5/2022	0.12	2	North-Northeast	New	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/12/2022	0.05	3	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/18/2022	0.2	6	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/25/2022	0.03	7	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/2/2022	0	5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/10/2022	0.29	4.7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/26/2022	0.31	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/31/2022	0	6	Southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/6/2022	0.4	3.5	Northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/19/2022	0	3	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0	4.3	East	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/21/2022	0	9	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/29/2022	0	3	Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
12/5/2022	0	4	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
							Total:	0	

Notes:

Booms were deployed at Ditch C on 4/5/22. Booms were removed at Ditch C on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection

Bold = Foam Observed

Table 4 Ditch C (Southwest Branch) Inspection Summary Tyco Fire Products LP Marinette, Wisconsin



					Ditch C (Southwest	Branch)			
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
4/5/2022	0.12	2	North-Northeast	New	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/12/2022	0.05	3	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/18/2022	0.2	6	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
4/25/2022	0.03	7	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/2/2022	0	5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/10/2022	0.29	4.7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/26/2022	0.31	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
5/31/2022	0	6	Southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/6/2022	0.4	3.5	Northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/19/2022	0	3	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0	4.3	East	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/21/2022	0	9	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
11/29/2022	0	3	Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
12/5/2022	0	4	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
							Total:	0	

Notes:

Booms were deployed at Ditch C on 4/5/22. Booms were removed at Ditch C on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection

Bold = Foam Observed



					Ditch D				
		Weather Conditions				Inspection S	Summary		
Date	Precipitation (inches)	Wind Speed (miles per hour)	Wind Direction	Boom Condition	Ditch Flow Observations	Foam Observation Location	Foam Description	Uncollapsed Foam Volume Collected (gal)	Comments
3/17/2022	0	4	East-Southeast	New	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/21/2022	0.44	5	North-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
3/31/2022	0.26	10	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/5/2022	0.12	2	North-Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/12/2022	0.05	3	West-Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/18/2022	0.2	6	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
4/25/2022	0.03	7	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/2/2022	0	5	West-Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/10/2022	0.29	4.7	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/26/2022	0.31	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
5/31/2022	0	6	Southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/3/2022	0	6	West-northwest	Good	No Noticeable Flow	Shore Dr. Crossing	White, Some Froth	0.25	
6/4/2022	0	7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/5/2022	0	5	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
6/6/2022	0.4	3.5	Northeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/13/2022	0.01	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/20/2022	0	5	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
6/29/2022	0.02	2.5	East-northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
7/5/2022	0	2	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/11/2022	0	6	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/18/2022	0	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
7/26/2022	0	7.5	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
8/2/2022	0	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/9/2022	0	0	East -south-east	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/15/2022	0	3	North-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/24/2022	0	2	West	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
8/29/2022	0	4.3	South	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/6/2022	0	0	Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/13/2022	0	4	West-northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/19/2022	0	3	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
9/26/2022	0	8.5	West-Northwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/4/2022	0	2	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
10/10/2022	0.43	5.3	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected	
10/24/2022	0.07	4	South-southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/8/2022	0	4.5	East-Southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/15/2022	0	4.3	East	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/21/2022	0	9	West-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
11/29/2022	0	3	Southeast	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
12/5/2022	0	4	South-southwest	Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected	
	-	· · ·					Total:	0.25	

Notes:

Booms were deployed at Ditch D on 3/17/22. Booms were removed at Ditch D on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection

Bold = Foam Observed



difference (Intels per Nauf) Condition Observations No Four Observed No Four Observed <th< th=""><th></th><th colspan="11">Ditch E</th></th<>		Ditch E										
Date (Indies per Nour) Wind Direction Condition Observations Poam Observations Volume Collected (a)) Comman 4/4/2022 0.05 3 West-Northwest Good No Noticeable Flow No Foam Observed No Fo			Weather Conditi	ons			Inspection	Summary				
4/12/2022 0.05 3 West-Northwest Good No Noticeable Flow No Foam Observed No Foam Obser	Date		-	Wind Direction			Foam Observation Location	Foam Description		Comments		
4/18/2022 0.2 6 Northwest Good No hoticeable Flow No Foam Observed No Foam Observed <td>4/5/2022</td> <td>0.12</td> <td>2</td> <td>North-Northeast</td> <td>New</td> <td>No Noticeable Flow</td> <td>No Foam Observed</td> <td>No Foam Observed</td> <td>No Foam Collected</td> <td></td>	4/5/2022	0.12	2	North-Northeast	New	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
1425/2022 0.03 7 West Good No Noticeable Flow No Foam Observed No Foam Collected 5/2/2022 0 5 West-Northwest No Downstream No Foam Observed No Foam Observed No Foam Observed No Foam Observed No Foam Collected 5/2/2022 0.31 0 Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected 5/2/2022 0.4 3.5 Northeast Good No Noticeable Flow No Foam Observed No Foam Obs	4/12/2022	0.05	3	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
5/2/2022 0 5 West-Northwest No Downstream No Feam Observed		-	-		Good	No Noticeable Flow						
5/10/2022 0.29 4.7 South Good No Noticeable Flow No Feam Observed No Feam Observed <td>4/25/2022</td> <td>0.03</td> <td>7</td> <td>West</td> <td>Good</td> <td>No Noticeable Flow</td> <td>No Foam Observed</td> <td>No Foam Observed</td> <td>No Foam Collected</td> <td></td>	4/25/2022	0.03	7	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
5/25/2022 0.31 0 Good Downstream No Foam Observed No Foam Observed No Foam Collected 5/31/2022 0 6 Southwest Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected 6/3/2022 0.01 0 Good No Noticeable Flow No Foam Observed No Foam Collected 6/20/2022 0.02 2.5 East-northeast Good No Noticeable Flow No Foam Observed No Foam Collected 6/29/2022 0.02 2.5 East-northeast Good No Noticeable Flow No Foam Observed No Foam Collected 7/15/2022 0 2 Northwest Good No Noticeable Flow No Foam Observed No Foam Collected 7/11/2022 0 6 West Good No Noticeable Flow No Foam Observed No Foam Collected 7/16/2022 0 7.5 West-northwest Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected	5/2/2022	0	5	West-Northwest	No	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
5/31/2022 0 6 Southwest Good No Noticeable Flow No Foam Observed	5/10/2022	0.29	4.7	South	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
6/6/2022 0.4 3.5 Northeast Good No Noticeable Flow No Feam Observed	5/26/2022	0.31	0		Good	Downstream	No Foam Observed	No Foam Observed	No Foam Collected			
6/13/2022 0.01 0 Good No No Noticeable Flow No Foam Observed No	5/31/2022	0	6	Southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
6/20/2022 0 5 West-southwest Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected 6/20/2022 0 2 Northwest Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected 7/11/2022 0 6 West Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected 7/11/2022 0 0 Good No Noticeable Flow No Foam Observed No Foam Collected 7/11/2022 0 0 Good No Noticeable Flow No Foam Observed No Foam Collected 7/26/2022 0 0 Good No Noticeable Flow No Foam Observed No Foam Collected 8/2/2022 0 0 East -south-east Good No Noticeable Flow No Foam Observed No Foam Collected 8/2/2022 0 3 North-northwest Good No N	6/6/2022	0.4	3.5	Northeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
6/29/2022 0.02 2.5 East-northeast Good No Noticeable Flow No Foam Observed	6/13/2022	0.01	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
7/5/2022 0 2 Northwest Good No Noticeable Flow No Foam Observed No F	6/20/2022	0	5	West-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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8/15/202203North-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected8/24/202202WestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected8/29/202204.3SouthGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/6/202200NorthwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/13/202204West-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/13/202203West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/12/202208.5West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/12/20202South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/12/20202South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/12/20202South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam Collected10/12/2020.6610West-southwestGoodNo Noticeable	8/2/2022	0	0		Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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9/6/202200NorthwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/13/202204West-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/19/202203West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected9/26/202208.5West-NorthwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/4/202202South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/10/20220.435.3WestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/17/20220.0610West-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/24/20220.074South-southeastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/8/202204.5East-SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/8/202204.3EastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/21/202209West-southwest	8/24/2022	0	2	West	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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10/10/20220.435.3WestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/17/20220.0610West-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/24/20220.074South-southeastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/8/202204.5East-SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/15/202204.3EastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/21/202209West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/29/202203SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/29/202204SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGood <td>9/26/2022</td> <td>0</td> <td>8.5</td> <td>West-Northwest</td> <td>Good</td> <td>No Noticeable Flow</td> <td>No Foam Observed</td> <td>No Foam Observed</td> <td>No Foam Collected</td> <td></td>	9/26/2022	0	8.5	West-Northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
10/17/20220.0610West-northwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected10/24/20220.074South-southeastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/8/202204.5East-SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/15/202204.3EastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/21/202209West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/29/202203SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwest<	10/4/2022	0	2	South-southwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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11/8/202204.5East-SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/15/202204.3EastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/21/202209West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/29/202203SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected	10/17/2022	0.06	10	West-northwest	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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11/15/202204.3EastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected11/21/202209West-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam ObservedNo Foam Collected11/29/202203SoutheastGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected12/5/202204South-southwestGoodNo Noticeable FlowNo Foam ObservedNo Foam ObservedNo Foam Collected	11/8/2022	0	4.5	East-Southeast	Good	No Noticeable Flow	No Foam Observed	No Foam Observed	No Foam Collected			
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12/5/2022 0 4 South-southwest Good No Noticeable Flow No Foam Observed No Foam Observed No Foam Collected		0	-									
		-										
Total: 0								Total	I			

Notes:

Booms were deployed at Ditch E on 4/5/22.

Booms were removed at Ditch E on 12/5/22 due to the onset of freezing conditions. Foam volumes are approximate based on the visual observation at the time of collection **Bold** = Foam Observed

Table 7 Laboratory Analytical Results Tyco Fire Products LP Marinette, Wisconsin



	Sample ID	COLLAPSED SW	COLLAPSED SW
	Sample Date	FOAM (5-17-22)	FOAM (7-20-22)
Per- and Polyfluoroalkyl Substances	Units	5/17/2022	7/20/2022
Perfluorobutanoic acid (PFBA)	ng/L	94	300
Perfluoropentanoic acid (PFPA)	ng/L	270 B	550
Perfluorohexanoic acid (PFHxA)	ng/L	2,300 B	2,600
Perfluoroheptanoic acid (PFHpA)	ng/L	2,100	600
	-	450,000 EJ	6,900 D
Perfluorooctanoic acid (PFOA)	ng/L	250,000 D	7,000 D
Perfluorononanoic acid (PFNA)	ng/L	33,000 D	5,300 D
Perfluorodecanoic acid (PFDA)	ng/L		•
Perfluoroundecanoic acid (PFUdA)	ng/L	8,200 D	4,000
Perfluorododecanoic acid (PFDoA)	ng/L	210	470
Perfluorotridecanoic acid (PFTrDA)	ng/L	24	55
Perfluorotetradecanoic acid (PFTeDA)	ng/L	13 J	45 J+
Perfluorohexadecanoic acid (PFHxDA)	ng/L	<8.9 U	<8.9 UJ
Perfluorooctadecanoic acid	ng/L	<9.4 U	<9.4 U
Perfluorobutane sulfonic acid (PFBS)	ng/L	6.2 J	<2.0 U
Perfluoropentane sulfonic acid (PFPeS)	ng/L	29	<3.0 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	8,600 D	98
Perfluoroheptane sulfonic acid (PFHpS)	ng/L	3,600 D	56
Perfluorooctane sulfonic acid (PFOS)	ng/L	460,000 EJ	44,000 D
Perfluorononane sulfonic acid (PFNS)	ng/L	120	51
Perfluorodecane sulfonic acid (PFDS)	ng/L	160	170
Perfluorododecane sulfonic acid (PFDOS)	ng/L	<9.7 U	<9.7 U
4:2 Fluorotelomer sulfonate (4:2 FTS)	ng/L	36 J+	26
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	ng/L	99,000 D	10,000 D
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	ng/L	88,000 DJ+	52,000 D
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	ng/L	480	980
Perfluorooctane sulfonamide (FOSA)	ng/L	22,000 D	24,000 D
N-Methyl perfluorooctane sulfonamide (N-MeFOSA)	ng/L	21 J	16 J
N-Ethyl perfluoroctane sulfonamide (N-EtFOSA)	ng/L	55	20
N-Methylperfluoroocatane sulfonamidoacetic acid (MeFOSAA)	ng/L	570 JN	280 JN
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	ng/L	8,200 D	8,400 D
N-Methyl perfluorooctane sulfonamidoethanol (N-MeFOSE)	ng/L	19 J	22 J
N-Ethyl perfluorooctane sulfonamide ethanol (N-EtFOSE)	ng/L	16 J	53
2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy)propanoic acid (HFPO-DA)	ng/L	<15 U	<15 U
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ng/L	<4.0 U	<4.0 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (F-53 Major)	ng/L	<2.4 U	<2.4 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (F-53B Minor)	ng/L	<3.2 U	<3.2 U
	···9/ –	3012 0	10.2 0

Notes on Page 2.

Table 7Laboratory Analytical ResultsTyco Fire Products LPMarinette, Wisconsin



Notes:

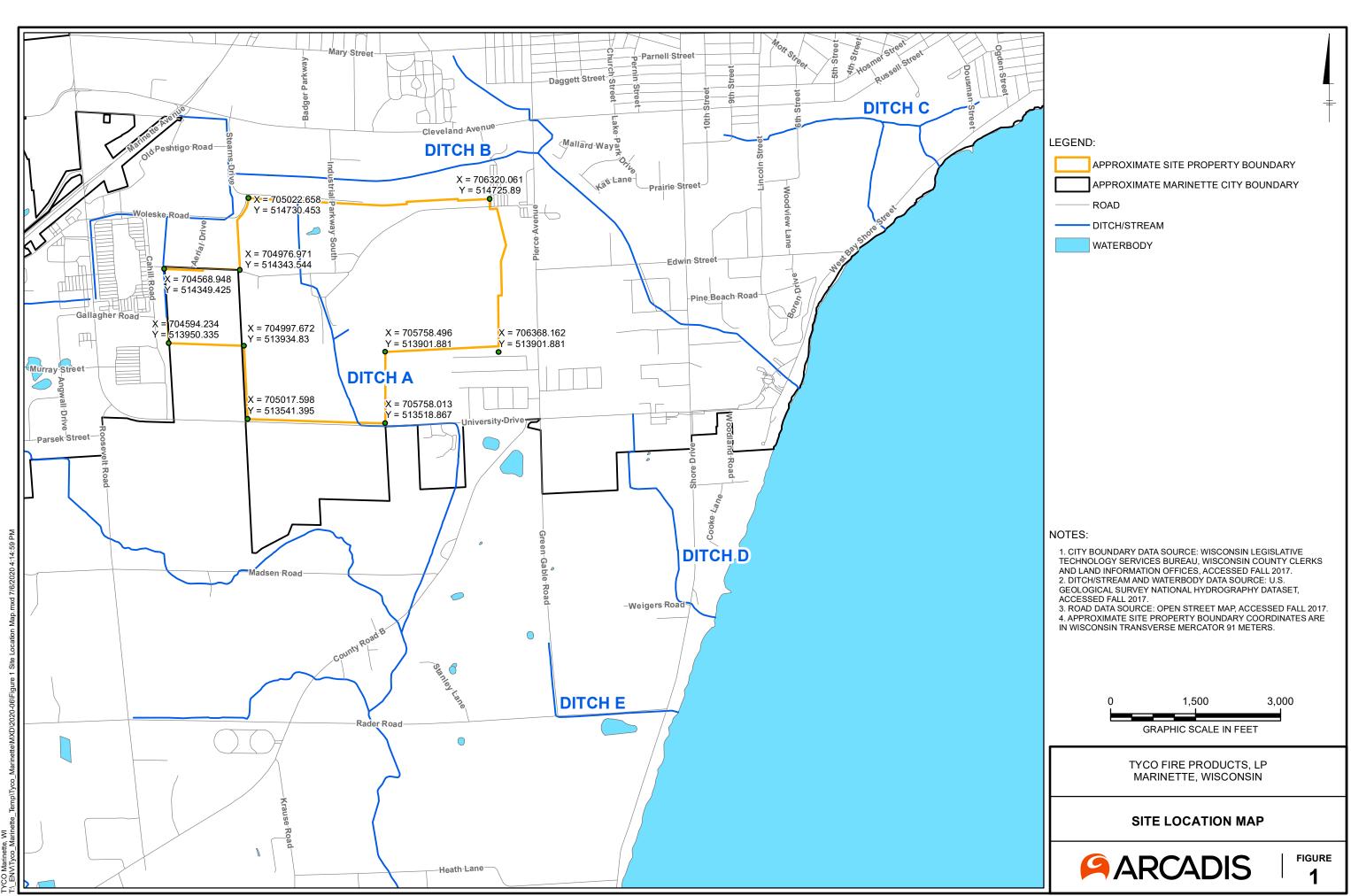
<= Compound not detected at method detection limit

ng/L = Nanograms per liter

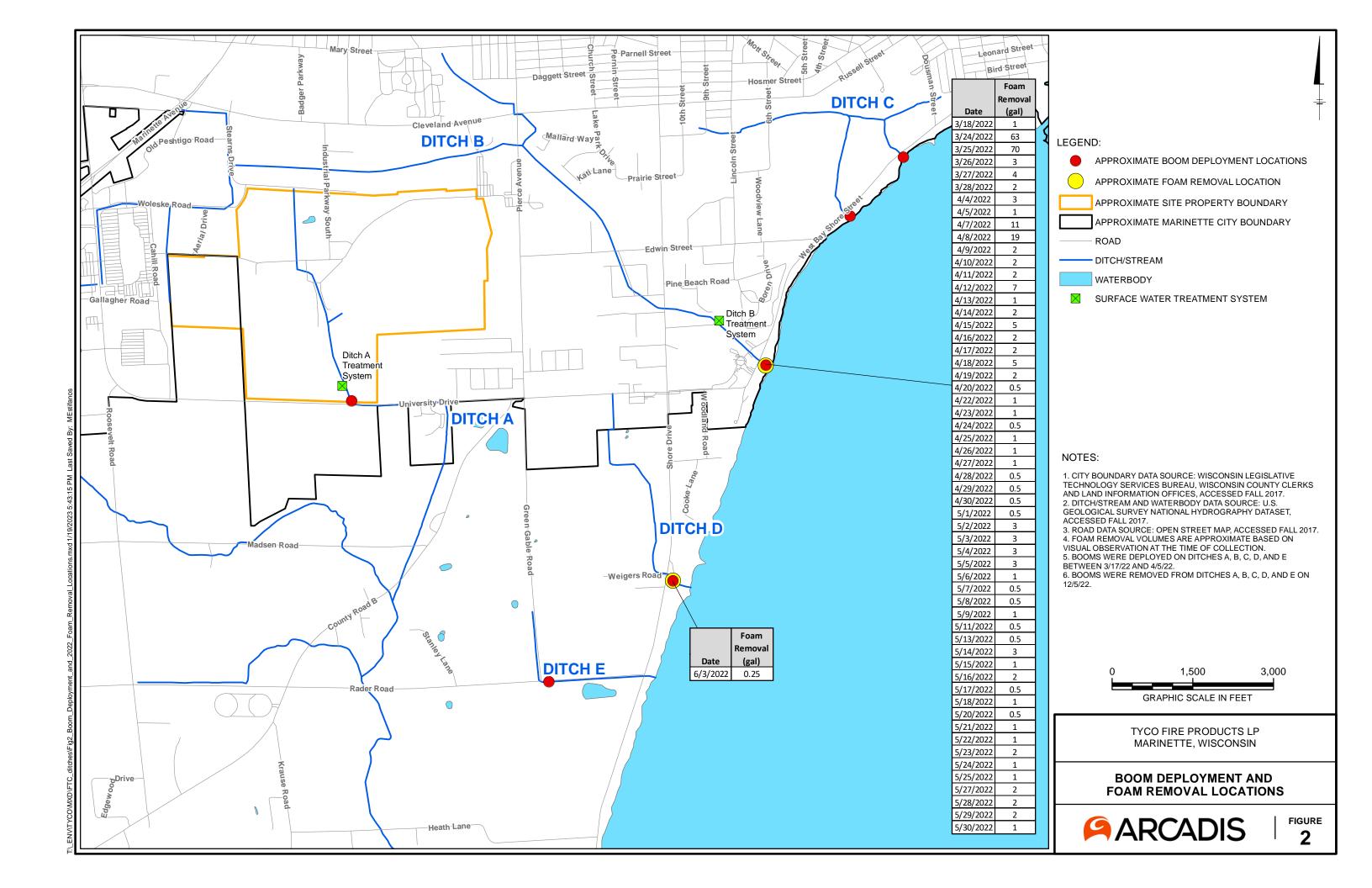
Data Qualifiers:

- D = Dilution required for sample analysis
- E = Result exceeded calibration range
- J = The result is an estimated quantity. The associated numberical value is the approximate concentration of the analyte in the sample
- J- = The result is an estimated quantity. The associated numerical value is expected to have a negative or low bias
- J+ = The result is an estimated quantity. The associated numerical value is expected to have a positive or high bias
- JN = The analysis indicates the presence of a compound for which there is presumtive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

Figures



City: Minneapolis/Citrix Div/Group: IMDVC Created By: Last Saved By: msmiller TVCO Maninette, WI



Attachment 1

Foam Observation Photo Log



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 1

Date: 3/18/2022

Weather: Cloudy, 5 mph wind (NNE), 0.07 inches precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 2

Date: 3/24/2022

Weather: Cloudy, 3 mph wind (NNE), 0.01 inches precipitation

Description: White, frothy

Uncollapsed Volume Collected: 63 gal (daily total)



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 3

Date: 3/24/2022

Weather: Cloudy, 3 mph wind (NNE), 0.01 inches precipitation

Description: White, frothy foam. Additional booms deployed downstream.

Uncollapsed Volume Collected: 63 gal (daily total)

Location: Ditch B. West Bay Shore Street crossing

Photograph: 4

Date: 3/24/2022

Weather: Cloudy, 3 mph wind (NNE), 0.01 inches precipitation

Description: Additional booms deployed downstream

Uncollapsed Volume Collected: 63 gal (daily total)



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 5

Date: 3/24/2022

Weather: Cloudy, 3 mph wind (NNE), 0.01 inches precipitation

Description: Double boom layer deployed.

Uncollapsed Volume Collected: 63 gal (daily total)

Location: Ditch B. West Bay Shore Street crossing

Photograph: 6

Date: 3/25/2022

Weather: Cloudy, 7 mph wind (NNE), 0.02 inches precipitation

Description: Tan, frothy (8:30 AM).

Uncollapsed Volume Collected: 70 gal (daily total)





Tyco Fire Products LP Marinette, Wisconsin



Photograph: 7

Date: 3/25/2022

Weather: Cloudy, 7 mph wind (NNE), 0.02 inches precipitation

Description: Tan, frothy (3:00 PM).

Uncollapsed Volume Collected: 70 gal (daily total)

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 8

Date: 3/25/2022

Weather: Cloudy, 7 mph wind (NNE), 0.02 inches precipitation

Description: Tan, frothy (5:00 PM).

Uncollapsed Volume Collected: 70 gal (daily total)



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 9

Date: 3/26/2022

Weather: Cloudy, 10 mph wind (NNW), No precipitation

Description: White/tan, frothy

Uncollapsed Volume Collected: 3 gal (daily total)

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 10

Date: 3/27/2022

Weather: Sunny, 8.5 mph wind (NNW), No precipitation

Description: White, frothy

Uncollapsed Volume Collected: 4 gal (daily total)



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 11

Date: 3/28/2022

Weather: Sunny, 7 mph wind (NNW), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal (daily total)

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 12

Date: 4/4/2022

Weather: Cloudy, 2 mph wind (NNE), 0.36 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 3 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 13

Date: 4/5/2022

Weather: Overcast, 2 mph wind (NNE), 0.12 inches precipitation

Description: White frothy

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 14

Date: 4/7/2022

Weather: Cloudy, 4.7 mph wind (S), No precipitation

Description: White frothy

Uncollapsed Volume Collected: 11 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 15

Date: 4/8/2022

Weather: Cloudy, 6.5 mph wind (NNE), 0.01 inches precipitation

Description: White frothy

Uncollapsed Volume Collected: 19 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 16

Date: 4/9/2022

Weather: Cloudy, 4.5 mph wind (NNE), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 17

Date: 4/10/2022

Weather: Sunny, 5 mph wind (NNE), No precipitation

Description: White frothy

Uncollapsed Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 18

Date: 4/11/2022

Weather: Sunny, 10 mph wind (W), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 19

Date: 4/12/2022

Weather: Sunny, 3 mph wind (WNW), 0.05 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 20

Date: 4/13/2022

Weather: Sunny, 4 mph wind (NW), 0.53 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 21

Date: 4/14/2022

Weather: Sunny, 8 mph wind (WSW), 0.13 inches precipitation

Description: White frothy

Uncollapsed Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 22

Date: 4/15/2022

Weather: Cloudy, 7 mph wind (WSW), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 5 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 23

Date: 4/16/2022

Weather: Partly Cloudy, 9 mph wind (WNW), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 24

Date: 4/17/2022

Weather: Sunny, 4.7 mph wind (WNW), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 25

Date: 4/18/2022

Weather: Overcast, 6 mph wind (NW), 0.20 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 26

Date: 4/19/2022

Weather: Sunny, 6 mph wind (NW), No precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 27

Date: 4/20/2022

Weather: Cloudy, 4 mph wind (NNW), 0.52 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 28

Date: 4/22/2022

Weather: Partly Cloudy, 4 mph wind (NW), 0.26 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 29

Date: 4/23/2022

Weather: Sunny, 4.5 mph wind (SE), 0.01 inches precipitation

Description: White/tan frothy

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 30

Date: 4/24/2022

Weather: Cloudy, 11.5 mph wind (SW), No precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 0.5 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 31

Date: 4/25/2022

Weather: Partly Cloudy, 7 mph wind (W), 0.03 inches precipitation

Description: White/tan, frothy

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 32

Date: 4/26/2022

Weather: Cloudy, 7 mph wind (W), 0.01 inches precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 33

Date: 4/27/2022

Weather: Cloudy, 6 mph wind (WNW), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 34

Date: 4/28/2022

Weather: Sunny, 6 mph wind (WNW), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 0.5 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 35

Date: 4/29/2022

Weather: Sunny, 3 mph wind (WNW), No precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 36

Date: 4/30/2022

Weather: Rainy, 3 mph wind (WSW), 0.77 inches precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 0.5 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 37

Date: 5/1/2022

Weather: Cloudy, 5 mph wind (W), 0.01 inches precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 38

Date: 5/2/2022

Weather: Cloudy, 5 mph wind (WNW), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 3 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 39

Date: 5/3/2022

Weather: Overcast, 6 mph wind (ENE), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 40

Date: 5/4/2022

Weather: Sunny, 4.7 mph wind (NNE), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 3 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 41

Date: 5/5/2022

Weather: Cloudy, No wind, No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 42

Date: 5/6/2022

Weather: Cloudy, 7 mph wind (ENE), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 43

Date: 5/7/2022

Weather: Sunny, 7 mph wind (NE), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 44

Date: 5/8/2022

Weather: Sunny, 8 mph wind (ENE), No precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 0.5 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 45

Date: 5/9/2022

Weather: Cloudy, 4 mph wind (ENE), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 46

Date: 5/11/2022

Weather: Overcast, 4 mph wind (ENE), No precipitation

Description: Brown, some froth

Uncollapsed Volume Collected: 0.5 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 47

Date: 5/13/2022

Weather: Cloudy, 2 mph wind (SSE), No precipitation

Description: White, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 48

Date: 5/14/2022

Weather: Sunny, 3 mph wind (SSE), 0.02 inches precipitation

Description: Tan, frothy

Uncollapsed Volume Collected: 3 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 49

Date: 5/15/2022

Weather: Sunny, 5 mph wind (SW), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 50

Date: 5/16/2022

Weather: Sunny, 3 mph wind (SSW), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 51

Date: 5/17/2022

Weather: Sunny, 5 mph wind (N), No precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 52

Date: 5/18/2022

Weather: Cloudy, 1.7 mph wind (SSW), 0.08 inches precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 53

Date: 5/20/2022

Weather: Cloudy, 2 mph wind (SSE), 0.83 inches precipitation

Description: White, some froth

Uncollapsed Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 54

Date: 5/21/2022

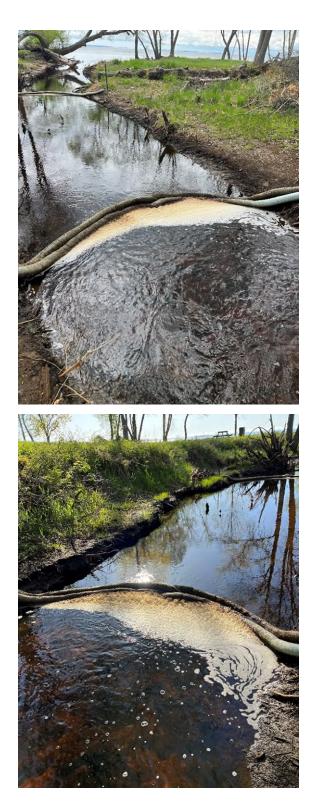
Weather: Cloudy, 5 mph wind (SE), 0.01 inches precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 55

Date: 5/22/2022

Weather: Cloudy, 4.5 mph wind (NW), 0.01 inches precipitation

Description: White/tan, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 56

Date: 5/23/2022

Weather: Sunny, 3 mph wind (NNW), No precipitation

Description: Tan, frothy

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 57

Date: 5/24/2022

Weather: Sunny, 3 mph wind (NE), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 58

Date: 5/25/2022

Weather: Cloudy, 3 mph wind (NE), 1.2 inches precipitation

Description: Tan/brown, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 59

Date: 5/27/2022

Weather: Cloudy, 4 mph wind (NNW), No precipitation

Description: White, frothy

Uncollapsed Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 60

Date: 5/28/2022

Weather: Cloudy, 2 mph wind (SSE), 0.02 inches precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 2 gal



Tyco Fire Products LP Marinette, Wisconsin





Photograph: 61

Date: 5/29/2022

Weather: Cloudy, 3 mph wind (SE), 0.03 inches precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing.

Photograph: 62

Date: 5/30/2022

Weather: Cloudy, 4 mph wind (SSE), No precipitation

Description: Tan, some froth

Uncollapsed Volume Collected: 1 gal



Tyco Fire Products LP Marinette, Wisconsin



Photograph: 63

Date: 6/3/2022

Weather: Sunny, 8 mph wind (WSW), No precipitation

Description: White, some froth

Uncollapsed Volume Collected: 0.25 gal

Location: Ditch D. Shore Drive crossing.

Attachment 2

Transportation and Disposal Documentation

	NON-HAZARDOUS	1. Generator ID Number		2. Page 1 of	3. Emergency Respons	e Phone	4. Waste T	racking Numbe	7	_
1	WASTE MANIFEST	WIT56001	1850	1	(262) 339-87			026-		0.0.8
H	5. Generator's Name and Maili	ng Address		n Suennen	Generator's Site Addres	ss (if different t	han mailing addr	ess)	0.0.0	0.0.0
	JCI/Tyco 1 Stanton Street Marinette W 54 Generator's Phone: 715 6. Transporter 1 Company Nar				JCI/Tyco 2700 Industrial Marinette Wi	Parkway 54143	S U.S. EPA ID	Mumbar		
	the second second second second						1 Summer			
	7. Transporter 2 Company Nam	e Solutions Corp.	-	-		-	U.S. EPA ID	R O O O Number	170	027
	8. Designated Facility Name ar	nd Site Address	_	-	_	_	U.S. EPA ID	Number	_	
	Endpoint Waste 3 1024 Western Di Hartford WI 530 Facility's Phone: 414	Solutions Corp. rive 127					1		R (7.0.4
	9. Waste Shipping Nam				10. Cont No.	tainers Type	11. Total Quantity	12. Unit Wt./Vol.		
GENERATOR -	^{1.} Non-regulated	d material		2.5	0021	DF	8400	P		
GEN	^{2.} Non-regulate	d materiał			pood	Dr	3400	P		
	^{3.} Non-regulated	d material			000	DF	80	P		
	4. Non-regulated	d material			0001	Om	4200	P	8	
	14. GENERATOR'S/OFFERO	ATT Profile# 05162 (R'S CERTIFICATION: I hereby declare the ded, and are in all respects in proper corre voed Name	at the contents of this	consignment an cording to application	e fully and accurately de able international and na	escribed above	by the proper sh nental regulations	ipping name, an	d are classified Month	l, packaged, Day Year
۷I		Handon		X	15/	H_			161	9 22
INT'L	15. International Shipments Transporter Signature (for expo	Import to U.S.		Export from U		entry/exit:				
-	16. Transporter Acknowledgme				5410104	ang olda		/		
E L	Transporter 1 Printed/Typed Na	amen 1111		Sig	latter /	09	711		Month	Day Year
TRANSPORTER	Transporter 2 Printed/Typed Na	BACHTCHL	-	Sign	nature	Ach	ucs	-	Month	Day Year
	17. Discrepancy						_	_		_
Î	17a. Discrepancy Indication Sp	Dace Quantity	🗌 туре		Residue	hlumban	Partial Rej	ection	E F	III Rejection
FACILITY -	17b. Alternate Facility (or Gene	erator)			Manilest Reference	launder,	U.S. EPA ID	Number		
DESIGNATED F	Facility's Phone: 17c. Signature of Alternate Fac	cility (or Generator)		1					Month	Day Year
DESI										
	18. Designated Facility Owner Printed/Typed Name	or Operator: Certification of receipt of ma	terials covered by the	manilest except	as noted in Item 17a	1			Month	Day Year
¥	TIM J. H	anson			IL/t	5			6	20 20
69	-BLC-O 5 11977 (Rev	. 9/09)			1	C	ESIGNATI	ED FACILI	TY TO GI	ENERATOR

NON-HAZARDOUS	1. Generator ID Number		2. Page 1 of 3. E	3 mel	Phone	4. Waste Tra			122030	
WASTE MANIFEST	1					503	21	222	1 E, -	(~) (a)
Senerator's Name and Mai	ling Address	An Lana		erator's Site Address			53 /			
Endpoint Wasse			Sec. 2	opoint waste 24 Viestem D	enes-	a Produce				
8871 Silokera L. Prabkim Wil 591			1.86	intrace we shall shall	027					
nerator's Phone:	123 12054					U.S. EPA ID N	lumber			
Transporter 1 Company Na	luue							0 1 0	7 4 1	1 1
	cental Services Inc.		2000.00.00.00.000.000.000.000.000.000.0			U.S. EPA ID I				
Transporter 2 Company Na	Zailway				- Reserved	177-	RA	Ha	HC	P
Designated Facility Name						U.S. EPAIDI				7
Chamical Voiste	Managament, 100					ILK	00	100	nd I	
17629 Cedai Go	angs Care								110- 11	
Arbrigton OP 6 offy's Phone: Eq.1	7642-9799					ORD	n e	225	2 2 8	5 7
				10. Conta	liners	11. Total	12. Unit	1000		
9. Waste Shipping Na	me and Description			No.	Туре	Quantity	WL/Vol.		and the set	
1. Nen-RCPA	NOT STREET									
				1.1.21	CE	31345	P			
				1020	There I	PIPID	-		e reactive deale	
2 Non-Secret	nen-QCT						p.			
				0003	CF	1526	P	1. 2		

3. Hon-PCRA.	7.Qiv (Part			and	in m	0000	1			
				0001	Ur	0030	G	24,0000		
4 Non Rt	RA Non DUT									
I I WONT - MAN				18	man	1.000	0			
				INVYXX	12 1181	1 / J m K	1.1			
1 DE SAGEAL	tions and Additional Information Episons Boy Follows Etter Impacted PPF Biclinated surface wa P2: PFAS Impact	- June Jerez C'Egaspartu ater 2.6 TPJ	ng k Ecom (usn-193) K pon-280 (wpm.pr.f	1x 55 g= (Non Reg	rd sain	1253 PEA Sgal	श्राच्य सः सः स्ट	, , , , , , , , , , , , , , , , , , ,	t W M	کرد: ا
00000000000000000000000000000000000000	Brann Boy Filters ETER Impacted PPF Bkinnel suntare W. H2: PFAS Impact	Pregaionerse attri ville TPJ Pol PPE/Eq	La porte da la	IX 55 9= (Nura Ring)	3, 3, 5	PEA and Sgal	90 970 970	7.2.5 7.3.5 ne, and are cl	assified, pac	:kaged,
0F 349641 2. 0R2+9642 3. 0R2+9642 4. 0R34966 4. GENERATOR'S/OFFER marked and labeled/plac	Brant Boy Filters Eris Impacted PFF Brinnel surface wa R2: PFAS Impart OR'S CERTIFICATION: I hereby decla arded, and are in all respects in proper	Pregaionerse attri ville TPJ Pol PPE/Eq	is consignment are fu coording to applicable Signatu	IX 559 (Num Reg Ity and accurately de international and na	scribed abov	PEA Sgal e by the proper st mental regulations	90 970 970	7.2.5 7.3.5 ne, and are cl	assified, pac	xaged,
CE 349641 2. 08299642 3. 08299642 4. OR 34966 4. GENERATOR'S/OFFER marked and labeled/plac enerator's/Offeror's Printer	Brant Boy Filters Eris Impacted PFF Brinnel surface wa R2: PFAS Impart OR'S CERTIFICATION: I hereby decla arded, and are in all respects in proper	Pregaionerse attri ville TPJ Pol PPE/Eq	is consignment are fu coording to applicable Signatu	IX 55 9 Non Reg Ity and accurately de international and na	scribed abov	PEA Sgal e by the proper st mental regulations	90 970 970	7.2.5 7.3.5 ne, and are cl	assified, pac	x y Y
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4. GENERATOR'S APPEAL 3. GENERATOR'S APPEAL 4. GENERATOR'S APPEAL 6. GENERATOR'S APPEAL 6. International Shipments ransporter Signature (for ef- 6. Transporter Acknowledg	EPAR Boy Filters EFAR Impacted PFF Bitinget surface wa A2: PFAS Impacted rook's CERTIFICATION: I hereby decla arded, and are in all respects in proper UTyped Name	are that the contents of the r condition for transport ac	is consignment are to ccording to applicable Signate	Ix 55 g (Nor Rg) ity and accurately de international and na re Port of e Date lea) 3,15 scribed abov tional govern	PEA Sgal e by the proper st mental regulations	90 970 970	M	assified, pac	xaged, y Y / [
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6 Standard Control Con	EPAR Lopac ted. PPT Bit inchest substance of R2: PFAS Impacted PPT NOR'S CERTIFICATION: I hereby decla arded, and are in all respects in proper iTyped Name Import to U.S. xports only): ment of Receipt of Materials Name	are that the contents of the r condition for transport ac	is consignment are fu ccording to applicable Signatu Export from U.S.	Ix 55 g (Nor Rig international and na re Port of e Date lea) 3,15 scribed abov tional govern	PEA Sgal e by the proper st mental regulations	90 970 970	M	onth Day	xaged, y Y / /
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6 GENERATOR'S/OFFER marked and labeled/plac enerators/Offeror's Printec 5. International Shipments ransporter Acknowledg ransporter 1 Printed/Typed ransporter 2 Printed/Typed 7. Discrepancy	In and Boy Filters ETAP Impacted PFF Binnal surface of F2: PFAS Import OR'S CERTIFICATION: thereby decla arded, and are in all respects in proper UTyped Name Import to U.S. xports only): ment of Receipt of Materials Name	A CON	is consignment are fu ccording to applicable Signatu Export from U.S.	Ix 55 g (Non Reg international and na ire Port of e Date leas) 3,15 scribed abov tional govern	PEA	90 90 970 970	M	onth Day	y y y y y 7
CE 349641 3. DE 249635 4. OR 34964 3. GENERATOR'S/OFFER marked and labeled/plac enerator's/Offeror's Printec 5. International Shipments ransporter Signature (for e) 5. Transporter Acknowledg ransporter 1 Printed/Typed ransporter 2 Printed/Typed 7. Discrepancy	EPAR Son Politers EPAR Impacted PPF Bising a surface wa A2: PFAS Impact a OR'S CERTIFICATION: I hereby decla arded, and are in all respects in proper Typed Name Import to U.S. xports only: ment of Receipt of Materials Name	are that the contents of the r condition for transport ac	is consignment are fu ccording to applicable Signatu Export from U.S.	Ix 55 g (Nor Rig international and na re Port of e Date lea) 3,15 scribed abov tional govern	PEA Sgal e by the proper st mental regulations	90 90 970 970	M	onth Day	y y y y y 7
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CE 34 9641 2. 023 9642 3. 024 9655 4. OR 34 9655 4. OR 34 9655 4. OR 34 9655 4. OR 34 965 5. International Shipments ransporter Signature (for effective) 5. International Shipments ransporter Signature (for effective) ransporter 2 Printed/Typed ransporter 2 Printed/Typed 7. Discrepancy 7. Discrepancy 7. Discrepancy Indication 7b. Atternate Facility (or G actility's Phone:	In and Boy Filters ETAP Impacted PFF Bittmat surfaces 12: PFAS Import 12: PFAS Import 12: PFAS Import 14: PFAS	A CON	is consignment are fu ccording to applicable Signatu Export from U.S.	IX 55 9 (Nor Reg international and na re Port of e Date lease ire Residue	Statistical action of the second s	PEA	90 90 9720 ipping narr	M	onth Day	y Y y Y y 7
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CE 34 9641 2. 023 9642 3. 022 4 9655 4. OR 34 964 4. OR 34 964 4. GENERATOR'S/OFFER marked and labeled/plac enerator's/Offeror's Printer 5. International Shipments ransporter Signature (for ef- 6. Transporter Acknowledg ransporter 1 Printed/Typed ransporter 2 Printed/Typed 7. Discrepancy 7. Discrepancy 7. Discrepancy Indication 7b. Atternate Facility (or G acility's Phone:	In and Boy Filters ETAP Impacted PFF Bittmat surfaces 12: PFAS Import 12: PFAS Import 12: PFAS Import 14: PFAS	A CON	is consignment are fu ccording to applicable Signatu Export from U.S.	IX 55 9 (Nor Reg international and na re Port of e Date lease ire Residue	Statistical action of the second s	PEA	90 90 9720 ipping narr	M	onth Day	xaged, y Y Y y Y 7 2 ejection
A GENERATOR'S A GAL 3. DEC 24 9635 : 4. GENERATOR'S A GAL 4. GENERATOR'S A GAL 5. International Shipments ransporter Signature (for el 5. International Shipments ransporter 1 Printed/Typed ransporter 1 Printed/Typed 7. Discrepancy 7. Discrepancy Indication 76. Atternate Facility (or G acility's Phone: 7c. Signature of Alternate	PFAS Impacted PFF BELINAL Impacted PFF BELINAL SUPERIOR CONFICT BELINAL SUPERIOR CONFI	C CN	Export from U.S. Signalt Sign	Ix 55 g = (Nori Rig international and na re Port of e Date lea tre Residue Manifest Reference	Statistical action of the second s	PEA	90 90 9720 ipping narr	M	onth Day	xaged, y Y Y y Y 7 2 ejection
A GENERATOR'S A GAL 3. DEC 24 9635 : 4. GENERATOR'S A GAL 4. GENERATOR'S A GAL 5. International Shipments ransporter Signature (for el 5. International Shipments ransporter 1 Printed/Typed ransporter 1 Printed/Typed 7. Discrepancy 7. Discrepancy Indication 76. Atternate Facility (or G acility's Phone: 7c. Signature of Alternate	In and Boy Filters ETAM Impacted PFF Bittmat surfaces 12: PFAS Import 12: PFAS Import 12: PFAS Import 12: PFAS Import 14: PFAS	C CN	A porta et porta et porta et is consignment are lu ccording to applicable Signati Export from U.S. Signati Signati	Ix 55 9 (Nor Rig international and na re Port of e Date lea Ire Residue Manifest Reference	Statistical action of the second s	PEA	90 90 9720 ipping narr	M	assified, pac	y Y y Y y J 7 2 ejection
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NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19, Generator ID Number	20. Page2	21. Waste	Tracking Numb 8 - 20	ин 22-	15-08
22. Generator's Name ENDPOINT WAST	LICENSE 4704					6103 10-17-2
	0.12.22		*****	U.S. EPA ID	Number	
23. Transporter 3 Company Name BNSP	RAILWAY					0180109
1		*****		U.S. EPA ID		01792910
24. Transporter Company Name UNIC	N PACIFIC RAILROAD	26. Conte	úners	27. Total	28. Unit	
25. Waste Shipping Name and Description		No.	Туре	Quantity	WINOL	
<u> </u>						
	ananan di mananan di kara di kara di kara yang kara da kara da kara da kara kara kara					
3						
29. Special Handling Instructions and Additional Infor	mation			£		
30. Transporter 2 Acknowledgment of Receipt of	19 · IL · ZZ If Materials		2_			Heath Day Yor
Printed/Typed Name		Signature		5	and the second second	Month Day Year
31. Transporter Acknowledgment of Receipt of Printed/Typed Name	of Materials	Signature &		3		- Month Day Year
32. Discrepancy		20			******	-110 00
ED FAUL						

170-BLC-O 5 11978 (Rev. 8/06)

DESIGNATED FACILITY TO GENERATOR

1	WASTE MANIFEST WIT560011850 1	3. Emergency Response (262) 339-870	32		/026	nber - 0 0 3 - 1 1
	5. Generator's Name and Mailing Address Att: Rvan Suennen	Generator's Site Address	s (if different	than mailing addre	ss)	
	JCI/Tyco	JCI/IYCo				
	1 Stanton Street Marinette WI 54143	2700 Industrial Marinette VM		10		
	Generator's Phone: 715 753-7411 Ext. 84025	WIGHTELLC VVI C	/1110			
	6. Transporter 1 Company Name			U.S. EPA ID I	Number	
	Endpoint Waste Solutions Corp.			WIR	200	0170027
	7. Transporter 2 Company Name			U.S. EPA ID I		
		*		- T		
	8. Designated Facility Name and Site Address_			U.S. EPA ID I	Number	
	Endpoint Waste Solutions Corp.					8
	1024 Western Drive					
	Hantford WI 53027			Lio		se 4704
	Facility's Phone: 414 427-1200	10. Conta	ainora			56 4704
	9. Waste Shipping Name and Description			11. Total Quantity	12. Unit Wt./Vol.	
		No.	Туре	Quantity	vvt./v01.	
Я	^{1.} Non-RCRA, Non-DOT					
ATC		0001	DF	0000	G	
GENERATOR		0001	6/1	0002	~	
GEP	2.					
1						
	3.					
	4.					
	 Special Handling Instructions and Additional Information Surface Water Foam Profile# 05162022TIP-0. 	1.55	11-			
	1. Surrace water roam profile# US16202271P-0.	i noog-	(ai	um .		
	x					
	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment and	re fully and accurately de	scribed abov	e by the proper sh	ipping name	e, and are classified, packaged,
	marked and labeled/placarded, and are in all respects in proper condition for transport according to application		ional govern	mental regulations		Manth Day Voor
	on behalt of set	nature	e i	1		Month Day Year
V		Fred & 1	Ing	le		08 10 22
INT'L	15. International Shipments Import to U.S.	J.S. Port of e	ntry/exit:			
	Transporter Signature (for exports only):	Date leav	ving U.S.:			<u>.</u>
EB	16. Transporter Acknowledgment of Receipt of Materials					Marillo Da V
TRANSPORTER	Transporter 1 Printed/Typed Name Sign	nature	<u> </u>	0		Month Day Year
SPC	Fred J Ringle	Fred & 1	Im	h	5	08 10 22
ANS	Transporter 2 Printed/Typed Name	nature				Month Day Year
TB						
	17. Discrepancy					
T	17a. Discrepancy Indication Space	Residue		Partial Rej	ection	Full Rejection
		Manifest Reference	Number:			
≥	17b. Alternate Facility (or Generator)			U.S. EPA ID	Number	
SIL.						
FAC	Facility's Phone:					
ED	17c. Signature of Alternate Facility (or Generator)					Month Day Year
NAT						
SIG						
DESIGNATED FACILITY						
1						
	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest excep	t as noted in Item 17a				
				Λ		Month Day Year
V	Fred J Ringle	Fred J ?	R	le		08 10 22
10			and	DESIGNATI		LITY TO GENERATOR
16	9-BLC-O 5 11977 (Rev. 9/09)	2.7		DEGIGINAI	DIAU	LITTO GENERATOR

1	NON-HAZARDOUS 1. Generator ID Number	2. Page 1 of	3. Emerge	ncy Response	Phone	4. Waste T	racking Nun	nber		
1	WASTE MANIFEST	1	282	339-876	2	5.9	8 - 2	022-:	25-	OB
	5. Generator's Name and Mailing Address Att. La	andi Martine	Generator	s Site Address	s (if different	than mailing addre	ess)			
	Endpoint Waste Solutions Corp. 6871 S Lovers Lane		Endp	oint West Western	e sonno	ns Corp.				
	Franklin Wi 59132	1		and VM 5						
	Generator's Phone: 414 427 1200					U.S. EPA ID	Number			
										4
	Ziron Environmental Services Inc. 7. Transporter 2 Company Name					U.S. EPA ID		0107	<u></u>	1
	of a function for defension and a continuent									
	8. Designated Facility Name and Site Address					U.S. EPA ID	Number			
	Chemical Waste Management, Inc. 17629 Cedar Springs Lane									
	Arlington OR 97812-9789					1				
	Facility's Phone: 541 454-2843			10. Cast				9452	3 5	3
	9. Waste Shipping Name and Description		-	10. Conta No.	Type	11. Total Quantity	12. Unit Wt./Vol.			
1	1. Non-RCRA, non-DOT	- V							Section 2.	
TOF	risks courses, sources a		-	e		cant	-			
GENERATOR			6)014	S. Jun	8731	F			
GEN	2. Non-RCRA, non-DOT									
			1	VVDI	DE	0005	G			
	3.		(Action	1 5 N 1 8	2.7 2	Well Top And New Co	347			the second se
	4.									
										and the
	13. Special Handling Instructions and Additional Information								A	ener. A
	1. OR349641: Spent Bag Filters/Jute Nett)		
	2. OR349686: Skimmed surface water with '	user (areas	m reg /	Boxt	\$ 97	0837	7			
				age ser y i	÷ \$	and the f				
						1 0				
	14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of the marked and labeled/placarded, and are in all respects in proper condition for transport as	according to appli	icable interna	ational and nat	ional governi	mental regulations	lipping name s.	e, and are classifie	и, раскау	eu,
	Generator's/Offeror's Printed/Typed Name	Si	ignature	1 0	.50	and the second		Month	Day	Year
V	Fred J Ringle			e /)	Man	and the second		11	1/	Art
INT'L	15. International Shipments Import to U.S.	Export from	U.S.	Port of er						
				Date leav	/ing U.S.:	12				
TRANSPORTER	Transporter 1 Printed/Typed Name	Si	ignature					Month	Day	Year
SPO	Steve Cours	ad	and the second	an a	1000 - 17 - 17 - 1			11	17	James
ANS	Transporter 2 Printed/Typed Name	Si	ignature					Month	Day	Year
F				0						
	17. Discrepancy 17a. Discrepancy Indication Space			D			1	Π.		1
	Quantity			Residue		Partial Re	jection		Full Reject	ion
			Manife	est Reference	Number:	I				
ΥĽ	17b. Alternate Facility (or Generator)					U.S. EPA ID	Number			
ACIL						1				
DF	Facility's Phone: 17c. Signature of Alternate Facility (or Generator)				1			Month	Day	Year
IATE										
DESIGNATED FACILITY										
DE										
				- 11 17						
	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the Printed/Typed Name		ept as noted ignature	n Item 17a				Month	Day	Year
V	Thinewryped rame		gradule						Duy	, our
169	9-BLC-O 5 11977 (Rev. 9/09)				G	ENERATO	R'S/SHI	PPER'S IN	ITIAL	COPY
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NC PARTY OF

Attachment 3

Laboratory Analytical Reports

🛟 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 500-216765-1

Client Project/Site: Marinette, WI 30128077.04 Collapsed Foam

For:

..... Links

Review your project results through

EOL

Have a Question?

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The

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Visit us at:

Expert

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

Attn: Lisa Rutkowski

Sanda frederik

Authorized for release by: 6/3/2022 6:38:01 PM

Sandie Fredrick, Project Manager II (920)261-1660 Sandra.Fredrick@et.eurofinsus.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-216765-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-216765-1

Case Narrative

Comments

No additional comments.

Receipt

The sample was received on 5/18/2022 10:00 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5° C.

Receipt Exceptions

Sample 1 has coloration and is foamy. Collapsed SW Foam (5-17-22) (500-216765-1)

LCMS

Method 537 (modified): The method blank for preparation batch 320-590416 contained several analytes above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 537 (modified): Results for sample Collapsed SW Foam (5-17-22) (500-216765-1) was 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. The percent recovery for the internal standard in the 100X analysis is 126.9% after the dilution factor was applied to the labeled internal standard area count.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: Collapsed SW Foam (5-17-22) (500-216765-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method 537 (modified): The concentrations of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) associated with the following sample exceeded the instrument calibration range: Collapsed SW Foam (5-17-22) (500-216765-1). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The client was contacted and gave permission to report.

Method 537 (modified): The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: Collapsed SW Foam (5-17-22) (500-216765-1). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The samples were diluted within calibration range, and both sets of data were reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for Perfluorobutanesulfonic acid (PFBS) and NMeFOSAA was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte Collapsed SW Foam (5-17-22) (500-216765-1)

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. Collapsed SW Foam (5-17-22) (500-216765-1)

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

Organic Prep

Method 3535: During the solid phase extraction process, the following samples contained non-settable particulates which clogged the solid phase extraction column: Collapsed SW Foam (5-17-22) (500-216765-1). Method Code: 3535_PFC_28D Matrix: Aqueous preparation batch 320-590416

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-590416. Method Code: 3535_PFC_28D Matrix: Aqueous

Method 3535: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: Collapsed SW

Job ID: 500-216765-1

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Job ID: 500-216765-1 (Continued)

Laboratory: Eurofins Chicago (Continued)

Foam (5-17-22) (500-216765-1). A 10x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately. Method Code: 3535_PFC_28D Matrix: Aqueous preparation batch 320-590416

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

Detection Summary

RL

MDL Unit

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Analyte

Client Sample ID: Collapsed SW Foam (5-17-22)

Result Qualifier

Lab Sample ID: 500-216765-1												
Lab San	nple ID: 500	-216765-1	3									
Dil Fac D	Method	Prep Type										
1	537 (modified)	Total/NA	4									
1	537 (modified)	Total/NA										
1	537 (modified)	Total/NA	5									

Analyte	Result	Quaimer	RL	NDL	Unit		wethod	Prep Type
Perfluorobutanoic acid (PFBA)	94		50	24	ng/L	1	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	270	В	20	4.9	ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2300	В	20	5.8	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2100		20	2.5	ng/L	1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	100000	EIB	20	8.5	ng/L	1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	71000	EI	20	2.7	ng/L	1	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	22000	E	20	3.1	ng/L	1	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	5500	E	20	11	ng/L	1	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	210		20	5.5	ng/L	1	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTriA)	24		20	13	ng/L	1	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	13	J	20	7.3	ng/L	1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.2	JI	20	2.0	ng/L	1	537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	29		20		ng/L	1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7400	ΕB	20	5.7	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	3900	ΕB	20		ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	280000	ЕB	20	5.4	ng/L	1	537 (modified)	Total/NA
Perfluorononanesulfonic acid (PFNS)	120		20	3.7	ng/L	1	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	160		20	3.2	ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	26000	E	20	9.8	ng/L	1	537 (modified)	Total/NA
NEtFOSA	55		20	8.7	ng/L	1	537 (modified)	Total/NA
NMeFOSA	21	I	20		ng/L	1	537 (modified)	Total/NA
NMeFOSAA	570		50	12	ng/L	1	537 (modified)	Total/NA
NEtFOSAA	11000	Е	50	13	ng/L	1	537 (modified)	Total/NA
NMeFOSE	19	J	40	14	ng/L	1	537 (modified)	Total/NA
NEtFOSE	16	J	20		ng/L	1	537 (modified)	Total/NA
4:2 FTS	36		20		ng/L	1	537 (modified)	Total/NA
6:2 FTS	43000	E	50	25	ng/L	1	537 (modified)	Total/NA
8:2 FTS	21000	E	20		ng/L	1	537 (modified)	Total/NA
10:2 FTS	480		20		ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA) - DL	2700	В	2000		ng/L	100	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	1900	J	2000		ng/L	100	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	450000		2000		ng/L	100	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA) - DL	250000		2000		ng/L	100	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA) - DL	33000		2000		ng/L	100	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA) - DL	8200		2000	1100	-	100	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	8600	В	2000	570	ng/L	100	537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS) - DL	3600		2000	190	ng/L	100	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	460000	E	2000	540	ng/L	100	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA) - DL	22000		2000		ng/L	100	537 (modified)	Total/NA
NEtFOSAA - DL	8200		5000	1300	-	100	537 (modified)	Total/NA
6:2 FTS - DL	99000		5000	2500	ng/L	100	537 (modified)	Total/NA
8:2 FTS - DL	88000		2000	460	ng/L	100	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Method	Method Description	Protocol	Laboratory	
537 (modified) Fluorinated Alkyl Substances		EPA	TAL SAC	
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC	

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam Job ID: 500-216765-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-216765-1	Collapsed SW Foam (5-17-22)	Water	05/17/22 09:30	05/18/22 10:00

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Client Sample ID: Collapsed SW Foam (5-17-22) Date Collected: 05/17/22 09:30 Date Received: 05/18/22 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Perfluorobutanoic acid (PFBA)	94		50	24	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluoropentanoic acid (PFPeA)	270	В	20	4.9	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorohexanoic acid (PFHxA)	2300	В	20	5.8	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluoroheptanoic acid (PFHpA)	2100		20	2.5	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorooctanoic acid (PFOA)	100000	EIB	20	8.5	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorononanoic acid (PFNA)	71000		20		ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorodecanoic acid (PFDA)	22000		20		ng/L		05/25/22 12:12		
Perfluoroundecanoic acid	5500		20		ng/L		05/25/22 12:12		
(PFUnA)									
Perfluorododecanoic acid (PFDoA)	210		20	5.5	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorotridecanoic acid (PFTriA)	24		20	13	ng/L		05/25/22 12.12	05/27/22 04:19	
Perfluorotetradecanoic acid	13		20		ng/L			05/27/22 04:19	
(PFTeA)	13	J	20	1.3	ng/L		UJIZJIZZ 12.12	00121122 04.19	
Perfluoro-n-hexadecanoic acid	<20		20	8.9	ng/L		05/25/22 12:12	05/27/22 04:19	
(PFHxDA) Perfluoro-n-octadecanoic acid	<20		20	94	ng/L		05/25/22 12.12	05/27/22 04:19	
(PFODA)					-				
Perfluorobutanesulfonic acid (PFBS)	6.2	JI	20		ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluoropentanesulfonic acid (PFPeS)	29		20	3.0	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorohexanesulfonic acid (PFHxS)	7400	EB	20	5.7	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluoroheptanesulfonic acid (PFHpS)	3900	EB	20	1.9	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorooctanesulfonic acid (PFOS)	280000	EB	20	5.4	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorononanesulfonic acid (PFNS)	120		20	3.7	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorodecanesulfonic acid (PFDS)	160		20	3.2	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.7	ng/L		05/25/22 12:12	05/27/22 04:19	
Perfluorooctanesulfonamide (FOSA)	26000	E	20	9.8	ng/L		05/25/22 12:12	05/27/22 04:19	
NEtFOSA	55		20	8.7	ng/L		05/25/22 12:12	05/27/22 04:19	
NMeFOSA	21	1	20		ng/L		05/25/22 12:12		
NMeFOSAA	570		50		ng/L		05/25/22 12:12		
NEtFOSAA	11000		50		ng/L			05/27/22 04:19	
NMeFOSE	19		40		ng/L		05/25/22 12:12		
NMEFOSE	15		20		ng/L		05/25/22 12:12		
4:2 FTS	36	5	20		ng/L		05/25/22 12:12		
		-	20 50		-		05/25/22 12:12		
6:2 FTS	43000				ng/L ng/L		05/25/22 12:12		
B:2 FTS	21000	-	20		-		05/25/22 12:12		
10:2 FTS	480		20		ng/L				
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<20		20		ng/L		05/25/22 12:12		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<40		40	15	ng/L		05/25/22 12:12	05/27/22 04:19	
F-53B Major	<20		20	2.4	ng/L		05/25/22 12:12	05/27/22 04:19	
F-53B Minor	<20		20	3.2	ng/L		05/25/22 12:12	05/27/22 04:19	

Job ID: 500-216765-1 Lab Sample ID: 500-216765-1

Matrix: Water

5 7

6/3/2022

Eurofins Chicago

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Client Sample ID: Collapsed SW Foam (5-17-22) Date Collected: 05/17/22 09:30 Date Received: 05/18/22 10:00

Isotope Dilution	%Recovery G	Qualifier	Limits				Prepared	Analyzed	Dil Fac	i
13C4 PFBA	91		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C5 PFPeA	97		25 - 150				05/25/22 12:12	05/27/22 04:19	1	ŝ
13C2 PFHxA	94		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C4 PFHpA	93		25 - 150				05/25/22 12:12	05/27/22 04:19	1	÷
13C4 PFOA	46		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C5 PFNA	45		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 PFDA	64		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 PFUnA	82		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 PFDoA	71		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 PFTeDA	37		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 PFHxDA	32		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C3 PFBS	107		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
18O2 PFHxS	105		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C4 PFOS	52		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C8 FOSA	44		10 - 150				05/25/22 12:12	05/27/22 04:19	1	
d3-NMeFOSAA	67		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
d5-NEtFOSAA	66		25 - 150				05/25/22 12:12	05/27/22 04:19	1	ĩ
d-N-MeFOSA-M	65		10 - 150				05/25/22 12:12	05/27/22 04:19	1	
d-N-EtFOSA-M	65		10 - 150				05/25/22 12:12	05/27/22 04:19	1	ŝ
d7-N-MeFOSE-M	105		10 - 150				05/25/22 12:12	05/27/22 04:19	1	
d9-N-EtFOSE-M	70		10 - 150				05/25/22 12:12	05/27/22 04:19	1	
M2-4:2 FTS	187 *	5+	25 - 150				05/25/22 12:12	05/27/22 04:19	1	
M2-6:2 FTS	170 *	5+	25 - 150				05/25/22 12:12	05/27/22 04:19	1	
M2-8:2 FTS	573 *	5+	25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C3 HFPO-DA	93		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
13C2 10:2 FTS	112		25 - 150				05/25/22 12:12	05/27/22 04:19	1	
Method: 537 (modified) - Fl	uorinated Alkyl	Substance	es - DL							
Analyte	Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Perfluorobutanoic acid (PFBA)	<5000		5000	2400	ng/L		05/25/22 12:12	06/02/22 05:58	100	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5000		5000	2400	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoropentanoic acid (PFPeA)	<2000		2000	490	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorohexanoic acid (PFHxA)	2700	В	2000	580	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoroheptanoic acid (PFHpA)	1900	J	2000	250	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorooctanoic acid (PFOA)	450000	EB	2000	850	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorononanoic acid (PFNA)	250000		2000	270	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorodecanoic acid (PFDA)	33000		2000	310	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoroundecanoic acid (PFUnA)	8200		2000	1100	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorododecanoic acid (PFDoA)	<2000		2000	550	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorotridecanoic acid (PFTriA)	<2000		2000	1300	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorotetradecanoic acid (PFTeA)	<2000		2000	730	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2000		2000	890	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoro-n-octadecanoic acid (PFODA)	<2000		2000	940	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorobutanesulfonic acid (PFBS)	<2000		2000	200	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoropentanesulfonic acid (PFPeS)	<2000		2000	300	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorohexanesulfonic acid (PFHxS)	8600	В	2000	570	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluoroheptanesulfonic acid (PFHpS)	3600		2000	190	ng/L		05/25/22 12:12	06/02/22 05:58	100

Eurofins Chicago

Matrix: Water

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Lab Sample ID: 500-216765-1

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Client Sample ID: Collapsed SW Foam (5-17-22) Date Collected: 05/17/22 09:30 Date Received: 05/18/22 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	460000	E	2000	540	ng/L		05/25/22 12:12	06/02/22 05:58	100
(PFOS)									
Perfluorononanesulfonic acid (PFNS)	<2000		2000	370	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorodecanesulfonic acid (PFDS)	<2000		2000		5		05/25/22 12:12	06/02/22 05:58	100
Perfluorododecanesulfonic acid (PFDoS)	<2000		2000	970	ng/L		05/25/22 12:12	06/02/22 05:58	100
Perfluorooctanesulfonamide	22000		2000	980	ng/L		05/25/22 12:12	06/02/22 05:58	100
(FOSA)									
NEtFOSA	<2000		2000	870	ng/L		05/25/22 12:12	06/02/22 05:58	100
NMeFOSA	<2000		2000	430	ng/L		05/25/22 12:12	06/02/22 05:58	100
NMeFOSAA	<5000		5000	1200	ng/L		05/25/22 12:12	06/02/22 05:58	100
NEtFOSAA	8200		5000	1300	ng/L		05/25/22 12:12	06/02/22 05:58	100
NMeFOSE	<4000		4000	1400	ng/L		05/25/22 12:12	06/02/22 05:58	100
NEtFOSE	<2000		2000	850	ng/L		05/25/22 12:12	06/02/22 05:58	100
4:2 FTS	<2000		2000	240	ng/L		05/25/22 12:12	06/02/22 05:58	100
6:2 FTS	99000		5000	2500	ng/L		05/25/22 12:12	06/02/22 05:58	100
8:2 FTS	88000		2000	460	ng/L		05/25/22 12:12	06/02/22 05:58	100
10:2 FTS	<2000		2000	670	ng/L		05/25/22 12:12	06/02/22 05:58	100
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2000		2000	400	ng/L		05/25/22 12:12	06/02/22 05:58	100
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4000		4000	1500	ng/L		05/25/22 12:12	06/02/22 05:58	100
F-53B Major	<2000		2000	240	ng/L		05/25/22 12:12	06/02/22 05:58	100
F-53B Minor	<2000		2000	320	ng/L		05/25/22 12:12	06/02/22 05:58	100
Isotope Dilution	%Recovery	Qualifiar	Limits				Prepared	Analyzed	Dil Fac

· •••= ····j-·							
F-53B Minor	<2000		2000	320 ng/L	05/25/22 12:12	06/02/22 05:58	100
Isotope Dilution	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
13C4 PFBA	43		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C5 PFPeA	44		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFHxA	45		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C4 PFHpA	55		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C4 PFOA	45		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C5 PFNA	39		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFDA	49		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFUnA	34		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFDoA	30		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFTeDA	19	*5-	25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C2 PFHxDA	16	*5-	25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C3 PFBS	44		25 - 150		05/25/22 12:12	06/02/22 05:58	100
18O2 PFHxS	41		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C4 PFOS	44		25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C8 FOSA	57		10 - 150		05/25/22 12:12	06/02/22 05:58	100
d3-NMeFOSAA	34		25 - 150		05/25/22 12:12	06/02/22 05:58	100
d5-NEtFOSAA	56		25 - 150		05/25/22 12:12	06/02/22 05:58	100
d-N-MeFOSA-M	37		10 - 150		05/25/22 12:12	06/02/22 05:58	100
d-N-EtFOSA-M	7	*5-	10 - 150		05/25/22 12:12	06/02/22 05:58	100
d7-N-MeFOSE-M	40		10 - 150		05/25/22 12:12	06/02/22 05:58	100
d9-N-EtFOSE-M	32		10 - 150		05/25/22 12:12	06/02/22 05:58	100
M2-4:2 FTS	42		25 - 150		05/25/22 12:12	06/02/22 05:58	100
M2-6:2 FTS	113		25 - 150		05/25/22 12:12	06/02/22 05:58	100
M2-8:2 FTS	218	*5+	25 - 150		05/25/22 12:12	06/02/22 05:58	100
13C3 HFPO-DA	46		25 - 150		05/25/22 12:12	06/02/22 05:58	100

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Job ID: 500-216765-1

Matrix: Water

Lab Sample ID: 500-216765-1

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam Job ID: 500-216765-1

Client Sample ID: Collaps Date Collected: 05/17/22 09:30 Date Received: 05/18/22 10:00	Lab Sample	ID: 500-216 Matrix:			
Method: 537 (modified) - Fluc Isotope Dilution 13C2 10:2 FTS	vrinated Alkyl Substan %Recovery 48	ces - DL (Continued) Limits 25 - 150	Prepared 05/25/22 12:12	Analyzed 06/02/22 05:58	Dil Fac 100

Prepared	Analyzed	Dil Fac			
05/25/22 12:12	06/02/22 05:58	100			

Definitions/Glossary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin) Most Probable Number

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry)

Minimum Detectable Concentration (Radiochemistry)

Not Detected at the reporting limit (or MDL or EDL if shown)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Job ID: 500-216765-1

Qualifiers

LOQ

MCL

MDA MDC

MDL

MPN MQL

ML

NC

ND NEG

POS

PQL

PRES

QC

RER RL

RPD

TEF

TEQ

TNTC

-		
LCMS		
Qualifier *5-	Qualifier Description	4
-	Isotope dilution analyte is outside acceptance limits, low biased.	
*5+	Isotope dilution analyte is outside acceptance limits, high biased.	5
В	Compound was found in the blank and sample.	
E	Result exceeded calibration range.	
I	Value is EMPC (estimated maximum possible concentration).	
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.	8
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	9
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)	
200		

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-590416/1-A Matrix: Water Analysis Batch: 590921

watrix: water								Prep Type: 10	
Analysis Batch: 590921								Prep Batch:	590416
Ameluán		MB	ы	MDI	11		Duenensel	Austral	
Analyte Perfluorobutanoic acid (PFBA)	Kesuit <5.0	Qualifier			Unit ng/L	<u>D</u>	Prepared	Analyzed 05/27/22 03:27	Dil Fac
Perfluoropentanoic acid (PFPA)	< <u>5.0</u> 1.30	1	2.0		ng/L			05/27/22 03:27	1
Perfluorohexanoic acid (PFHxA)	7.56	5	2.0		ng/L			05/27/22 03:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L			05/27/22 03:27	
Perfluorooctanoic acid (PFOA)	<2.0 19.7		2.0		ng/L			05/27/22 03:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L			05/27/22 03:27	
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluoro-n-hexadecanoic acid	<2.0		2.0		ng/L			05/27/22 03:27	1
(PFHxDA)									
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluorohexanesulfonic acid (PFHxS)	12.4		2.0	0.57	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluoroheptanesulfonic acid	<2.0		2.0	0.19	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0		ng/L			05/27/22 03:27	
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0		ng/L			05/27/22 03:27	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		05/25/22 12:12	05/27/22 03:27	1
NEtFOSA	<2.0		2.0		ng/L			05/27/22 03:27	1
NMeFOSA	<2.0		2.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
NMeFOSAA	<5.0		5.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
NEtFOSAA	<5.0		5.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
NMeFOSE	<4.0		4.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
NEtFOSE	<2.0		2.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
4:2 FTS	<2.0		2.0	0.24	ng/L		05/25/22 12:12	05/27/22 03:27	1
6:2 FTS	<5.0		5.0	2.5	ng/L		05/25/22 12:12	05/27/22 03:27	1
8:2 FTS	<2.0		2.0	0.46	ng/L		05/25/22 12:12	05/27/22 03:27	1
10:2 FTS	<2.0		2.0	0.67	ng/L		05/25/22 12:12	05/27/22 03:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	0.40	ng/L		05/25/22 12:12	05/27/22 03:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4.0		4.0	1.5	ng/L		05/25/22 12:12	05/27/22 03:27	1
F-53B Major	<2.0		2.0	0.24	ng/L		05/25/22 12:12	05/27/22 03:27	1
F-53B Minor	<2.0		2.0		ng/L		05/25/22 12:12	05/27/22 03:27	1
		МВ			0				
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150					05/27/22 03:27	1
13C5 PFPeA	83		25 - 150					05/27/22 03:27	1
13C2 PFHxA	85		25 - 150					05/27/22 03:27	1
13C4 PFHpA	86		25 - 150					05/27/22 03:27	1
13C4 PFOA	84		25 - 150				05/25/22 12:12	05/27/22 03:27	1

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Prep Type: Total/NA

Client Sample ID: Method Blank

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

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

Lab Sample ID: MB 320-590416/1-A Matrix: Water

Analysis Batch: 590921

-	MB I	МВ					
Isotope Dilution	%Recovery	Qualifier L	imits	Prepared	Analyzed	Dil Fac	
13C5 PFNA	78	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 PFDA	75	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 PFUnA	75	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 PFDoA	81	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 PFTeDA	72	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 PFHxDA	53	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C3 PFBS	90	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	l
18O2 PFHxS	85	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	l
13C4 PFOS	75	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	ļ
13C8 FOSA	68	1	0 - 150	05/25/22 12:12	05/27/22 03:27	1	
d3-NMeFOSAA	87	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
d5-NEtFOSAA	83	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
d-N-MeFOSA-M	58	1	0 - 150	05/25/22 12:12	05/27/22 03:27	1	
d-N-EtFOSA-M	61	1	0 - 150	05/25/22 12:12	05/27/22 03:27	1	
d7-N-MeFOSE-M	65	1	0 - 150	05/25/22 12:12	05/27/22 03:27	1	
d9-N-EtFOSE-M	63	1	0 - 150	05/25/22 12:12	05/27/22 03:27	1	
M2-4:2 FTS	92	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
M2-6:2 FTS	82	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
M2-8:2 FTS	81	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C3 HFPO-DA	78	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	
13C2 10:2 FTS	99	2	5 - 150	05/25/22 12:12	05/27/22 03:27	1	

Lab Sample ID: LCS 320-590416/2-A Matrix: Water Analysis Batch: 590921

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 590416

Analysis Batch: 590921							Prep Batch: 590416
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	44.9		ng/L		112	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	43.0		ng/L		107	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.4		ng/L		99	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	42.5		ng/L		106	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	42.5		ng/L		106	60 - 135
Perfluorononanoic acid (PFNA)	40.0	45.0		ng/L		112	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	44.0		ng/L		110	60 - 135
Perfluoroundecanoic acid	40.0	42.1		ng/L		105	60 - 135
(PFUnA)							
Perfluorododecanoic acid	40.0	42.2		ng/L		105	60 - 135
(PFDoA)							
Perfluorotridecanoic acid	40.0	40.6		ng/L		102	60 - 135
(PFTriA)							
Perfluorotetradecanoic acid	40.0	44.4		ng/L		111	60 - 135
(PFTeA)	40.0	10.0				440	00 105
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	43.9		ng/L		110	60 - 135
Perfluoro-n-octadecanoic acid	40.0	33.3		ng/L		83	60 - 135
(PFODA)	40.0	00.0		ng/L		00	00-100
Perfluorobutanesulfonic acid	35.4	36.6		ng/L		104	60 - 135
(PFBS)				5			
Perfluoropentanesulfonic acid	37.5	38.5		ng/L		103	60 - 135
(PFPeS)							

Prep Type: Total/NA

Prep Batch: 590416

Client Sample ID: Method Blank

13 14 15

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

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

Lab Sample ID: LCS 320-5 Matrix: Water Analysis Batch: 590921	90416/2-A				Clie	ent San	nple ID	: Lab Control Sample Prep Type: Total/NA Prep Batch: 590416
		Spike	LCS	LCS				%Rec
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits
Perfluorohexanesulfonic acid		36.4	34.6		ng/L		95	60 - 135
(PFHxS)								
Perfluoroheptanesulfonic acid		38.1	45.4		ng/L		119	60 - 135
(PFHpS)		07.4					407	00 105
Perfluorooctanesulfonic acid		37.1	39.5		ng/L		107	60 - 135
(PFOS) Perfluorononanesulfonic acid		38.4	43.2		ng/L		113	60 - 135
(PFNS)		00.4	40.2		ng/E		110	00-100
Perfluorodecanesulfonic acid		38.6	42.0		ng/L		109	60 - 135
(PFDS)					•			
Perfluorododecanesulfonic acid		38.7	37.2		ng/L		96	60 - 135
(PFDoS)								
Perfluorooctanesulfonamide		40.0	43.2		ng/L		108	60 - 135
(FOSA) NEtFOSA		40.0	40.8		ng/l		102	60 - 135
NEFOSA		40.0 40.0	40.8 42.3		ng/L ng/L		102	60 - 135 60 - 135
								60 - 135
NMeFOSAA NEtFOSAA		40.0	41.2		ng/L		103	60 - 135 60 - 135
NMeFOSE		40.0	36.0		ng/L		90	
		40.0	39.2		ng/L		98	60 - 135
NET		40.0	38.1		ng/L		95	60 - 135
4:2 FTS		37.4	40.9		ng/L		109	60 - 135
6:2 FTS		37.9	36.3		ng/L		96	60 - 135
8:2 FTS		38.3	36.3		ng/L		95	60 - 135
10:2 FTS		38.6	37.5		ng/L		97	60 - 135
4,8-Dioxa-3H-perfluorononanoic		37.7	47.8		ng/L		127	60 - 135
acid (ADONA) Hexafluoropropylene Oxide		40.0	39.6		ng/l		99	60 - 135
Dimer Acid (HFPO-DA)		40.0	39.0		ng/L		99	00 - 135
F-53B Major		37.3	40.7		ng/L		109	60 - 135
F-53B Minor		37.7	39.6		ng/L		105	60 - 135
	LCS LCS							
Isotope Dilution	%Recovery Qualifier	Limits						
13C4 PFBA	<u>112</u>	25 - 150						
13C5 PFPeA	98	25 - 150						
13C2 PFHxA	97	25 - 150 25 - 150						
13C4 PFHpA	99	25 - 150 25 - 150						
13C4 PFOA	95	25 - 150 25 - 150						
13C5 PFNA	87	25 - 150 25 - 150						
13C2 PFDA	83	25 - 150 25 - 150						
13C2 PFUnA	83 89	25 - 150 25 - 150						
13C2 PFUNA 13C2 PFDoA	89 91	25 - 150 25 - 150						
13C2 PFTeDA	80	25 - 150 25 - 150						
13C2 PFHxDA	60	25 - 150 25 - 150						
13C3 PFBS	98	25 - 150						
1802 PFHxS	97	25 - 150						
13C4 PFOS	82	25 - 150						
13C8 FOSA	79	10 - 150						
d3-NMeFOSAA	101	25 - 150						
d5-NEtFOSAA	99	25 - 150						
d-N-MeFOSA-M	69	10 - 150						
d-N-EtFOSA-M	73	10 - 150						

NMeFOSAA

∟ab Sample ID: LCS 320 Matrix: Water Analysis Batch: 590921	-590416/2-A					Clie	nt Sample ID	Lab Cor Prep Ty Prep Ba	pe: Tot	al/NA
	LCS	LCS								
sotope Dilution	%Recovery	Qualifier	Limits							
17-N-MeFOSE-M	74		10 - 150							
19-N-EtFOSE-M	81		10 - 150							
12-4:2 FTS	102		25 - 150							
M2-6:2 FTS	100		25 - 150							
M2-8:2 FTS	86		25 - 150							
13C3 HFPO-DA	90		25 - 150							
3C2 10:2 FTS	120		25 - 150							
Lab Sample ID: LCSD 32 Matrix: Water Analysis Batch: 590921				Client Sa	ample ID: Lab	Prep Ty Prep Ba	pe: Tot	al/NA 90416		
Analyte			Spike Added		LCSD Qualifier	Unit	D %Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	46.1		ng/L		60 - 135	2	30
Perfluoropentanoic acid (PFPeA)		40.0	44.6		ng/L	111	60 - 135	4	30
Perfluorohexanoic acid (PFHxA)			40.0	42.1		ng/L	105	60 - 135	7	30
Perfluoroheptanoic acid (PFHpA)		40.0	43.8		ng/L	110	60 - 135	3	30
Perfluorooctanoic acid (PFOA)			40.0	44.1		ng/L	110	60 - 135	4	30
Perfluorononanoic acid (PFNA)			40.0	48.2		ng/L	120	60 - 135	7	30
Perfluorodecanoic acid (PFDA)			40.0	44.8		ng/L	112	60 - 135	2	30
Perfluoroundecanoic acid			40.0	45.6		ng/L	114	60 - 135	8	30
Perfluorododecanoic acid PFDoA)			40.0	43.3		ng/L	108	60 - 135	3	30
Perfluorotridecanoic acid PFTriA)			40.0	44.8		ng/L	112	60 - 135	10	30
Perfluorotetradecanoic acid PFTeA) Parfluoro n boxadecanoic acid			40.0	43.5		ng/L	109	60 - 135	2	30
Perfluoro-n-hexadecanoic acid PFHxDA) Perfluoro-n-octadecanoic acid			40.0 40.0	46.7 29.5		ng/L	117 74	60 - 135 60 - 135	6 12	30 30
PFODA) Perfluorobutanesulfonic acid			35.4	44.3		ng/L ng/L	125	60 - 135	12	30
PFBS) Perfluoropentanesulfonic acid			37.5	44.1		ng/L	118	60 - 135	13	30
PFPeS) Perfluorohexanesulfonic acid			36.4	36.6		ng/L	100	60 - 135	5	30
PFHxS) Perfluoroheptanesulfonic acid			38.1	48.5		ng/L	127	60 - 135	7	30
PFHpS) Perfluorooctanesulfonic acid PFOS)			37.1	41.9		ng/L	113	60 - 135	6	30
PrOS) Perfluorononanesulfonic acid PFNS)			38.4	44.3		ng/L	115	60 - 135	2	30
Perfluorodecanesulfonic acid PFDS)			38.6	44.6		ng/L	116	60 - 135	6	30
Perfluorododecanesulfonic acid PFDoS)			38.7	43.6		ng/L	113	60 - 135	16	30
Perfluorooctanesulfonamide FOSA)			40.0	45.8		ng/L	114	60 - 135	6	30
			40.0	44.6		ng/L	112	60 - 135	9	30
NEtFOSA NMeFOSA			40.0	48.0		ng/L	120	60 - 135	13	30

Eurofins Chicago

5

108

60 - 135

43.2

ng/L

40.0

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

9

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

	,					,							
Lab Sample ID: LCSD 320 Matrix: Water	- 590416 /3-A	X				Client S	ample	ID: Lat	Prep Ty	rol Sample Dup Type: Total/NA			
Analysis Batch: 590921									Prep Ba	atch: 59			
			Spike		LCSD				%Rec		RPD		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit		
NEtFOSAA			40.0	40.9		ng/L		102	60 - 135	13	30		
NMeFOSE			40.0	45.5		ng/L		114	60 - 135	15	30		
NEtFOSE			40.0	37.9		ng/L		95	60 - 135	0	30		
4:2 FTS			37.4	43.9		ng/L		117	60 - 135	7	30		
6:2 FTS			37.9	45.0		ng/L		119	60 - 135	21	30		
8:2 FTS			38.3	37.7		ng/L		98	60 - 135	4	30		
10:2 FTS			38.6	38.8		ng/L		101	60 - 135	3	30		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.7	50.7		ng/L		134	60 - 135	6	30		
Hexafluoropropylene Oxide			40.0	41.4		ng/L		104	60 - 135	4	30		
Dimer Acid (HFPO-DA)						-							
F-53B Major			37.3	43.0		ng/L		115	60 - 135	6	30		
F-53B Minor			37.7	42.2		ng/L		112	60 - 135	6	30		
	LCSD	LCSD											
Isotope Dilution	%Recovery	Qualifier	Limits										
13C4 PFBA	94		25 - 150										
13C5 PFPeA	85		25 - 150										
13C2 PFHxA	82		25 - 150										
13C4 PFHpA	84		25 - 150										
13C4 PFOA	82		25 - 150										
13C5 PFNA	77		25 - 150										
13C2 PFDA	79		25 - 150										
13C2 PFUnA	74		25 - 150										
13C2 PFDoA	82		25 - 150										
13C2 PFTeDA	74		25 - 150										
13C2 PFHxDA	50		25 - 150										
13C3 PFBS	83		25 - 150										
18O2 PFHxS	84		25 - 150										
13C4 PFOS	74		25 - 150										
13C8 FOSA	72		10 - 150										
d3-NMeFOSAA	87		25 - 150										
d5-NEtFOSAA	82		25 - 150										
d-N-MeFOSA-M	54		10 - 150										
d-N-EtFOSA-M	59		10 - 150										
d7-N-MeFOSE-M	61		10 - 150										
d9-N-EtFOSE-M	67		10 - 150										
M2-4:2 FTS	85		25 - 150										
M2-6:2 FTS	81		25 - 150										
M2-8:2 FTS	78		25 - 150										
13C3 HFPO-DA	81		25 - 150										
13C2 10:2 FTS	101		25 - 150										
	.01												

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Batch

Туре

Prep

Prep

Analysis

Analysis

Ргер Туре

Total/NA

Total/NA

Total/NA

Total/NA

Laboratory References:

Client Sample ID: Collapsed SW Foam (5-17-22) Date Collected: 05/17/22 09:30 Date Received: 05/18/22 10:00

Batch

3535

3535

Method

537 (modified)

537 (modified)

Run

DL

DL

Lab Sample ID: 500-216765-1 **Matrix: Water** Dilution Batch Prepared 5 Factor Number or Analyzed Analyst Lab 590416 05/25/22 12:12 RAC TAL SAC 592004 06/02/22 05:58 AF 100 TAL SAC 590416 05/25/22 12:12 RAC TAL SAC TAL SAC 1 590921 05/27/22 04:19 AF TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 500-216765-1

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Laboratory: Eurofins Sacramento

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

Eurofins TestAmerica, Sacramento

880 Riverside Parkway

Chain of Custody Record

🖑 eurofins

West Sacramento, CA 95605-1500 phone 916 373.5600 fax 303 467 7248	Regu	latory Pro	ogram: [Tow I	NPDES	; Г		, r	Othe							Ĩa	stâm	erica	Labo	ratories, Inc. d/b/a Eurofins TestAmeric
	The second se	Project Manager: Lisa Rutkowski																		
Client Contect	Email	N/i				San	noter:	Jano	67	Inon	000		Inan	r.ζ-	\rightarrow	. 77	Silimata da dar Nacional Santa			COC No: /
Arcadis U.S., Inc.	Tel/Fax:	N//	Ą					ict: Sa				E	Contraction of the local division of the loc	rier: F	-	- Station				1 ofCOCs
126 North Jefferson Street, Suite 400	-	Analysis 1	Turnaround	Time		Ē	T	N	T	ΓT	Ť	T			Ť	Î	T	ana	1	
Milwaukee, WI 53202 Phor FAX Project Name: Marinette, WI Site: Marinette, WI P O # 30128077.04 (Collapsed Foam)		IDAR DAYS	🗌 wo	RKING DAY		ampla (Y/N) 15/NSD (Y/N)	lodified ounds)	<u> </u>	\downarrow	/			Y	A						For Lab Use Only: Walk-in Client: Lab Sampling: Lab Project Number 50018970
Sample identification	Sample	Sample	Type (C=Comp, G=Gr=h)	Matrix	Carlos Carlos Carlos		PA 537											4		500-216765 Sample Specific Notes:
Collapsed SW Foam (5-17-22)	5-17-22	9:30	G	w	3	NN	i x	F	T	Ħ	十	十	Ħ	=	+		Ħ	Ħ	十	
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						$\overline{\Lambda}$	J	Π	Т	Π	Т		П		Τ	1				
Preservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNC	3; 5=NaOH	; 6= Other	•	and an operation of the second se		L	╊.	++	+	\vdash	manda		++	\neg	┿	╈	┝┥	-+		
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Pl the Comments Section If the lab is to dispose of the sample).	Waldingana		Names and a state of the state of	imple in	S				A fe	e mi					mple				longer than 1 month)
Skin Irritant Special Instructions/QC Requirements & Comments:	Polsa	10 B	🗌 Unka	nown	bili associate constant	-		etum to	Client		denargementer de	নি	Isposa	by La	<u>b</u>	කාමාරයක්තික		Archive	e for	Months
9 options of Collepsed for	im																			
Custody Seals Intact: Yes No	Custody	Seal No.:		ingine and an and a second	2922223234992494920		territorian and	JC	ooler	Tem	ıp. (°	C): Ob	s'd:			Corr	d:		10-10-10-10-0000000000	Therm ID No
Relinquished by: Jacob Rominger		r: Barley Ex	kcavating		ime. 2/11:0	20 F	Receiv	ed by:	Fre	1	Ex		No.	C	omp	any:				Date/Time:
Relinquished by	Company	r		Date/T	îme	F	Receiv	ed by						C	omp	any [.]				Date/Time:
Relinguished by	Company	r		Date/T	îme	F	Receiv	ed in L	abora	itory	by:			c	omp	any [.]		an change the do		Date/Time:

Sacramento	
Eurofins TestAmerica,	880 Riverside Parkway

Chain of Custody Record

🐝 eurofins 💡 🦇 🖓

West Sacramento, CA 95605-1500 phone 916.373.5600 fax 303.467.7248	Regulatory Program:	E CRA Other: TestAmerica Laboratories. Inc. d/b/a Eurofins TestAmerica	Eurofins TestAmerica
	Project Manager: Lisa Rutkowski		
Client Contact	Email: N/A	Date: C. L.	
Arcadis U.S., Inc.	Tel/Fax: N/A		
126 North Jefferson Street, Suite 400	Analys		1 COCs
Milwaukee, WI 53202			
Phone			ly:
FAX	I If different tro		
Project Name: Marinette, WI	Z Weeks		
Site: Marinette, W!		pi QS	
P O # 30128077.04 (Collapsed Foam)		spu	nber
		ow 2 SW 4	
Sample Identification	Sample Sample (c=comp. Date Time G=Grab) Matrix Cont.	EEPA 531	
Collapsed SW Foam (ディフ・22)	5-17-22 9:30 G W 3		carripte openiic NOIes.
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1 of			
26			
	/		
		500-216765 Chain of Custody	
			/
Preservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	; 5=NaOH; 6= Other		1
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.	ase List any EPA Waste Codes for the sample in	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	(th)
Image: Special Instructions/QC Requirements & Comments:	Polson B Unknown	Archive for Months	
9 callens of Collineral Sourn	5		
	-		
Custody Seals Intact: Type No	5	Cooler Temp. (°C): Obs'd: [] Corr'd: (S Therm ID No.:	10
Maniquestics by back lomineor	Barley Excavating	Received by: FCU EL Company:	
6/3	Company: Date/Time:	Ί\	
Relinquished by:	Company: Date/Time:	Received in Laboratory by: Company: Date/Time:	(001
2		Form No. CA-C-WI-002, Rev. 4.23. dated 4/16/2019	3. dated 4/16/2019
		4 5 7 8 9 10 11 12 13 14 15	1 2 3

Client: ARCADIS U.S., Inc.

Login Number: 216765 List Number: 1 Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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	
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	

Job Number: 500-216765-1

List Source: Eurofins Chicago

Client: ARCADIS U.S., Inc.

Login Number: 216765 List Number: 2 Creator: Oropeza, Salvador

Job Number: 500-216765-1

List Source: Eurofins Sacramento

List Creation: 05/18/22 08:21 PM

oreator. Oropeza, Galvador		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	1375416
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	1.5C
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.	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	

Ceurofins Environment T TestAmerica	esting	20		Sacramento Sample Receiving Notes
500-216765 Field Sheet			S	cking # : <u>5418</u> 0594084/ 0 P/F0 / SAT / 2-Day / Ground / UPS / CDO / Courier SO / OnTrac / Goldstreak / USPS / Other
Use this form to record Sample Custody Seal, C File in the job folder with the COC.	Cooler C	ustody	Seal, Ter	nperature & corrected Temperature & other observations.
Therm. ID: <u>Ub</u> Corr. Factor: Ice <u>Wet</u> Gel Cooler Custody Seal: <u>1375411</u>	Othe	r		Notes:
Cooler ID:				
Temp Observed: <u>[. S</u> °C Correct From: Temp Blank Ø Sam		5	_°C	
Opening/Processing The Shipment Cooler compromised/tampered with? Cooler Temperature is acceptable?	Yes D	<u>No</u> ₽	NA D	
Frozen samples show signs of thaw?			Ľ	
Unpacking/Labeling The Samples COC is complete w/o discrepancies? Samples compromised/tampered with?	Yes Ø	<u>No</u>		
Containers are not broken or leaking?	Ð			
Sample custody seal?			P	
Sample containers have legible labels?			D	
Sample date/times are provided?	D			
Appropriate containers are used?	ø			
Sample bottles are completely filled?	ø			Trizma Lot #(s):
Sample preservatives verified?				
Is the Field Sampler's name on COC? Samples require splitting/compositing?			D	
Samples v/o discrepancies?				
Zero headspace?*			21	Login Completion <u>Yes</u> <u>No</u> <u>NA</u>
Alkalinity has no headspace?			Ø	
Perchlorate has headspace?			ć	Receipt Temperature on COC?
(Methods 314, 331, 6850)			P	NCM Filed?
Multiphasic samples are not present?				Log Release checked in TALS?
*Containers requiring zero headspace have no headspace		le < 6 mr	n (1/4")	Initials: 5 Date: 5-18-22

IITACORPICORPIQAIQA_FACILITIESISACRAMENTO-QAIDOCUMENT-MANAGEMENTIFORMSIQA-812 SAMPLE RECEIVING NOTES.DOC

QA-812 MBB 05/10/2022

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Page 24 of 26

Isotope Dilution Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Water

Prep Type: Total/NA

-			Perce	ent Isotope	Dilution Re	covery (Ac	ceptance L	imits)	
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
500-216765-1	Collapsed SW Foam (5-17-22)	91	97	94	93	46	45	64	82
500-216765-1 - DL	Collapsed SW Foam (5-17-22)	43	44	45	55	45	39	49	34
LCS 320-590416/2-A	Lab Control Sample	112	98	97	99	95	87	83	89
LCSD 320-590416/3-A	Lab Control Sample Dup	94	85	82	84	82	77	79	74
MB 320-590416/1-A	Method Blank	88	83	85	86	84	78	75	75
			Porce	ont leotono	Dilution Pa	covery (Ac	ceptance L	imite)	
		PFDoA	PFTDA	PFHxDA	C3PFBS	PFHxS	PFOS	PFOSA	d3NMFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-150)	(25-150)
500-216765-1	Collapsed SW Foam (5-17-22)	71	37	32	107	105	52	44	67
500-216765-1 - DL	Collapsed SW Foam (5-17-22)	30	19 *5-	16 *5-	44	41	44	57	34
LCS 320-590416/2-A	Lab Control Sample	91	80	60	98	97	82	79	101
LCSD 320-590416/3-A	Lab Control Sample Dup	82	74	50	83	84	74	73	87
MB 320-590416/1-A	Method Blank	81	74	50 53	90	85	74	68	87
WD 020-000410/1-A		01							07
							ceptance L		
			dMeFOSA		NMFM	NEFM		M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(25-150)	(10-150)	(10-150)	(10-150)	(10-150)	(25-150)	(25-150)	(25-150)
500-216765-1	Collapsed SW Foam (5-17-22)	66	65	65	105	70	187 *5+	170 *5+	573 *5+
500-216765-1 - DL	Collapsed SW Foam (5-17-22)	56	37	7 *5-	40	32	42	113	218 *5+
LCS 320-590416/2-A	Lab Control Sample	99	69	73	74	81	102	100	86
LCSD 320-590416/3-A	Lab Control Sample Dup	82	54	59	61	67	85	81	78
MB 320-590416/1-A	Method Blank	83	58	61	65	63	92	82	81
			Perce	ent Isotope	Dilution Re	covery (Ac	ceptance L	imits)	
		HFPODA	M102FTS						
Lab Sample ID	Client Sample ID	(25-150)	(25-150)						
500-216765-1	Collapsed SW Foam (5-17-22)	93	112						
500-216765-1 - DL	Collapsed SW Foam (5-17-22)	46	48						
LCS 320-590416/2-A	Lab Control Sample	90	120						
LCSD 320-590416/3-A	Lab Control Sample Dup	81	101						
MB 320-590416/1-A	zas control campio zap								
	Method Blank	78	99						
Surrogate Legend									
Surrogate Legend									
Surrogate Legend PFBA = 13C4 PFBA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA PFOA = 13C4 PFOA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA PFOA = 13C4 PFOA PFNA = 13C5 PFNA PFDA = 13C2 PFDA									
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA PFOA = 13C4 PFOA PFNA = 13C5 PFNA									
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									
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	Method Blank								
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	Method Blank								
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 PFTDA PFTDA = 13C2 PFTDA PFHxDA = 13C2 PFHxDA C3PFBS = 13C3 PFBS	Method Blank								
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	Method Blank								
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHXA = 13C2 PFHXA C4PFHA = 13C4 PFHPA PFOA = 13C4 PFOA PFNA = 13C5 PFNA PFDA = 13C2 PFDA PFUAA = 13C2 PFUAA PFDOA = 13C2 PFDOA PFTDA = 13C2 PFTEDA PFHXDA = 13C2 PFHXDA C3PFBS = 13C3 PFBS PFHXS = 18O2 PFHXS PFOS = 13C4 PFOS	Method Blank								
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA C4PFHA = 13C4 PFHpA PFOA = 13C4 PFOA PFNA = 13C5 PFNA PFDA = 13C2 PFDA PFUA = 13C2 PFUA PFDA = 13C2 PFDOA PFTDA = 13C2 PFTeDA PFTDA = 13C2 PFTeDA PFHxDA = 13C2 PFHxDA C3PFBS = 13C3 PFBS PFHxS = 1802 PFHxS PFOS = 13C4 PFOS PFOSA = 13C8 FOSA	Method Blank								
Surrogate Legend PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHXA = 13C2 PFHXA C4PFHA = 13C4 PFHAA PFOA = 13C4 PFOA PFNA = 13C5 PFNA PFDA = 13C2 PFDA PFUAA = 13C2 PFUAA PFDOA = 13C2 PFDOA PFTDA = 13C2 PFTEDA PFHXDA = 13C2 PFHXDA C3PFBS = 13C3 PFBS PFHXS = 18O2 PFHXS PFOS = 13C4 PFOS	Method Blank								

Isotope Dilution Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam 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 M102FTS = 13C2 10:2 FTS

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Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 500-219762-1

Client Project/Site: Marinette, WI 30128077.04 Collapsed Foam

For:

..... Links

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Expert

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

Attn: Lisa Rutkowski

Sanda Jreduik

Authorized for release by: 8/17/2022 1:08:25 PM

Sandie Fredrick, Project Manager II (920)261-1660 Sandra.Fredrick@et.eurofinsus.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-219762-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-219762-1

Case Narrative

Comments

No additional comments.

Receipt

The sample was received on 7/21/2022 9:20 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5° C.

Receipt Exceptions

Sample 1 has coloration. Collapsed SW Foam (7-20-22) (500-219762-1)

LCMS

Method 537 (modified): The concentration of several analytes associated with the following sample exceeded the instrument calibration range: Collapsed SW Foam (7-20-22) (500-219762-1). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was diluted within calibration range, and both sets of data are reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. Collapsed SW Foam (7-20-22) (500-219762-1)

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: Collapsed SW Foam (7-20-22) (500-219762-1). The sample was reanalyzed at a dilution with concurring results. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method 537 (modified): Results for sample Collapsed SW Foam (7-20-22) (500-219762-1) 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. The percent recovery for the internal standard in the 50X analysis is 93% after the dilution factor was applied to the labeled internal standard area count.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: Collapsed SW Foam (7-20-22) (500-219762-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: Collapsed SW Foam (7-20-22) (500-219762-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. Collapsed SW Foam (7-20-22) (500-219762-1)

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

Organic Prep

Method 3535: The following samples in preparation batch 320-608635 were light yellow, turbid and were observed to have a thick layer of sediment present in the bottom of the bottle prior to extraction. Collapsed SW Foam (7-20-22) (500-219762-1) Method Code: 3535_PFC_28D Matrix: Water

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-608635. Method Code: 3535 PFC 28D

Job ID: 500-219762-1 (Continued)

Laboratory: Eurofins Chicago (Continued)

Matrix: Water

Method 3535: Due to the turbidity and the sediments in the sample, the initial volume used for the following sample deviated from the standard procedure: Collapsed SW Foam (7-20-22) (500-219762-1). A 10x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately. preparation batch 320-608635 Method Code: 3535_PFC_28D Matrix: Water

Method 3535: The following samples in preparation batch 320-608635 was light yellow following extraction: Collapsed SW Foam (7-20-22) (500-219762-1) Method Code: 3535_PFC_28D 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, WI 30128077.04 Collapsed Foam Job ID: 500-219762-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-219762-1	Collapsed SW Foam (7-20-22)	Water	07/20/22 09:30	07/21/22 09:20

Job ID: 500-219762-1

Project/Site: Marinette, WI 30128077.04 Collapsed Foam	
Client Sample ID: Collapsed SW Foam (7-20-22)	Lab
Date Collected: 07/20/22 09:30	

Client Sample Results

Client: ARCADIS U.S., Inc.

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	300		50	24	ng/L		·	08/13/22 02:15	1
Perfluoropentanoic acid (PFPeA)	550		20	4.9	ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluorohexanoic acid (PFHxA)	2600		20	5.8	ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluoroheptanoic acid (PFHpA)	600		20	2.5	ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluorooctanoic acid (PFOA)	6800	E	20		ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluorononanoic acid (PFNA)	6300		20	2.7	ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluorodecanoic acid (PFDA)	6200	E	20	3.1	ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluoroundecanoic acid (PFUnA)	4000		20		ng/L		08/10/22 12:20	08/13/22 02:15	1
Perfluorododecanoic acid (PFDoA)	470		20		ng/L			08/13/22 02:15	1
Perfluorotridecanoic acid (PFTriA)	55		20		ng/L			08/13/22 02:15	1
Perfluorotetradecanoic acid (PFTeA)	45		20		ng/L			08/13/22 02:15	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<20		20		ng/L			08/13/22 02:15	1
Perfluoro-n-octadecanoic acid (PFODA) Perfluorobutanesulfonic acid (PFBS)	<20 <20		20 20		ng/L ng/L			08/13/22 02:15 08/13/22 02:15	1
()					-			08/13/22 02:15	
Perfluoropentanesulfonic acid (PFPeS) Perfluorohexanesulfonic acid	<20		20 20		ng/L			08/13/22 02:15	1
(PFHxS) Perfluoroheptanesulfonic acid	98 56		20		ng/L ng/L			08/13/22 02:15	1
PFHpS) Perfluorooctanesulfonic acid	40000	Е	20		ng/L			08/13/22 02:15	1
(PFOS)					-				
Perfluorononanesulfonic acid (PFNS)	51		20		ng/L			08/13/22 02:15	1
Perfluorodecanesulfonic acid PFDS)	170		20		ng/L			08/13/22 02:15	1
Perfluorododecanesulfonic acid (PFDoS)	<20	· <u>-</u> · · · · · · · · · · ·	20		ng/L			08/13/22 02:15 08/13/22 02:15	1
Perfluorooctanesulfonamide (FOSA)	22000	E	20		ng/L				1
NEtFOSA	20		20		ng/L			08/13/22 02:15	1
NMeFOSA	16		20		ng/L			08/13/22 02:15	1
NMeFOSAA	280		50		ng/L			08/13/22 02:15	1
NEtFOSAA	9500		50		ng/L			08/13/22 02:15	1
NMeFOSE	22	J	40		ng/L			08/13/22 02:15	1
NEtFOSE	53		20		ng/L			08/13/22 02:15	1
4:2 FTS	26	_	20		ng/L			08/13/22 02:15	1
6:2 FTS	11000		50		ng/L			08/13/22 02:15	
B:2 FTS	41000	E	20		ng/L			08/13/22 02:15	1
10:2 FTS	980		20		ng/L			08/13/22 02:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) Hexafluoropropylene Oxide Dimer	<20 <40		20 40		ng/L ng/L			08/13/22 02:15 08/13/22 02:15	1
Acid (HFPO-DA) F-53B Major	<40		20		ng/L			08/13/22 02:15	1
F-53B Minor	<20 <20		20		ng/L			08/13/22 02:15	1
Isotope Dilution	∽∠0 %Recovery	Qualifier	Limits	5.2	ng/L		Prepared	Analyzed	י Dil Fac
13C4 PFBA	49	Quaiiiiei	25 - 150					08/13/22 02:15	1

Job ID: 500-219762-1

5 6

8/17/2022

Eurofins Chicago

Matrix: Water

Client Sample ID: Collapsed SW Foam (7-20-22)	Lab Sample ID: 500-219762-1
Project/Site: Marinette, WI 30128077.04 Collapsed Foam	
Client: ARCADIS U.S., Inc.	Job ID: 500-219/62-1

Client Sample Results

Client: ARCADIS U.S., Inc.

sotope Dilution	%Recovery Q	ualifier Limits	Prepared Analyz	zed Dil Fac
13C5 PFPeA	67	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 PFHxA	109	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C4 PFHpA	90	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C4 PFOA	96	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C5 PFNA	79	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 PFDA	68	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 PFUnA	90	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 PFDoA	52	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 PFTeDA	20 *5	5- 25 - 150	08/10/22 12:20 08/13/22	02:15 1
I3C2 PFHxDA	17 *5	5- 25 - 150	08/10/22 12:20 08/13/22	02:15 1
3C3 PFBS	87	25 - 150	08/10/22 12:20 08/13/22	02:15 1
802 PFHxS	99	25 - 150	08/10/22 12:20 08/13/22	02:15 1
I3C4 PFOS	75	25 - 150	08/10/22 12:20 08/13/22	02:15 1
I3C8 FOSA	74	10 - 150	08/10/22 12:20 08/13/22	02:15 1
13-NMeFOSAA	83	25 - 150	08/10/22 12:20 08/13/22	02:15 1
15-NEtFOSAA	90	25 - 150	08/10/22 12:20 08/13/22	02:15 1
I-N-MeFOSA-M	70	10 - 150	08/10/22 12:20 08/13/22	02:15 1
I-N-EtFOSA-M	56	10 - 150	08/10/22 12:20 08/13/22	02:15 1
17-N-MeFOSE-M	55	10 - 150	08/10/22 12:20 08/13/22	02:15 1
l9-N-EtFOSE-M	48	10 - 150	08/10/22 12:20 08/13/22	02:15 1
12-4:2 FTS	128	25 - 150	08/10/22 12:20 08/13/22	02:15 1
12-6:2 FTS	128	25 - 150	08/10/22 12:20 08/13/22	02:15 1
12-8:2 FTS	138	25 - 150	08/10/22 12:20 08/13/22	02:15 1
3C3 HFPO-DA	79	25 - 150	08/10/22 12:20 08/13/22	02:15 1
13C2 10:2 FTS	80	25 - 150	08/10/22 12:20 08/13/22	02:15 1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2500		2500	1200	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoropentanoic acid (PFPeA)	500	J	1000	250	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorohexanoic acid (PFHxA)	3800		1000	290	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoroheptanoic acid (PFHpA)	530	J	1000	130	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorooctanoic acid (PFOA)	6900		1000	430	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorononanoic acid (PFNA)	7000		1000	140	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorodecanoic acid (PFDA)	5300		1000	160	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoroundecanoic acid (PFUnA)	6700	I.	1000	550	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorododecanoic acid (PFDoA)	440	J	1000	280	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorotridecanoic acid (PFTriA)	<1000		1000	650	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorotetradecanoic acid (PFTeA)	<1000		1000	370	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1000		1000	450	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoro-n-octadecanoic acid (PFODA)	<1000		1000	470	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorobutanesulfonic acid (PFBS)	<1000		1000	100	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoropentanesulfonic acid (PFPeS)	<1000		1000	150	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluorohexanesulfonic acid (PFHxS)	<1000		1000	290	ng/L		08/10/22 12:20	08/15/22 20:48	50
Perfluoroheptanesulfonic acid (PFHpS)	<1000		1000	95	ng/L		08/10/22 12:20	08/15/22 20:48	50

Eurofins Chicago

Matrix: Water

RL

1000

1000

1000

MDL Unit

270 ng/L

190 ng/L

160 ng/L

D

Prepared

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Analyte

(PFOS)

Perfluorooctanesulfonic acid

Perfluorononanesulfonic acid (PFNS)

Perfluorodecanesulfonic acid (PFDS)

Client Sample ID: Collapsed SW Foam (7-20-22) Date Collected: 07/20/22 09:30 Date Received: 07/21/22 09:20

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

44000

<1000

<1000

Result Qualifier

Analyzed

Lab Sample ID: 500-219762-1 **Matrix: Water**

08/10/22 12:20 08/15/22 20:48

08/10/22 12:20 08/15/22 20:48

08/10/22 12:20 08/15/22 20:48

6

Dil Fac

50

50

50

	1000	1000	100	iig/L	00/10/22 12.20	00/10/22 20.40	50
Perfluorododecanesulfonic acid	<1000	1000	490	ng/L	08/10/22 12:20	08/15/22 20:48	50
(PFDoS)		4000	400		00/40/00 40:00	00/45/00 00.40	
Perfluorooctanesulfonamide	24000	1000	490	ng/L	08/10/22 12:20	08/15/22 20:48	50
(FOSA) NEtFOSA	<1000	1000	440	ng/L	08/10/22 12:20	08/15/22 20:48	50
NMeFOSA	<1000	1000		ng/L		08/15/22 20:48	50
NMeFOSAA	<2500	2500		ng/L		08/15/22 20:48	50
NEtFOSAA	8400	2500		ng/L		08/15/22 20:48	50
NMeFOSE	<2000	2000		ng/L		08/15/22 20:48	50
NEtFOSE	<1000	1000		ng/L		08/15/22 20:48	50
4:2 FTS	<1000	1000		ng/L		08/15/22 20:48	50
6:2 FTS	10000	2500	1300	-		08/15/22 20:48	50
8:2 FTS	52000	1000		ng/L		08/15/22 20:48	50
10:2 FTS	870 J	1000		ng/L		08/15/22 20:48	50
4,8-Dioxa-3H-perfluorononanoic acid	<1000	1000		ng/L		08/15/22 20:48	50
(ADONA)			200	<u> </u>			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<2000	2000	750	ng/L	08/10/22 12:20	08/15/22 20:48	50
F-53B Major	<1000	1000	120	ng/L	08/10/22 12:20	08/15/22 20:48	50
F-53B Minor	<1000	1000	160	ng/L	08/10/22 12:20	08/15/22 20:48	50
Isotope Dilution	%Recovery Qualifier	r Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	85	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C5 PFPeA	82	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFHxA	82	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C4 PFHpA	86	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C4 PFOA	96	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C5 PFNA	85	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFDA	88	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFUnA	73	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFDoA	50	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFTeDA	19 *5-	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C2 PFHxDA	15 *5-	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C3 PFBS	86	25 - 150			08/10/22 12:20	08/15/22 20:48	50
18O2 PFHxS	91	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C4 PFOS	70	25 - 150			08/10/22 12:20	08/15/22 20:48	50
13C8 FOSA	99	10 - 150			08/10/22 12:20	08/15/22 20:48	50
d3-NMeFOSAA	88	25 - 150			08/10/22 12:20	08/15/22 20:48	50
d5-NEtFOSAA	93	25 - 150			08/10/22 12:20	08/15/22 20:48	50
UJ-NEIFOJAA							
d-N-MeFOSA-M	65	10 - 150			08/10/22 12:20	08/15/22 20:48	50
	65 57					08/15/22 20:48 08/15/22 20:48	50 50
d-N-MeFOSA-M		10 - 150			08/10/22 12:20		
d-N-MeFOSA-M d-N-EtFOSA-M d7-N-MeFOSE-M	57	10 - 150 10 - 150			08/10/22 12:20 08/10/22 12:20	08/15/22 20:48	50
d-N-MeFOSA-M d-N-EtFOSA-M d7-N-MeFOSE-M d9-N-EtFOSE-M	57 40	10 - 150 10 - 150 10 - 150			08/10/22 12:20 08/10/22 12:20 08/10/22 12:20	08/15/22 20:48 08/15/22 20:48	50 50
d-N-MeFOSA-M d-N-EtFOSA-M d7-N-MeFOSE-M d9-N-EtFOSE-M M2-4:2 FTS	57 40 43	10 - 150 10 - 150 10 - 150 10 - 150			08/10/22 12:20 08/10/22 12:20 08/10/22 12:20 08/10/22 12:20	08/15/22 20:48 08/15/22 20:48 08/15/22 20:48	50 50 50
d-N-MeFOSA-M d-N-EtFOSA-M	57 40 43 70	10 - 150 10 - 150 10 - 150 10 - 150 25 - 150			08/10/22 12:20 08/10/22 12:20 08/10/22 12:20 08/10/22 12:20 08/10/22 12:20	08/15/22 20:48 08/15/22 20:48 08/15/22 20:48 08/15/22 20:48	50 50 50 50

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam Job ID: 500-219762-1

Client Sample ID: Colla Date Collected: 07/20/22 09 Date Received: 07/21/22 09	Lab Sample	ID: 500-219 Matrix:			
Method: 537 (modified) - I	- Fluorinated Alkyl Substan	ces - DL (Continued)			
Isotope Dilution	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 10:2 FTS	45	25 - 150	08/10/22 12:20	08/15/22 20:48	50

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Definitions/Glossary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Job ID: 500-219762-1

Qualifiers

LCMS Qualifier	Qualifier Description	
*5-	Isotope dilution analyte is outside acceptance limits, low biased.	
*5+	Isotope dilution analyte is outside acceptance limits, high biased.	Ľ
E	Result exceeded calibration range.	
I	Value is EMPC (estimated maximum possible concentration).	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	
		 -

Glossary

Qualifiers		3
LCMS Qualifier	Qualifier Description	
*5-	Isotope dilution analyte is outside acceptance limits, low biased.	
*5+	Isotope dilution analyte is outside acceptance limits, high biased.	5
E	Result exceeded calibration range.	3
1	Value is EMPC (estimated maximum possible concentration).	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	0
Glossary		7
Abbreviation	These commonly used abbreviations may or may not be present in this report.	0
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	0
%R	Percent Recovery	
CFL	Contains Free Liquid	9
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 Pactor (Dioxin)	
TNTC	Too Numerous To Count	

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-608635/1-A Matrix: Water Analysis Batch: 609222

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		08/10/22 12:20	08/13/22 01:45	1
Perfluoroheptanesulfonic acid	<2.0		2.0	0.19	ng/L		08/10/22 12:20	08/13/22 01:45	1
(PFHpS)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	-		08/10/22 12:20	08/13/22 01:45	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37				08/13/22 01:45	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	-			08/13/22 01:45	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97			08/10/22 12:20	08/13/22 01:45	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		08/10/22 12:20	08/13/22 01:45	1
NEtFOSA	<2.0		2.0	0.87	ng/L		08/10/22 12:20	08/13/22 01:45	1
NMeFOSA	<2.0		2.0	0.43			08/10/22 12:20	08/13/22 01:45	1
NMeFOSAA	<5.0		5.0		ng/L		08/10/22 12:20	08/13/22 01:45	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		08/10/22 12:20	08/13/22 01:45	1
NMeFOSE	<4.0		4.0	1.4	ng/L		08/10/22 12:20	08/13/22 01:45	1
NEtFOSE	<2.0		2.0	0.85	ng/L		08/10/22 12:20	08/13/22 01:45	1
4:2 FTS	<2.0		2.0	0.24	ng/L		08/10/22 12:20	08/13/22 01:45	1
6:2 FTS	<5.0		5.0	2.5	ng/L		08/10/22 12:20	08/13/22 01:45	1
8:2 FTS	<2.0		2.0	0.46	ng/L		08/10/22 12:20	08/13/22 01:45	1
10:2 FTS	<2.0		2.0	0.67	ng/L			08/13/22 01:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	0.40	ng/L		08/10/22 12:20	08/13/22 01:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4.0		4.0	1.5	ng/L		08/10/22 12:20	08/13/22 01:45	1
F-53B Major	<2.0		2.0	0.24	ng/L		08/10/22 12:20	08/13/22 01:45	1
F-53B Minor	<2.0		2.0	0.32	ng/L		08/10/22 12:20	08/13/22 01:45	1
	МВ	MB							
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	98		25 - 150				08/10/22 12:20		1
13C5 PFPeA	99		25 - 150					08/13/22 01:45	1
13C2 PFHxA	98		25 - 150					08/13/22 01:45	1
13C4 PFHpA	93		25 - 150					08/13/22 01:45	1
13C4 PFOA	104		25 - 150				08/10/22 12:20	08/13/22 01:45	1

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Job ID: 500-219762-1

Prep Type: Total/NA

Prep Batch: 608635

Client Sample ID: Method Blank

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

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

Lab Sample ID: MB 320-608635/1-A Matrix: Water

Analysis Batch: 609222

	MB MB				
Isotope Dilution	%Recovery Quali	fier Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	100	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 PFDA	104	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 PFUnA	106	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 PFDoA	100	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 PFTeDA	101	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 PFHxDA	101	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C3 PFBS	104	25 - 150	08/10/22 12:20	08/13/22 01:45	1
18O2 PFHxS	106	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C4 PFOS	96	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C8 FOSA	106	10 - 150	08/10/22 12:20	08/13/22 01:45	1
d3-NMeFOSAA	126	25 - 150	08/10/22 12:20	08/13/22 01:45	1
d5-NEtFOSAA	118	25 - 150	08/10/22 12:20	08/13/22 01:45	1
d-N-MeFOSA-M	75	10 - 150	08/10/22 12:20	08/13/22 01:45	1
d-N-EtFOSA-M	79	10 - 150	08/10/22 12:20	08/13/22 01:45	1
d7-N-MeFOSE-M	86	10 - 150	08/10/22 12:20	08/13/22 01:45	1
d9-N-EtFOSE-M	90	10 - 150	08/10/22 12:20	08/13/22 01:45	1
M2-4:2 FTS	114	25 - 150	08/10/22 12:20	08/13/22 01:45	1
M2-6:2 FTS	107	25 - 150	08/10/22 12:20	08/13/22 01:45	1
M2-8:2 FTS	105	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C3 HFPO-DA	85	25 - 150	08/10/22 12:20	08/13/22 01:45	1
13C2 10:2 FTS	112	25 - 150	08/10/22 12:20	08/13/22 01:45	1

Lab Sample ID: LCS 320-608635/2-A Matrix: Water Analysis Batch: 609222

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 608635

Analysis Datch. 003222							Fiep Batch. 000055
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	45.2		ng/L		113	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	43.7		ng/L		109	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	37.8		ng/L		95	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	42.7		ng/L		107	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	44.8		ng/L		112	60 - 135
Perfluorononanoic acid (PFNA)	40.0	41.9		ng/L		105	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	34.6		ng/L		86	60 - 135
Perfluoroundecanoic acid	40.0	38.9		ng/L		97	60 - 135
(PFUnA)							
Perfluorododecanoic acid	40.0	41.6		ng/L		104	60 - 135
(PFDoA)							
Perfluorotridecanoic acid	40.0	40.2		ng/L		100	60 - 135
(PFTriA)							
Perfluorotetradecanoic acid	40.0	41.4		ng/L		104	60 - 135
(PFTeA)	10.0	40 7				400	00, 405
Perfluoro-n-hexadecanoic acid	40.0	43.7		ng/L		109	60 - 135
(PFHxDA)	40.0	40.4		· · · · //		405	00 425
Perfluoro-n-octadecanoic acid (PFODA)	40.0	42.1		ng/L		105	60 - 135
	25 5	20.0		n a /l		109	60 125
Perfluorobutanesulfonic acid	35.5	38.8		ng/L		109	60 - 135
(PFBS)	37.5	38.6		ng/l		103	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	57.5	30.0		ng/L		103	00 - 100
(((((((((((((((((((((((((((((((((((((((

Job ID: 500-219762-1

Prep Type: Total/NA Prep Batch: 608635

Client Sample ID: Method Blank

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

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

Lab Sample ID: LCS 320-6 Matrix: Water	08635/2-A					Clie	nt Sar	nple ID:	Lab Control Sample Prep Type: Total/N
Analysis Batch: 609222									Prep Batch: 60863
Analyta			Spike Added		LCS Qualifier	Unit	D	%Rec	%Rec Limits
Analyte Perfluorohexanesulfonic acid			36.5	36.6	Quaimer	ng/L		100	60 - 135
(PFHxS)			30.5	30.0		ng/L		100	00 - 135
Perfluoroheptanesulfonic acid			38.2	46.5		ng/L		122	60 - 135
(PFHpS)						0			
Perfluorooctanesulfonic acid			37.2	42.2		ng/L		114	60 - 135
(PFOS)									
Perfluorononanesulfonic acid			38.5	42.7		ng/L		111	60 - 135
(PFNS)			00.0	44.0				445	00 405
Perfluorodecanesulfonic acid			38.6	44.3		ng/L		115	60 - 135
(PFDS) Perfluorododecanesulfonic acid			38.8	41.1		ng/L		106	60 - 135
(PFDoS)			30.0	41.1		ng/∟		100	00 - 155
Perfluorooctanesulfonamide			40.0	42.7		ng/L		107	60 - 135
(FOSA)									
NEtFOSA			40.0	42.1		ng/L		105	60 - 135
NMeFOSA			40.0	44.8		ng/L		112	60 - 135
NMeFOSAA			40.0	43.7		ng/L		109	60 - 135
NEtFOSAA			40.0	42.8		ng/L		107	60 - 135
NMeFOSE			40.0	44.3		ng/L		111	60 - 135
NEtFOSE			40.0	39.1		ng/L		98	60 - 135
4:2 FTS			37.5	42.3		ng/L		113	60 - 135
6:2 FTS			38.1	41.2		ng/L		108	60 - 135
8:2 FTS			38.4	38.7		ng/L		100	60 - 135
10:2 FTS			38.6	42.4		ng/L		110	60 - 135
4,8-Dioxa-3H-perfluorononanoic			37.8	43.0		ng/L		110	60 - 135
acid (ADONA)			57.0	43.0		lig/∟		114	00 - 155
Hexafluoropropylene Oxide			40.0	43.4		ng/L		109	60 - 135
Dimer Acid (HFPO-DA)						0			
F-53B Major			37.4	40.6		ng/L		109	60 - 135
F-53B Minor			37.8	41.4		ng/L		110	60 - 135
	LCS	LCS							
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	89		25 - 150						
13C5 PFPeA	94		25 - 150						
13C2 PFHxA	104		25 - 150						
13C4 PFHpA	94		25 - 150						
13C4 PFOA	95		25 - 150						
13C5 PFNA	96		25 - 150 25 - 150						
13C2 PFDA	90 94		25 - 150 25 - 150						
13C2 PFUnA	94 106		25 - 150 25 - 150						
13C2 PFD0A	96		25 - 150 25 - 150						
			25 - 150 25 - 150						
13C2 PFTeDA	86								
13C2 PFHxDA	94		25 - 150 25 - 150						
13C3 PFBS	98		25 - 150						
1802 PFHxS	100		25 - 150						
13C4 PFOS	93		25 - 150						
13C8 FOSA	90		10 - 150						
d3-NMeFOSAA	114		25 - 150						
d5-NEtFOSAA	116		25 - 150						
d-N-MeFOSA-M	72		10 - 150						
d-N-EtFOSA-M	78		10 - 150						

NMeFOSA

NMeFOSAA

08635/2-A					Clie	nt Sample ID	: Lab Cor	trol Sa	mple
					•				
	Qualifier	Limits							
101		25 - 150							
-608635/3-A				С	lient Sa	ample ID: Lab		Sample	Dup
	-			-					
		Spike	LCSD	LCSD			%Rec		RPD
		Added			Unit	D %Rec	Limits	RPD	Limit
		40.0	43.5				60 - 135	4	30
		40.0	46.0		-	115	60 - 135	5	30
		40.0	41.5		-	104	60 - 135	9	30
		40.0	46.4			116	60 - 135	8	30
		40.0	43.5		-	109	60 - 135	3	30
		40.0			-			3	30
									30
					-				30
		.0.0				100	00 - 100	Ŭ	00
		40.0	41.3		ng/L	103	60 - 135	1	30
		40.0	41.1		ng/L	103	60 - 135	2	30
		40.0	43.4		ng/L	109	60 - 135	5	30
		40.0	47.8		ng/L	120	60 - 135	9	30
		40.0	39.8		ng/L	100	60 - 135	6	30
					0			-	
		35.5	41.1		ng/L	116	60 - 135	6	30
		37.5	39.9		ng/L	106	60 - 135	3	30
		36.5	37.7		ng/L	103	60 - 135	3	30
		38.2	45.1		ng/L	118	60 - 135	3	30
		37.2	41.1		ng/L	110	60 - 135	3	30
		38.5	42.9		ng/L	111	60 - 135	0	30
		38.6	42.6		ng/L	111	60 - 135	4	30
		38.8	43.5		ng/L	112	60 - 135	6	30
		40.0	41.9		ng/L	105	60 - 135	2	30
		40.0	42.6		ng/L	106	60 - 135	1	30
	LCS %Recovery 79 88 109 99 99 88 101	LCS LCS %Recovery Qualifier 79 88 109 99 99 88	LCS LCS %Recovery Qualifier Limits 79 10-150 109 25-150 99 25-150 99 25-150 101 25-150 88 25-150 101 25-150 88 25-150 101 25-150 603635/3-A Spike Added 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 35.5 37.5 36.5 38.2 37.2 38.5 38.6 38.6 38.8 40.0 40.0	LCS LCS $\frac{79}{79}$ 10.150 88 10.150 99 25.150 99 25.150 99 25.150 99 25.150 99 25.150 101 25.150 99 25.150 101 25.150 608635/3-A Added Result 40.0 43.5 40.0 43.5 40.0 43.5 40.0 43.3 40.0 43.3 40.0 43.3 40.0 43.3 40.0 41.3 40.0 41.3 40.0 41.3 40.0 41.1 40.0 43.4 40.0 43.4 40.0 43.4 40.0 43.4 40.0 43.4 40.0 43.4 40.0 43.8 35.5 41.1 <td< td=""><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>LCS LCS %Recovery Qualifier Limits 79 10.150 109 25.150 99 25.150 99 25.150 88 25.150 101 25.150 88 25.150 101 25.150 Client Sample ID: Lab Added Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L 104 105 40.0 43.5 ng/L 104 104 40.0 44.5 ng/L 104 40.0 43.5 ng/L 104 40.0 43.5 ng/L 105 40.0 43.5 ng/L 108 40.0 43.5 ng/L 108 40.0 43.4 ng/L 109 40.0 41.3 ng/L 103 40.0 43.4 ng/L 100 <td>Spike LCS LCS %Recovery Qualifier Limits 79 10.150 109 25.150 99 25.150 99 25.150 99 25.150 88 25.150 88 25.150 88 25.150 80635/3-A Client Sample ID: Lab Control Spike LCSD LCSD Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L D %Rec Wrep 40.0 46.0 ng/L 116 60.135 40.0 43.5 ng/L 109 60.135 40.0 43.5 ng/L 108 60.135 40.0 43.3 ng/L 108 60.135 40.0 43.4 ng/L 103 60.135 40.0 43.4 ng/L 103 60.135 40.0 41.1 ng/L 103 60.1</td><td>Added Result Units Prop Type: Tot: Prop Batch: 60 %Recovery Qualifier Limits 10:150 38 10:150 100 100 99 25:150 101 25:150 99 25:150 101 25:150 608635/3-A Client Sample ID: Lab Control Sample Prop Type: Tot: Prop Batch: 60 Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L 109 60:135 4 40.0 44.5 ng/L 109 60:135 3 40.0 44.5 ng/L 106 60:135 3 40.0 43.5 ng/L 109 60:135 3 40.0 43.3 ng/L 108 60:135 8 40.0 41.3 ng/L 103 60:135 8 40.0 41.1 ng/L 103 60:135 5 40.0 41.3 ng/L 100 60:135</td></td></td<>	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	LCS LCS %Recovery Qualifier Limits 79 10.150 109 25.150 99 25.150 99 25.150 88 25.150 101 25.150 88 25.150 101 25.150 Client Sample ID: Lab Added Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L 104 105 40.0 43.5 ng/L 104 104 40.0 44.5 ng/L 104 40.0 43.5 ng/L 104 40.0 43.5 ng/L 105 40.0 43.5 ng/L 108 40.0 43.5 ng/L 108 40.0 43.4 ng/L 109 40.0 41.3 ng/L 103 40.0 43.4 ng/L 100 <td>Spike LCS LCS %Recovery Qualifier Limits 79 10.150 109 25.150 99 25.150 99 25.150 99 25.150 88 25.150 88 25.150 88 25.150 80635/3-A Client Sample ID: Lab Control Spike LCSD LCSD Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L D %Rec Wrep 40.0 46.0 ng/L 116 60.135 40.0 43.5 ng/L 109 60.135 40.0 43.5 ng/L 108 60.135 40.0 43.3 ng/L 108 60.135 40.0 43.4 ng/L 103 60.135 40.0 43.4 ng/L 103 60.135 40.0 41.1 ng/L 103 60.1</td> <td>Added Result Units Prop Type: Tot: Prop Batch: 60 %Recovery Qualifier Limits 10:150 38 10:150 100 100 99 25:150 101 25:150 99 25:150 101 25:150 608635/3-A Client Sample ID: Lab Control Sample Prop Type: Tot: Prop Batch: 60 Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L 109 60:135 4 40.0 44.5 ng/L 109 60:135 3 40.0 44.5 ng/L 106 60:135 3 40.0 43.5 ng/L 109 60:135 3 40.0 43.3 ng/L 108 60:135 8 40.0 41.3 ng/L 103 60:135 8 40.0 41.1 ng/L 103 60:135 5 40.0 41.3 ng/L 100 60:135</td>	Spike LCS LCS %Recovery Qualifier Limits 79 10.150 109 25.150 99 25.150 99 25.150 99 25.150 88 25.150 88 25.150 88 25.150 80635/3-A Client Sample ID: Lab Control Spike LCSD LCSD Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L D %Rec Wrep 40.0 46.0 ng/L 116 60.135 40.0 43.5 ng/L 109 60.135 40.0 43.5 ng/L 108 60.135 40.0 43.3 ng/L 108 60.135 40.0 43.4 ng/L 103 60.135 40.0 43.4 ng/L 103 60.135 40.0 41.1 ng/L 103 60.1	Added Result Units Prop Type: Tot: Prop Batch: 60 %Recovery Qualifier Limits 10:150 38 10:150 100 100 99 25:150 101 25:150 99 25:150 101 25:150 608635/3-A Client Sample ID: Lab Control Sample Prop Type: Tot: Prop Batch: 60 Added Result Qualifier Unit D %Rec 40.0 43.5 ng/L 109 60:135 4 40.0 44.5 ng/L 109 60:135 3 40.0 44.5 ng/L 106 60:135 3 40.0 43.5 ng/L 109 60:135 3 40.0 43.3 ng/L 108 60:135 8 40.0 41.3 ng/L 103 60:135 8 40.0 41.1 ng/L 103 60:135 5 40.0 41.3 ng/L 100 60:135

Eurofins Chicago

4

1

30

30

42.9

43.1

ng/L

ng/L

107

108

60 - 135

60 - 135

40.0

40.0

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

5

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

Lab Sample ID: LCSD 320 Matrix: Water Analysis Batch: 609222	-608635/3-A	k	Spike		LCSD	Client Sa	ample	ID: Lat	Control Prep Ty Prep Ba %Rec	pe: Tot	al/NA
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
NEtFOSAA			40.0	45.0	Guumer	ng/L		112	60 - 135	5	30
NMeFOSE			40.0	45.0		ng/L		113	60 - 135	2	30
NEtFOSE			40.0	40.0		ng/L		100	60 - 135	2	30
4:2 FTS			37.5	39.5		ng/L		105	60 - 100 60 - 135	7	30
6:2 FTS			38.1	43.5		ng/L		114	60 - 100	5	30
8:2 FTS			38.4	38.9		ng/L		101	60 - 135	0	30
10:2 FTS			38.6	43.4		ng/L		112	60 - 135	2	30
			37.8	41.7		ng/L		112	60 - 135	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)											
Hexafluoropropylene Oxide			40.0	46.1		ng/L		115	60 - 135	6	30
Dimer Acid (HFPO-DA) F-53B Major			37.4	36.2		ng/L		97	60 - 135	11	30
F-53B Minor			37.4	40.6		ng/L		108	60 - 135	2	30
	1050	LCSD	57.0	40.0		ng/L		100	00 - 100	2	50
Isotope Dilution	%Recovery		Limits								
13C4 PFBA	89		25 - 150								
13C5 PFPeA	89		25 - 150 25 - 150								
13C2 PFHxA	09 94		25 - 150 25 - 150								
13C4 PFHpA	94 88		25 - 150 25 - 150								
13C4 PFOA	95		25 - 150 25 - 150								
13C5 PFNA	90 90		25 - 150 25 - 150								
13C2 PFDA	89		25 - 150								
13C2 PFUnA	101		25 - 150 25 - 150								
13C2 PFDoA	97		25 - 150 25 - 150								
13C2 PFTeDA	89		25 - 150 25 - 150								
13C2 PFHxDA	93		25 - 150 25 - 150								
13C3 PFBS	93 97		25 - 150 25 - 150								
1802 PFHxS	97 99		25 - 150 25 - 150								
13C4 PFOS	99 93		25 - 150 25 - 150								
13C8 FOSA	93 94		25 - 150 10 - 150								
d3-NMeFOSAA	94 114		25 - 150								
d5-NEtFOSAA											
d-N-MeFOSA-M	108 71		25 - 150 10 - 150								
d-N-EtFOSA-M	71		10 - 150 10 - 150								
d7-N-MeFOSE-M	74 80		10 - 150 10 - 150								
d9-N-EtFOSE-M	80 82		10 - 150 10 - 150								
ад-м-еггозе-м M2-4:2 FTS			10 - 150 25 - 150								
M2-4:2 FTS M2-6:2 FTS	107										
	95		25 - 150 25 - 150								
M2-8:2 FTS	98		25 - 150 25 - 150								
13C3 HFPO-DA	80		25 - 150								
13C2 10:2 FTS	93		25 - 150								

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Client Sample ID: Collapsed SW Foam (7-20-22) Date Collected: 07/20/22 09:30 Date Received: 07/21/22 09:20

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	3535			608635	KAA	EET SAC	08/10/22 12:20
Total/NA	Analysis	537 (modified)		1	609222	K1S	EET SAC	08/13/22 02:15
Total/NA	Prep	3535	DL		608635	KAA	EET SAC	08/10/22 12:20
Total/NA	Analysis	537 (modified)	DL	50	609754	D1R	EET SAC	08/15/22 20:48

Laboratory References:

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

Job ID: 500-219762-1

Matrix: Water

Lab Sample ID: 500-219762-1

2 3 4 5 6 7 8 9 10 11 12

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Laboratory: Eurofins Sacramento

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

4	Authority	Program	Identification Number	Expiration Date
	Visconsin	State	998204680	08-31-22

10

Eurofins TestAmerica, Sacramento

880 Riverside Parkway

Chain of Custody Record



💸 eurofins

West Sacramento, CA 95605-1500 phone 916.373.5600 fax 303.467 7248	Regul	atory Pro	gram: [] 0₩	NPDES	5 (C] Othe	r :					500-	21976	2 COC	.sbo	natorias, Inc. d/b/a Eurofins	TestAmeric
	the second s	A CONTRACTOR OF A CONTRACT	sa Rutkow	NAMES OF TAXABLE PARTY.		1		-												
Client Contact	Emeli:	N//		ininger filler and	******	Sen	npler:	Face	57	lan	lina	er	Date:	: 7-	20-	22			COC No: /	
Arcadis U.S., Inc.	Tel/Fax:	NIA	1			Second Second	Conte	STATISTICS OF THE OWNER OWNER OF THE OWNER	A second second second second	Card Name of Card Na	Concernance des		Carri	ier: Fe	NEX			***********	1_ of _1_ 1	COCs
128 North Jefferson Street, Suite 400		Analysis T	umaround	Time	ANAL AND	ÎΤ	T	∇			Τ	T	T	1	TT		T			and the second secon
Milwaukee, WI 53202	CALEN	OAR DAYS	U wor	KING DA	rs				Z							i.			For Lab Use Only:	
Phone	TAT #	different from	i Below		an () an		2			1									Walk-In Client:	
FAX	Ø	2	l weeks			2j						\mathbf{x}	lc l'	7					Lab Sampling:	
Project Name: Marinette, WI		1	i week			Þla	5L						\mathbb{A}	X						
Site: Marinette, WI		2	t days			No 12	i i i						Γ	1					Lab Project Number	
P 0 # 30128077 04 (Collapsed Foam)		j	l day												K				50018970	
	And a local design of the		Sample	l l		lő ľ									17				500-21970	07
Sample Identification	Sample Date	Sample Time	Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filler	EPA 537 Modeling (36 Compounds)										N		Sample Specific N	
Collapsed SW Foam (7-20-22)	7-20-22	9:30	G	w	3	8 8	N X			T	Ī			T	Π		TT	T		and a second
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Preservation Used: 1= ice, 2= HCI; 3= H2804; 4=HNO3;	Schafthi	Ra Other	L	L		Ц	+		┿┥		-				┢─┥		┿┯┿	_		* }
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Ples the Comments Section if the lab is to dispose of the sample.			te Codes fo	r the sa	mple in		lample	Diapo	xai (A 100) may	y be a	\$5051	sed If	samt	oles s	ro reta	ined I	onger than 1 month)	
Vin-Hazard Farmable Stin Initiant	Poison	18	Union	own		-		turn to l	Olent			ភោត	sioosal t	by Lati		Г] Arction	e for	Months	
Special Instructions/QC Requirements & Comments:	and a second			<u>Gélékiyeennen</u> n		eranowe dama	an a		and the second second		in second second	ndrinelin (58)		li destilli inte						
10 day Max IAT																				
Custody Seels Intact: Ves No	Custody S	eal No.:	8312	36)			C	ooler '	Temp). ([°] ℃)): Obs	'd:	5	C	orr'd:	$L\Sigma$	2	Therm ID No.:	
Relinquished by: Tacch Raminam	Company:	Barley Ex	cavating	Dete/TI 7-20	me:	R	decielve	d by:	Fre	Ł	Ex	(Co	mpan	y:		ACCULATION OF THE OWNER	Date/Time-	9999997 *5 709997*09999999999999
Relinquished by	Company:			Date/Ti			Vecelve	stor.		State and Street		Baleharonycours		Co	man	Y:		r or an an dhiffeelind in an	Date/Time. 271-26 092	2
Relinguished by	Company [.]			Date/Ti	me:	R	lecelve	d in La	aborat	by by	y:			Co	mpan	у. У.	đe		Date/Time:	. Bellinssen and an and an

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TestAmerica,	de Parkwav
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Chain of Custody Record

C eurofins Epwronment Testing TestAmerica

West Sacramento, CA 95605-1500 phone 916.373.5600 fax 303.467.7248	Regulatory Program:	DW NPDES	CCA Other:	TestAmerica Labo	TestAmerica Laboratories, inc. d/b/a Eurofins TestAmerica
	Project Manager: Lisa Rutkowski	ski	•		
Cilent Contact	Email: N/A	97	Sampler: Turcos Raminuer Date:	7-20-22	COC No: /
Arcadis U.S., Inc.	Tel/Fax: N/A		act: Sandie Fredrick	Carrier: FedEx	1 of 1 COCs
126 North Jefferson Street, Suite 400	Analys				
Milwaukee, WI 53202		WORKING DAYS	/		For Lab Use Only:
Phone	TAT if different from Below		/ (N		Walk-in Client:
	2 weeks			~	Lab Sampling:
Project Name: Marinette, WI	1 week	/^) (
Site: Marinette, Wi)-	pey JSV		Lah Prolect Number
P 0 # 30128077.04 (Collapsed Foam)			lipo l / S	/	50018970
			W III	/	
Sample Identification	Sample Sample (C ^{4Comp} , Date Time O ^{acrab})	# of # of Matrix Comt.	Elifer	/	Sample Specific Notes:
Cottapsed SW Foam (7-20-22)		W 3	X		
Pa					
20		-		-/	
of	X				
24	0	-		7	
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		7-00c	oud-219/62 Chain of Custody		
		X			
Preservețion red: 1= re_ 2= UCI: 3= U2604: 4=UU05: 5=U-041: 6= 041	E-N-ON- 0- Other	7			
Possible Hazard Identification:	SENAUN; 6= Other		Samie Disnosal / A fas may be sesseed if samples are related for the face 1 month.	and M samples are related	Connect these 1 months
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to discose of the sample	se List any EPA Waste Codes for	r the sample in			
Non-Hazard Skin Initiant Skin Initiant Skin Initiant	Polson B	uwo	Return to Client [7] Discosal by Lab	Archive for	Months
10 day Max IAT					
tact:	Custody Seal No.: / S 3 / S	536	Cooler Temp. (°C): Obs'd:	S Corrd: J. S	Therm ID No.: { • 4
Relinquished by: Tarch (lominalar	Company: Barley Excavating	Date/Time: 7-20-22/10:66		Company:	Date/Time:
Relinquished by:	Company:		Received by:"	Company	Date/Time:
Definquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	
2				Form No. CA-	Form No. CA-C-WI-002, Rev. 4.23, dated 4/16/2019

Client: ARCADIS U.S., Inc.

Login Number: 219762 List Number: 2 Creator: Her. David A

There is sufficient vol. for all requested analyses, incl. any requested

Containers requiring zero headspace have no headspace or bubble is

List Source: Eurofins Sacramento

List Creation: 07/22/22 10:18 AM

Question	A 10 0140-	Comment
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey<br meter.	True	
The cooler's custody seal, if present, is intact.	True	1831836
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	1.5 c
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.	N/A	

True

True

True

True

N/A

MS/MSDs

<6mm (1/4").

Multiphasic samples are not present.

Residual Chlorine Checked.

Samples do not require splitting or compositing.

eurofins Environ America	ment Testing a	Sacramento Sample Receiving Notes
Job:	sc Gs	king #: S88762873528 P <o< td=""> FO / SAT / 2-Day / Ground / UPS / CDO / Courier SO / OnTrac / Goldstreak / USPS / Other perature & corrected Temperature & other observations.</o<>
Therm. ID: Wet Gel Ice Wet Gel Cooler Custody Seal: [83]83 Cooler Custody Seal: [83]83 Cooler ID:	Other ed: 1.5 °C ble D Yes No NA D P D P D D D P D	Notes:
Perchlorate has headspace? (Methods 314, 331, 6850) Multiphasic samples are not present? *Containers requiring zero headspace have no headspace Initials: 50 Date: 7-21.12		NCM Filed? P \Box Log Release checked in TALS? \Box E Initials: SO $Date:$ $7 - 21 - 22$

IITACORPICORPIQAIQA_FACILITIESISACRAMENTO-QAIDOCUMENT-MANAGEMENTIFORMSIQA-812 SAMPLE RECEIVING NOTES.DOC

Isotope Dilution Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam

Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Water

Prep Type: T

Percent Isotope Dilution Recovery (Acceptance Limits)

Fotal/NA	
PFUnA	
(25-150)	
90	
73	
106	
101	
106	
	c
d3NMFOS	C
(25-150)	
83	
88	
114	
114	
126	
M282FTS	
(25-150)	
138	
151 *5+	
99	1
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Δ

		Percent isotope Dilution Recovery (Acceptance Linits)								
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA	
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	
500-219762-1	Collapsed SW Foam (7-20-22)	49	67	109	90	96	79	68	90	
500-219762-1 - DL	Collapsed SW Foam (7-20-22)	85	82	82	86	96	85	88	73	
LCS 320-608635/2-A	Lab Control Sample	89	94	104	94	95	96	94	106	
LCSD 320-608635/3-A	Lab Control Sample Dup	89	89	94	88	95	90	89	101	
MB 320-608635/1-A	Method Blank	98	99	98	93	104	100	104	106	
	Percent Isotope Dilution Recovery (Acceptance Limits)									
		PFDoA	PFTDA	PFHxDA	C3PFBS	PFHxS	PFOS	PFOSA	d3NMFOS	
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-150)	(25-150)	
500-219762-1	Collapsed SW Foam (7-20-22)	52	20 *5-	17 *5-	87	99	75	74	83	
500-219762-1 - DL	Collapsed SW Foam (7-20-22)	50	19 *5-	15 *5-	86	91	70	99	88	
LCS 320-608635/2-A	Lab Control Sample	96	86	94	98	100	93	90	114	
LCSD 320-608635/3-A	Lab Control Sample Dup	97	89	93	97	99	93	94	114	
MB 320-608635/1-A	Method Blank	100	101	101	104	106	96	106	126	
			Percent Isotope Dilution Recovery (Acceptance Limits) d5NEFOS dMeFOSA dEtFOSA NMFM NEFM M242FTS M262FTS M282FTS							
									M282FTS	
Lab Sample ID	Client Sample ID	(25-150) 90	(10-150)	(10-150)	(10-150)	(10-150)	(25-150)	(25-150)	(25-150)	
500-219762-1	Collapsed SW Foam (7-20-22)		70	56	55	48	128	128	138	
500-219762-1 - DL	Collapsed SW Foam (7-20-22)	93	65 70	57	40	43	70	100	151 *5+	
LCS 320-608635/2-A	Lab Control Sample	116	72	78	79	88	109	99	99	
LCSD 320-608635/3-A	Lab Control Sample Dup	108	71	74	80	82	107	95	98	
MB 320-608635/1-A	Method Blank	118	75	79	86	90	114	107	105	
	Percent Isotope Dilution Recovery (Acceptance Limits)									
		HFPODA	M102FTS							
Lab Sample ID	Client Sample ID	(25-150)	(25-150)							
500-219762-1	Collapsed SW Foam (7-20-22)	79	80							
500-219762-1 - DL	Collapsed SW Foam (7-20-22)	78	45							
LCS 320-608635/2-A	Lab Control Sample	88	101							
LCSD 320-608635/3-A	Lab Control Sample Dup	80	93							
MB 320-608635/1-A	Method Blank	85	112							
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										
PEHYDA = 13C2 PEHYDA										

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

Isotope Dilution Summary

Client: ARCADIS U.S., Inc. Project/Site: Marinette, WI 30128077.04 Collapsed Foam 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 M102FTS = 13C2 10:2 FTS