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

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Date: February 11, 2025
Our Ref: 30232727
Subject: 2024 Foam Monitoring Interim Action Report
Tyco Fire Technology Center
BRRTS #: 02-38-580694

Dear Ms. Sellwood,

Arcadis U.S., Inc. (Arcadis) prepared this 2024 Foam Monitoring Interim Action Report on behalf of Tyco Fire Products LP (Tyco) summarizing foam monitoring and removal activities completed in 2024 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 2024 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 on **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 A, B, C, D, and E on March 12, 2024, 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. For any ditches where foam was observed, daily inspections continued at that location until foam was not observed for 3 consecutive days.

On November 6, 2024, a community member notified WDNR that foam was observed on Ditch B and some of the booms appeared submerged following recent rainfall events. WDNR relayed this notification to Tyco on November 18, 2024. Tyco promptly responded on November 19, 2024, by installing additional booms on Ditch B. The booms were not observed to be fully submerged during Tyco's inspections completed between November 6 and November 18. However, Tyco reviewed inspection procedures and emphasized proactive boom replacement with the contractor performing this work.

Floating booms were removed from Ditches A, C, D, and E and inspections and foam removal activities concluded for the season on November 26, 2024, due to the onset of freezing conditions. Floating booms remained in place and inspections/foam removal activities continued at Ditch B until December 2, 2024.

Foam Observations and Removal

No foam accumulation was observed on Ditches A, C, D, or E during weekly inspections throughout the 2024 monitoring period. Foam was observed and collected 80 times on Ditch B. 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 361.5 gallons of uncollapsed foam were removed from Ditch B throughout the 2024 reporting period. The structure of the collected foam naturally collapsed over time reducing to approximately 38 gallons of liquid which were accumulated into two different containers, as discussed below.

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 April 8, 2024, and was containerized in a leak proof 55-gallon drum for storage at the FTC pending transport offsite on June 4, 2024, by Endpoint Solutions Corporation (Endpoint). Foam collected from all monitored ditches was consolidated into a single drum. Following transport offsite, one analytical sample was collected from the drum on June 11, 2024 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 18 gallons of collapsed foam collected between April 8, 2024 and June 3, 2024 at the time of sampling. The drum was sealed prior to transport offsite and no additional material was added prior to sampling or disposal.

Foam collection starting June 4, 2024 and ending August 15, 2024 was containerized in a new leak proof 55-gallon drum and stored at the FTC pending transport offsite on August 28, 2024 by Endpoint. Foam collected from all monitored ditches was consolidated into a single drum. One analytical sample was collected from the drum on

August 15, 2024 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 20 gallons of collapsed foam at the time of sampling. The drum was sealed following sampling and no additional material was added.

Drums were transported to Endpoint's waste transfer facility located in Hartford, Wisconsin. All foam was shipped from Endpoint's facility to Waste Management in Arlington, Oregon (WM Arlington) for disposal on October 7, 2024, and was accepted by WM Arlington on January 23, 2025. Spent booms from the 2024 season were transferred to drums and are being stored at the FTC pending disposal. 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 form[1]. 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 1,000 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.

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[1] https://www.michigan.gov/pfasresponse/faq/categories/pfas-foam-on-lakes-and-streams (accessed 2/7/2025)
[2] https://www.epa.gov/sciencematters/understanding-pfas-environment (accessed 2/7/2025)
[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] https://www.michigan.gov/pfasresponse/-/media/Project/Websites/PFAS-Response/Watersheds/Foam/Results-2020-11-Surface-Water-Foam.pdf?rev=dc619d86af2f4007ac6345e4ea449e84&hash=56F22A0C891F446656416D37D4C31399 (accessed 2/7/2025)
[5] https://dnr.wisconsin.gov/sites/default/files/topic/PFAS/jci/PeshtigoRiver20191030.pdf (access 2/7/2025)

Ms. Alyssa Sellwood
WDNR
February 11, 2025

Future Activities

Tyco will continue to inspect and remove observed foam from Ditches A-E in 2025 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 continue 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.
- 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, 2026 for the previous calendar year.

Closing

Tyco has completed the foam monitoring and removal tasks for 2024. Floating booms were removed from Ditches A, C, D, and E on November 26, 2024 and from Ditch B on December 2, 2024 due to the onset of freezing conditions. In 2025, 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.

Jim Ziska, PE
Principal Engineer

Email: James.Ziska@arcadis.com
Direct Line: 612-339-9434

CC. Denice Nelson (Tyco)
Scott Potter (Arcadis)

Ms. Alyssa Sellwood
WDNR
February 11, 2025

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

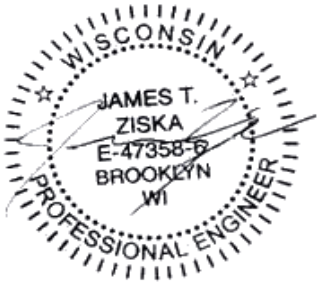
Attachments

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

Ms. Alyssa Sellwood
WDNR
February 11, 2025

NR 712.09 Certification

I, James Ziska, 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.



Principal Engineer, E-47358-6
Signature, title, and P.E. number

P.E. stamp

Tables

Table 1
Ditch A Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

Ditch A									
	Weather Conditions			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
3/12/2024	0	8	South-Southwest	New	No flow observed	No foam observed	No foam observed	No foam collected	Booms deployed
3/15/2024	0	0	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/8/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/15/2024	0	2	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/30/2024	0	6	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/6/2024	0	4	East-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/16/2024	0	5	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/21/2024	0.58	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/7/2024	0	10	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/10/2024	0	7	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/24/2024	0.01	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/2/2024	0.56	3	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/10/2024	0	6	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/25/2024	0.06	7	North	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
							Total:	**0**	

Notes:
Booms were deployed at Ditch A on 3/12/24.
Booms were removed at Ditch A on 11/26/24 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 2
Ditch B Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

ARCADIS

Ditch B									
	Weather Conditions			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
3/12/2024	0	8	South-Southwest	New	Downstream	No foam observed	No foam observed	No foam collected	Booms deployed
3/14/2024	0	5	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/15/2024	0	0	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/20/2024	0	11	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/21/2024	0	0	None	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/28/2024	0	6	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/29/2024	0	1	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/2/2024	0	9	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/4/2024	0	8	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/8/2024	**0**	**5**	**Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
4/9/2024	**0**	**0**	**None**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**8**	**--**
4/10/2024	**0**	**4**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**8**	**--**
4/11/2024	**0**	**0**	**None**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**9**	**--**
4/12/2024	**0**	**12**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**4**	**--**
4/13/2024	**0**	**8**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, some froth**	**3**	**--**
4/14/2024	**0**	**1**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**2**	**--**
4/15/2024	**0**	**2**	**South-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**6**	**--**
4/16/2024	**0**	**4**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
4/17/2024	**0.33**	**6**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**4**	**--**
4/18/2024	**0.77**	**3**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**10**	**--**
4/19/2024	**0**	**22**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, some froth**	**9**	**--**
4/20/2024	**0**	**13**	**West-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, some froth**	**5**	**--**
4/21/2024	**0**	**13**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, some froth**	**5**	**--**
4/22/2024	**0**	**7**	**South-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**7**	**--**
4/23/2024	**0**	**4**	**West-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**7**	**--**
4/24/2024	**0**	**8**	**Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
4/25/2024	**0**	**0**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
4/26/2024	**0**	**5**	**East-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
4/27/2024	**0**	**4**	**Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**1**	**--**
4/28/2024	**0**	**8**	**Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**2**	**--**
4/29/2024	**0**	**4**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**6**	**--**
4/30/2024	**0**	**6**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
5/1/2024	**0**	**9**	**West-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, little froth**	**2**	**--**
5/2/2024	**0**	**3**	**Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**10**	**--**
5/3/2024	**0.05**	**3**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, very frothy**	**10**	**--**
5/4/2024	**0**	**3**	**Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**5**	**--**
5/5/2024	**0.08**	**6**	**East-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**3**	**--**
5/6/2024	**0**	**4**	**East-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**7**	**--**
5/7/2024	**0.79**	**5**	**Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
5/8/2024	**0**	**6**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
5/9/2024	**0.01**	**5**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**9**	**--**
5/10/2024	**0**	**2**	**North**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**8**	**--**
5/11/2024	**0**	**5**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**5**	**--**
5/12/2024	**0.02**	**8**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**2**	**--**
5/13/2024	**0**	**5**	**Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**6**	**--**

Table 2
Ditch B Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

ARCADIS

Ditch B									
	Weather Conditions			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
5/14/2024	**0**	**8**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, some froth**	**5**	**--**
5/15/2024	**0**	**1**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, some froth**	**4**	**--**
5/16/2024	**0**	**5**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**3.5**	**--**
5/17/2024	**0.63**	**5**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**7**	**--**
5/18/2024	**0**	**7**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**5**	**--**
5/19/2024	**0**	**6**	**Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**3**	**--**
5/20/2024	**0**	**2**	**North**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**4**	**--**
5/21/2024	**0.58**	**2**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**2.5**	**--**
5/22/2024	**0.12**	**7**	**West-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, little froth**	**0.5**	**--**
5/23/2024	**0.04**	**4**	**West-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**7**	**--**
5/24/2024	**0**	**6**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**8**	**--**
5/25/2024	**0.1**	**9**	**South-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**3**	**--**
5/26/2024	**0**	**10**	**South-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**4**	**--**
5/27/2024	**1.46**	**13**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, little froth**	**0.5**	**--**
5/28/2024	**0**	**5**	**Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**10**	**--**
5/29/2024	**0**	**6**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**10**	**--**
5/30/2024	**0**	**3**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**10**	**--**
5/31/2024	**0**	**6**	**Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**8**	**--**
6/1/2024	**0.03**	**4**	**South-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**3**	**--**
6/2/2024	**0**	**3**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**4**	**--**
6/3/2024	**0.37**	**6**	**South-Southeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**5.5**	**--**
6/4/2024	**0**	**1**	**South-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**5**	**--**
6/5/2024	**0.15**	**2**	**South-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**3**	**--**
6/6/2024	**0.1**	**5**	**West-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**4**	**--**
6/7/2024	**0**	**10**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**2.5**	**--**
6/8/2024	**0.19**	**0**	**South-Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Tan, frothy**	**1**	**--**
6/9/2024	**0.01**	**6**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**2**	**--**
6/10/2024	**0**	**7**	**North-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**3**	**--**
6/11/2024	**0**	**2**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**2**	**--**
6/12/2024	**0**	**2**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**1**	**--**
6/13/2024	0	6	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/14/2024	0	5	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/15/2024	0.03	4	East-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/17/2024	0.22	2	East-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/19/2024	0.11	8	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/24/2024	**0.01**	**2**	**East-Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**7**	**--**
6/25/2024	2.42	2	West-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/26/2024	**0**	**3**	**Northeast**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
6/27/2024	**0.01**	**2**	**Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
6/28/2024	**0.21**	**2**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
6/29/2024	**0.43**	**2**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
6/30/2024	**0**	**9**	**North-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**1**	**--**
7/1/2024	**0**	**3**	**West-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**3**	**--**
7/2/2024	**0.56**	**3**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**1**	**--**
7/3/2024	**0.14**	**3**	**Southwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
7/4/2024	**0.04**	**2**	**West-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, frothy**	**1**	**--**
7/5/2024	0.59	7	East	Good	Downstream	No foam observed	No foam observed	No foam collected	--

Table 2
Ditch B Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

Ditch B									
	Weather Conditions			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
7/6/2024	**0.01**	**2**	**West**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, some froth**	**1**	**--**
7/7/2024	**0**	**3**	**South**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, some froth**	**1**	**--**
7/8/2024	0.6	3	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/9/2024	**0.01**	**3**	**West-Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**White, some froth**	**0.5**	**--**
7/10/2024	**0**	**6**	**Northwest**	**Good**	**Downstream**	**West Bay Shore St Crossing**	**Brown, frothy**	**0.5**	**--**
7/11/2024	0	2	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/13/2024	0.06	4	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/17/2024	0	5	West-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/18/2024	0	5	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/23/2024	0.5	5	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/26/2024	0	3	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/30/2024	0	3	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/1/2024	0	3	East-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/7/2024	0	0	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/8/2024	0	1	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/15/2024	0.43	3	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/16/2024	0.18	0	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/22/2024	0	0	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/23/2024	0.02	1	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/29/2024	0	4	East	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/30/2024	0.02	4	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/5/2024	0.53	0	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/6/2024	0	2	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/9/2024	0.03	3	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/13/2024	0.01	0	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/19/2024	0.01	3	South	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/20/2024	0.07	5	West-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/23/2024	0	3	North	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/27/2024	0.01	0	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/2/2024	0	9	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/5/2024	0	2	South	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/10/2024	0	0	South	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/11/2024	0	4	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/15/2024	0	6	North	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--

Table 2
Ditch B Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

Ditch B									
	Weather Conditions			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
10/18/2024	0	6	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/23/2024	0	7	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/25/2024	0.05	8	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
10/30/2024	1.01	2	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/1/2024	0	7	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/6/2024	0.01	5	North-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/8/2024	0	5	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/13/20224	0.01	7	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/15/2024	0	1	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	New	Downstream	No foam observed	No foam observed	No foam collected	Boom replaced
11/20/2024	0.04	7	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/23/2024	0	7	West-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/25/2024	0.06	7	North	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/26/2024	0.26	15	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
11/27/2024	0	0	Calm	Good	Downstream	No foam observed	No foam observed	No foam collected	--
							Total:	**361.5**	

Notes:
Booms were deployed at Ditch B on 3/12/24.
Booms were removed at Ditch B on 12/2/234due to the onset of freezing conditions.
Foam volumes are approximate based on the visual observation at the time of collection
Bold = Foam Observed

Table 3
Ditch C (East Branch) Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

Ditch C (East Branch)									
	Weather Conditions			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
3/12/2024	0	8	South-Southwest	New	No flow observed	No foam observed	No foam observed	No foam collected	Booms deployed
3/15/2024	0	0	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/8/2024	0	5	Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/15/2024	0	2	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/30/2024	0	6	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/6/2024	0	4	East-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/16/2024	0	5	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/21/2024	0.58	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/7/2024	0	10	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/10/2024	0	7	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/24/2024	0.01	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/2/2024	0.56	3	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/10/2024	0	6	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	Fair	No flow observed	No foam observed	No foam observed	No foam collected	--
11/25/2024	0.06	7	North	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
							Total:	**0**	

Notes:
Booms were deployed at Ditch C on 3/12/24.
Booms were removed at Ditch C on 11/26/24 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 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
3/12/2024	0	8	South-Southwest	New	No flow observed	No foam observed	No foam observed	No foam collected	Booms deployed
3/15/2024	0	0	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/8/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/15/2024	0	2	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/30/2024	0	6	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/6/2024	0	4	East-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/16/2024	0	5	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/21/2024	0.58	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/7/2024	0	10	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/10/2024	0	7	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/24/2024	0.01	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/2/2024	0.56	3	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/10/2024	0	6	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	Fair	No flow observed	No foam observed	No foam observed	No foam collected	--
11/25/2024	0.06	7	North	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
							Total:	**0**	

Notes:
Booms were deployed at Ditch C on 3/12/24.
Booms were removed at Ditch C on 11/26/24 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 5
Ditch D Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

Ditch D									
	Weather Conditions			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
3/12/2024	0	8	South-Southwest	New	Downstream	No foam observed	No foam observed	No foam collected	Booms deployed
3/15/2024	0	0	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/8/2024	0	5	Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/15/2024	0	2	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/30/2024	0	6	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
5/6/2024	0	4	East-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
5/16/2024	0	5	South	Good	Downstream	No foam observed	No foam observed	No foam collected	--
5/21/2024	0.58	2	East-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/7/2024	0	10	West	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/10/2024	0	7	North-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/24/2024	0.01	2	East-Northeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/2/2024	0.56	3	South	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/10/2024	0	6	Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	New	No flow observed	No foam observed	No foam observed	No foam collected	Boom replaced
11/25/2024	0.06	7	North	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
							Total:	**0**	

Notes:
Booms were deployed at Ditch D on 3/12/24.
Booms were removed at Ditch D on 11/26/24 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 6
Ditch E Inspection Summary
Tyco Fire Products LP
Marinette, Wisconsin

ARCADIS

Ditch E									
	Weather Conditions			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
3/12/2024	0	8	South-Southwest	New	Downstream	No foam observed	No foam observed	No foam collected	Booms deployed
3/15/2024	0	0	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/18/2024	0	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
3/25/2024	0	5	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
4/5/2024	0	0	None	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/8/2024	0	5	Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/15/2024	0	2	South-Southeast	Good	Downstream	No foam observed	No foam observed	No foam collected	--
4/30/2024	0	6	Southwest	Good	Downstream	No foam observed	No foam observed	No foam collected	--
5/6/2024	0	4	East-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/16/2024	0	5	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
5/21/2024	0.58	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/7/2024	0	10	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/10/2024	0	7	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/21/2024	0	1	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
6/24/2024	0.01	2	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/2/2024	0.56	3	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/10/2024	0	6	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/15/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/24/2024	0	1	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
7/31/2024	0	4	East-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/5/2024	0.3	3	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/13/2024	0	3	Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/19/2024	0	6	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
8/28/2024	0	6	Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/3/2024	0	4	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/10/2024	0.03	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/18/2024	0.01	0	South-Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/25/2024	0.01	7	Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
9/30/2024	0	0	North-Northeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/7/2024	0	4	West	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/16/2024	0	2	West-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/24/2024	0	5	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
10/28/2024	0	5	Southeast	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/4/2024	0.15	3	South-Southwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/11/2024	0	14	North-Northwest	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/19/2024	0.44	14	South	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
11/25/2024	0.06	7	North	Good	No flow observed	No foam observed	No foam observed	No foam collected	--
							Total:	**0**	

Notes:
Booms were deployed at Ditch E on 3/12/24.
Booms were removed at Ditch E on 11/26/24 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 FOAM (6-11-24)	COLLAPSED SW FOAM (8-15-24)
	Sample Date	6/11/2024	8/15/2024
Per- and Polyfluoroalkyl Substances	Units		
PFBA	ng/L	190	89
PFPeA	ng/L	330	380
PFHxA	ng/L	6,200 D	370
PFHpA	ng/L	510	200
PFOA	ng/L	92,000 D	1,800
PFNA	ng/L	92,000 D	3,300
PFDA	ng/L	9,700 D	580
PFUnA	ng/L	2,200	110
PFDoA	ng/L	170	< 20 U
PFTriA	ng/L	24	< 20 U
PFTeA	ng/L	< 200 U	< 20 U
PFHxDA	ng/L	< 200 U	< 20 U
PFODA	ng/L	< 200 U	< 20 U
PFBS	ng/L	< 20 U	4.2 J
PFPeS	ng/L	< 20 U	< 20 U
PFHxS	ng/L	720	42
PFHpS	ng/L	1500	25
PFOS	ng/L	230,000 D	11,000 D
PFNS	ng/L	30	< 20 U
PFDS	ng/L	89	< 20 U
PFDoS	ng/L	< 20 U	< 20 U
4:2 FTS	ng/L	38 J	< 20 U
6:2 FTS	ng/L	96,000 D	1,500
8:2 FTS	ng/L	210,000 D	11,000 D
10:2 FTS	ng/L	360	18 J
FOSA	ng/L	7,000 D	610
NMeFOSA	ng/L	9.4 J	< 20 U
NEtFOSA	ng/L	40	< 20 U
NMeFOSAA	ng/L	250	16 J
NEtFOSAA	ng/L	2,500	150
NMeFOSE	ng/L	< 40 U	< 40 U
NEtFOSE	ng/L	18 J	< 20 U
HFPO-DA	ng/L	< 40 U	< 40 U
DONA	ng/L	< 20 U	< 20 U
9Cl-PF3ONS	ng/L	< 20 U	< 20 U
11Cl-PF3OUdS	ng/L	< 20 U	< 20 U

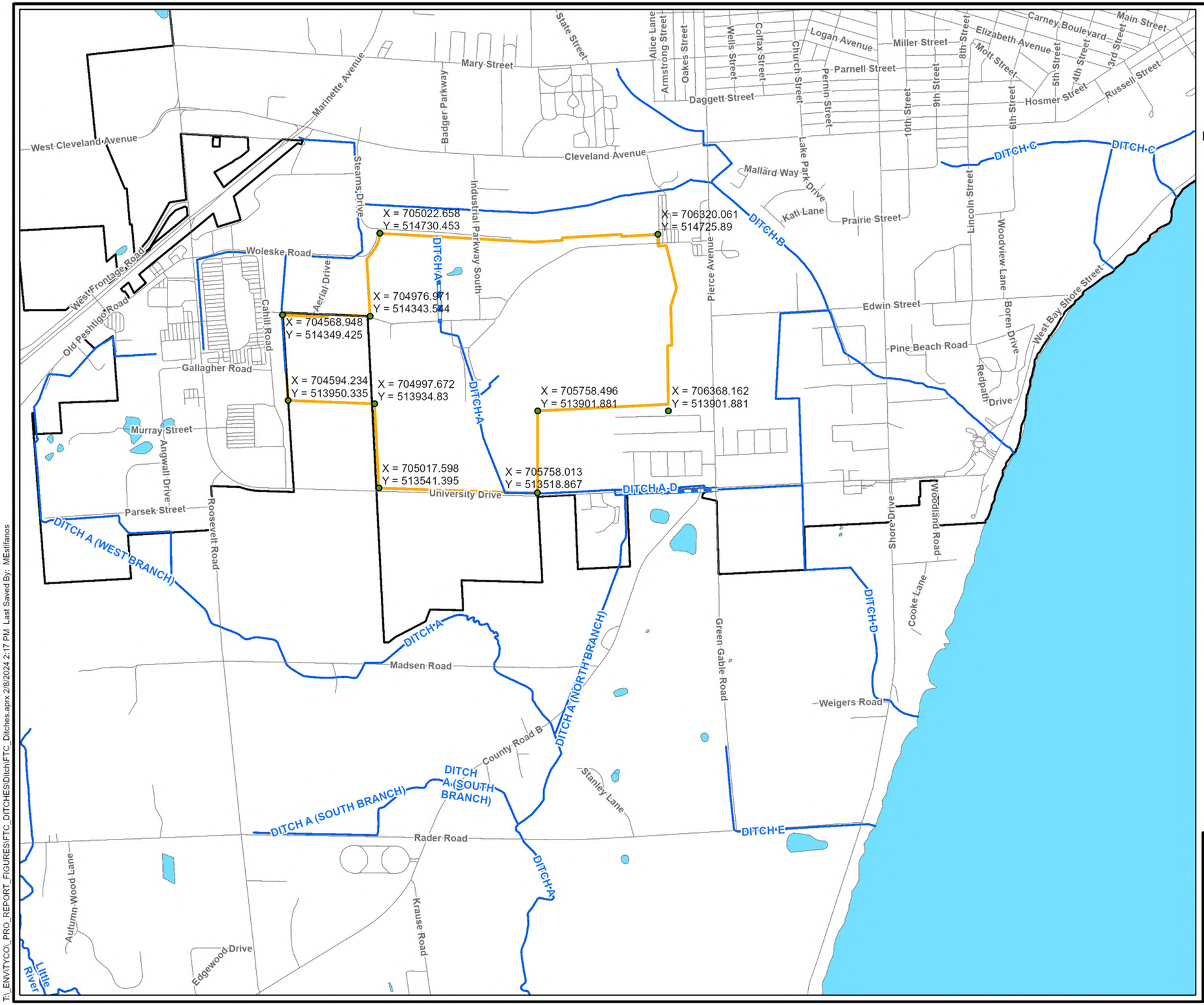
Notes:
< = Compound not detected at method detection limit
ng/L = Nanograms per liter

Data Qualifiers:
D = Dilution required for sample analysis
J = The result is an estimated quantity. The associated numberical value is the
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

Analyte Abbreviations:

PFBA	Perfluorobutanoic acid
PFPeA	Perfluoropentanoic acid
PFHxA	Perfluorohexanoic acid
PFHpA	Perfluoroheptanoic acid
PFOA	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFUnA	Perfluoroundecanoic acid
PFDoA	Perfluorododecanoic acid
PFTriA	Perfluorotridecanoic acid
PFTeA	Perfluorotetradecanoic acid
PFHxDA	Perfluorohexadecanoic acid
PFODA	Perfluorooctadecanoic acid
PFBS	Perfluorobutanesulfonic acid
PFPeS	Perfluoropentanesulfonic acid
PFHxS	Perfluorohexanesulfonic acid
PFHpS	Perfluoroheptanesulfonic acid
PFOS	Perfluorooctanesulfonic acid
PFNS	Perfluorononanesulfonic acid
PFDS	Perfluorodecanesulfonic acid
PFDoS	Perfluorododecanesulfonic acid
4:2 FTS	4:2 Fluorotelomer sulfonic acid
6:2 FTS	6:2 Fluorotelomer sulfonic acid
8:2 FTS	8:2 Fluorotelomer sulfonic acid
10:2 FTS	10:2 Fluorotelomer sulfonic acid
FOSA	Perfluorooctane sulfonamide
NMeFOSA	N-Methyl perfluorooctane sulfonamide
NEtFOSA	N-Ethyl perfluorooctane sulfonamide
NMeFOSAA	N-Methyl perfluorooctane sulfonamidoacetic acid
NEtFOSAA	N-Ethyl perfluorooctane sulfonamidoacetic acid
NMeFOSE	N-Methyl perfluorooctane sulfonamidoethanol
NEtFOSE	N-Ethyl perfluorooctane sulfonamidoethanol
HFPO-DA	Hexafluoropropylene oxide dimer acid
DONA	4,8-Dioxa-3H-perfluorononanoic acid
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid

Figures



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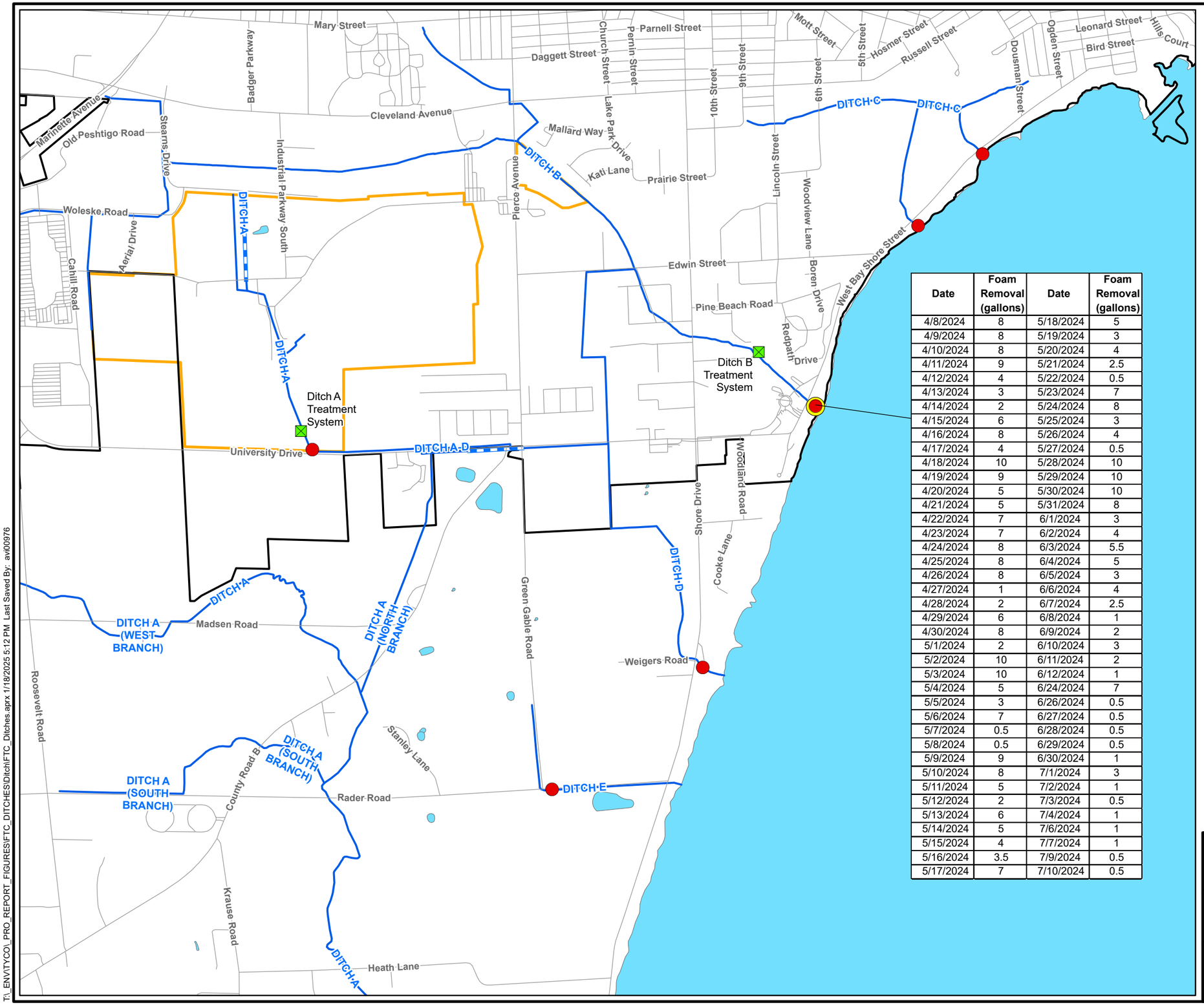
TYCO FIRE PRODUCTS LP
FIRE TECHNOLOGY CENTER
MARINETTE, WISCONSIN

SITE LOCATION MAP

ARCADIS

FIGURE
1



Date	Foam Removal (gallons)	Date	Foam Removal (gallons)
4/8/2024	8	5/18/2024	5
4/9/2024	8	5/19/2024	3
4/10/2024	8	5/20/2024	4
4/11/2024	9	5/21/2024	2.5
4/12/2024	4	5/22/2024	0.5
4/13/2024	3	5/23/2024	7
4/14/2024	2	5/24/2024	8
4/15/2024	6	5/25/2024	3
4/16/2024	8	5/26/2024	4
4/17/2024	4	5/27/2024	0.5
4/18/2024	10	5/28/2024	10
4/19/2024	9	5/29/2024	10
4/20/2024	5	5/30/2024	10
4/21/2024	5	5/31/2024	8
4/22/2024	7	6/1/2024	3
4/23/2024	7	6/2/2024	4
4/24/2024	8	6/3/2024	5.5
4/25/2024	8	6/4/2024	5
4/26/2024	8	6/5/2024	3
4/27/2024	1	6/6/2024	4
4/28/2024	2	6/7/2024	2.5
4/29/2024	6	6/8/2024	1
4/30/2024	8	6/9/2024	2
5/1/2024	2	6/10/2024	3
5/2/2024	10	6/11/2024	2
5/3/2024	10	6/12/2024	1
5/4/2024	5	6/24/2024	7
5/5/2024	3	6/26/2024	0.5
5/6/2024	7	6/27/2024	0.5
5/7/2024	0.5	6/28/2024	0.5
5/8/2024	0.5	6/29/2024	0.5
5/9/2024	9	6/30/2024	1
5/10/2024	8	7/1/2024	3
5/11/2024	5	7/2/2024	1
5/12/2024	2	7/3/2024	0.5
5/13/2024	6	7/4/2024	1
5/14/2024	5	7/6/2024	1
5/15/2024	4	7/7/2024	1
5/16/2024	3.5	7/9/2024	0.5
5/17/2024	7	7/10/2024	0.5

LEGEND:

- APPROXIMATE BOOM DEPLOYMENT LOCATIONS
- APPROXIMATE FOAM REMOVAL LOCATION
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- ROAD
- CULVERT
- DITCH OR STREAM
- WATERBODY
- SURFACE WATER TREATMENT SYSTEM

NOTES:

1. CITY BOUNDARY DATA SOURCE: WISCONSIN LEGISLATIVE TECHNOLOGY SERVICES BUREAU, WISCONSIN COUNTY CLERKS AND LAND INFORMATION OFFICES, ACCESSED FALL 2017.
2. DITCH/STREAM AND WATERBODY DATA SOURCE: U.S. GEOLOGICAL SURVEY NATIONAL HYDROGRAPHY DATASET, ACCESSED FALL 2017.
3. ROAD DATA SOURCE: OPEN STREET MAP, ACCESSED FALL 2017.
4. FOAM REMOVAL VOLUMES ARE APPROXIMATE BASED ON VISUAL OBSERVATION AT THE TIME OF COLLECTION.
5. BOOMS WERE DEPLOYED ON DITCHES A, B, C, D, AND E ON 3/12/24.
6. BOOMS WERE REMOVED FROM DITCHES A, C, D, AND E ON 11/26/24. BOOMS WERE REMOVED FROM DITCH B ON 12/2/24.

0 1,500 3,000

GRAPHIC SCALE IN FEET

TYCO FIRE PRODUCTS LP
MARINETTE, WISCONSIN

BOOM DEPLOYMENT AND FOAM REMOVAL LOCATIONS

ARCADIS

FIGURE 2

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Attachment 1

Foam Observation Photo Log

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 1

Date: 4/8/2024

Weather: Partly cloudy, 5 mph wind (SE), No precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 2

Date: 4/9/2024

Weather: Cloudy, No wind, No precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 3

Date: 4/10/2024

Weather: Sunny, 4 mph wind (SW), No precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 4

Date: 4/11/2024

Weather: Cloudy, No wind, No precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 9 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 5

Date: 4/12/2024

Weather: Partly cloudy, 12 mph wind (NNW), No precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 6

Date: 4/13/2024

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

Foam Description: Tan, some froth

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 7

Date: 4/14/2024

Weather: Partly cloudy, 1 mph wind (NNE), No precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 8

Date: 4/15/2024

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

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 6 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 9

Date: 4/16/2024

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

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 10

Date: 4/17/2024

Weather: Cloudy, 6 mph wind (ENE), 0.33 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 11

Date: 4/18/2024

Weather: Cloudy, 3 mph wind (SW), 0.77 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 12

Date: 4/19/2024

Weather: Sunny, 22 mph wind (W), No precipitation

Foam Description: Brown, Some froth

Uncollapsed Foam Volume Collected: 9 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 13

Date: 4/20/2024

Weather: Cloudy, 13 mph wind (WNW), No precipitation

Foam Description: Tan, some froth

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 14

Date: 4/21/2024

Weather: Cloudy, 13 mph wind (W), No precipitation

Foam Description: Tan, some froth

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 15

Date: 4/22/2024

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

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 16

Date: 4/23/2024

Weather: Partly Cloudy, 4 mph wind (WSW), No precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 17

Date: 4/24/2024

Weather: Mostly clear, 8 mph wind (NE), 0.15 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 18

Date: 4/25/2024

Weather: Mostly cloudy, 0 mph wind, 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 19

Date: 4/26/2024

Weather: Cloudy, 5 mph wind (ESE), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 20

Date: 4/27/2024

Weather: Mostly clear, 4 mph wind (SE), 0.52 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 21

Date: 4/28/2024

Weather: Cloudy, 8 mph wind (NE), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 22

Date: 4/29/2024

Weather: Cloudy, 4 mph wind (NNE), 0.57 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 6 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 23

Date: 4/30/2024

Weather: Mostly cloudy, 6 mph wind (SW), 0.21 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 24

Date: 5/1/2024

Weather: Mostly cloudy, 9 mph wind (WSW), 0 in precipitation

Foam Description: White, little froth

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 25

Date: 5/2/2024

Weather: Overcast, 3 mph wind (NE), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 26

Date: 5/3/2024

Weather: Passing clouds, 3 mph wind (W), 0.05 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 27

Date: 5/4/2024

Weather: Scattered clouds, 3 mph wind (SE), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 28

Date: 5/5/2024

Weather: Overcast, 6 mph wind (ESE), 0.08 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 29

Date: 5/6/2024

Weather: Partly sunny, 4 mph wind (ESE), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 30

Date: 5/7/2024

Weather: Party cloudy, 5 mph wind (SE), 0 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 31

Date: 5/8/2024

Weather: Mostly sunny, 6 mph wind (NNE), 1.3 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 32

Date: 5/9/2024

Weather: Cloudy, 5 mph wind (ENE), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 9 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 33

Date: 5/10/2024

Weather: Mostly sunny, 2 mph wind (N), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 34

Date: 5/11/2024

Weather: Mostly sunny, 5 mph wind (NNW), 0.1 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 35

Date: 5/12/2024

Weather: Mostly sunny, 8 mph wind (NNW), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 36

Date: 5/13/2024

Weather: Mostly sunny, 5 mph wind (NE), 0.13 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 6 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 37

Date: 5/14/2024

Weather: Sunny, 8 mph wind (NNE), 0 in precipitation

Foam Description: Tan, some froth

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 38

Date: 5/15/2024

Weather: Sunny, 4 mph wind (NE), 0 in precipitation

Foam Description: Brown, some froth

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 39

Date: 5/16/2024

Weather: Foggy, 5 mph wind (S), 0.63 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 3.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 40

Date: 5/17/2024

Weather: Foggy, 5 mph wind (ENE), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 41

Date: 5/18/2024

Weather: Mostly sunny, 7 mph wind (S), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 42

Date: 5/19/2024

Weather: Mostly sunny, 6 mph wind (SE), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 43

Date: 5/20/2024

Weather: Scattered shower, 2 mph wind (N), 0.11 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 44

Date: 5/21/2024

Weather: Foggy, 2 mph wind (ENE), 0.58 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 2.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 45

Date: 5/22/2024

Weather: Cloudy, 7 mph wind (WSW), 0.12 in precipitation

Foam Description: White, little froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 46

Date: 5/23/2024

Weather: Mostly sunny, 4 mph wind (WSW), 0.04 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 47

Date: 5/24/2024

Weather: Mostly sunny, 6 mph wind (ENE), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 48

Date: 5/25/2024

Weather: Mostly sunny, 9 mph wind (SSE), 0.1 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 49

Date: 5/26/2024

Weather: Scattered showers, 10 mph wind (SSE), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 50

Date: 5/27/2024

Weather: Cloudy, 13 mph wind (NNW), 1.46 in precipitation

Foam Description: White, little froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 51

Date: 5/28/2024

Weather: Cloudy, 5 mph wind (NW), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 52

Date: 5/29/2024

Weather: Mostly sunny, 6 mph wind (NNE), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 53

Date: 5/30/2024

Weather: Mostly sunny, 3 mph wind (ENE), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 10 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 54

Date: 5/31/2024

Weather: Cloudy, 6 mph wind (NW), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 8 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 55

Date: 6/01/2024

Weather: Cloudy, 4 mph wind (SSW), 0.03 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 56

Date: 6/02/2024

Weather: Cloudy, 3 mph wind (S), 0 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 57

Date: 6/03/2024

Weather: Cloudy, 6 mph wind (SSE), 0.37 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 5.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 58

Date: 6/4/2024

Weather: Mostly sunny, 1 mph wind (SSW), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 59

Date: 6/5/2024

Weather: Cloudy, 2 mph wind (SSW), 0.15 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 60

Date: 6/6/2024

Weather: Cloudy, 5 mph wind (WNW), 0.1 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 4 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 61

Date: 6/7/2024

Weather: Cloudy, 10 mph wind (W), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 2.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 62

Date: 6/8/2024

Weather: Scattered showers, 0 mph wind, 0.19 in precipitation

Foam Description: Tan, frothy

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 63

Date: 6/9/2024

Weather: Cloudy, 6 mph wind (NNW), 0.01 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 64

Date: 6/10/2024

Weather: Mostly sunny, 7 mph wind (NNE), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 65

Date: 6/11/2024

Weather: Mostly sunny, 2 mph wind (S), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 2 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 66

Date: 6/12/2024

Weather: Mostly sunny, 2 mph wind (SW), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 67

Date: 6/24/2024

Weather: Mostly sunny, 2 mph wind (ENE), 0.01 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 7 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 68

Date: 6/26/2024

Weather: Mostly sunny, 3 mph wind (NE), 0 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 69

Date: 6/27/2024

Weather: Mostly sunny, 2 mph wind (NW), 0.01 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 70

Date: 6/28/2024

Weather: Cloudy, 2 mph wind (SW), 0.21 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 71

Date: 6/29/2024

Weather: Cloudy, 2 mph wind (W), 0.43 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 72

Date: 6/30/2024

Weather: Mostly sunny, 9 mph wind (NNW), 0 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 73

Date: 7/1/2024

Weather: Mostly sunny, 3 mph wind (WNW), 0 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 3 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 74

Date: 7/2/2024

Weather: Scattered showers, 3 mph wind (S), 0.56 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 75

Date: 7/3/2024

Weather: Cloudy, 3 mph wind (SW), 0.14 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 76

Date: 7/4/2024

Weather: Mostly sunny, 2 mph wind (WNW), 0.04 in precipitation

Foam Description: White, frothy

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 77

Date: 7/6/2024

Weather: Mostly sunny, 2 mph wind (W), 0.01 in precipitation

Foam Description: Brown, some froth

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 78

Date: 7/7/2024

Weather: Mostly sunny, 3 mph wind (S), 0 in precipitation

Foam Description: Brown, some froth

Uncollapsed Foam Volume Collected: 1 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph Log

Tyco Fire Products LP
Marinette, Wisconsin

Photograph: 79

Date: 7/9/2024

Weather: Mostly sunny, 3 mph wind (WNW), 0.01 in precipitation

Foam Description: White, some froth

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Photograph: 80

Date: 7/10/2024

Weather: Mostly sunny, 6 mph wind (NW), 0 in precipitation

Foam Description: Brown, frothy

Uncollapsed Foam Volume Collected: 0.5 gal

Location: Ditch B. West Bay Shore Street crossing

Attachment 2

Transportation and Disposal Documentation

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
WIT560011850	1	(800)-424-9300	W026-001-24-07

GENERATOR

5. Generator's Name and Mailing Address
JCI/Tyco
1 Stanton Street
Marinette WI 54143
Generator's Phone: 715 753-7411 Ext. 84025

Att: Ryan Suennen
Generator's Site Address (if different than mailing address)
JCI/Tyco
2700 Industrial Parkway S
Marinette WI 54143

6. Transporter 1 Company Name: Endpoint Waste Solutions Corp. — U.S. EPA ID Number: WIR000182972

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Endpoint Waste Solutions Corp.
S83 W18761 Saturn Drive
Muskego WI 53150
Facility's Phone: 414 858-2104
U.S. EPA ID Number: License 4959

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-RCRA, Non-DOT	0021	DF	6300	P	
2.	Non-RCRA, Non-DOT	0003	DM	1200	P	
3.	Non-RCRA, Non-DOT	0001	DM	1800	P	
4.	Non-RCRA, Non-DOT	0001	DF	200	P	

13. Special Handling Instructions and Additional Information
1. Jute Filters and AFF Foam Profile# 05162022TIP-03-SH
2. Waste Flux Profile# 05162022TIP-04-SW
3. Steel Shot for Recycling Profile# 05162022TIP-02-RCY
4. PPE IDW Waste

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: x Tim Hanson — Signature: x [signature] — Month 6 Day 4 Year 24

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steven Backstell — Signature: [signature] — Month 6 Day 4 Year 24

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☒ Quantity ☒ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Line #1 should read 20 DF as 1-DF Contained Skimmed Surface Water/Foam Profile#05162022TIP-0 Manifest Reference Number: W026-001-24-07

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Kristen M. Bangert — Signature: [signature] — Month 06 Day 05 Year 24

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number	20. Page	21. Waste Tracking Number
	WIT560011850	2	W026-001-24-07

22. Generator's Name: JCI/Tyco
2700 Industrial Parkway S Marinette, WI 54143

23. Transporter _____ Company Name: Endpoint Waste Solutions Corp U.S. EPA ID Number: WIR000182972

24. Transporter _____ Company Name U.S. EPA ID Number:

	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	
5.	Non-RCRA, non-DOT RCRA Empty Drum	0006	DF	120	P	
6.	Non-RCRA, non-DOT RCRA Empty Tote	0006	TP	900	P	

GENERATOR

29. Special Handling Instructions and Additional Information
5. RCRA Empty Drum
6. RCRA Empty Tote

TRANSPORTER

30. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

31. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

32. Discrepancy

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
WIT560011850	1	(800)-424-9300	W026-001-24-12

GENERATOR

5. Generator's Name and Mailing Address
JCI/Tyco
1 Stanton Street
Marinette WI 54143
Att: Ryan Suennen
Generator's Phone: 715 753-7411 Ext. 84025

Generator's Site Address (if different than mailing address)
JCI/Tyco
2700 Industrial Parkway S
Marinette WI 54143

6. Transporter 1 Company Name: Endpoint Waste Solutions Corp.
U.S. EPA ID Number: WIR000182972

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Endpoint Waste Solutions Corp.
S83W18761 Saturn Drive
Muskego WI 53150
Facility's Phone: 414 858-2104
U.S. EPA ID Number: License 4959

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-RCRA, Non-DOT	0046	DF	2530	G	
2.	Non-RCRA, Non-DOT	0007	DM	5600	P	
3.	Non-RCRA, Non-DOT	0001	DM	250	P	
4.	Non-RCRA, Non-DOT	0001	DF	100	P	

13. Special Handling Instructions and Additional Information
1. Bag Filters, Jute Filter, BoomsProfile# 05162022TIP-03
2. Waste Flux Profile# 05162022TIP-04
3. Bag House Dust Profile# 05162022TIP-05
4. Skimmed Surface Water Foam Profile# 05162022TIP-01

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jacob Naminger
Signature:
Month: 08 Day: 28 Year: 24

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: XAVIER MILLER
Signature:
Month: 08 Day: 28 Year: 24

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Kristen M. Bangert
Signature: Kristen M. Bangert
Month: 08 Day: 28 Year: 24

169-BLC-O 6 10498 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

S14113

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
License 4959	1	262 339-8762	598-2024-20-08

GENERATOR

5. Generator's Name and Mailing Address
Endpoint Waste Solutions Corp.
S83 W18761 Saturn Drive
Muskego WI 53150
Generator's Phone: 414 858-2104

Att: Fred Ringle

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Ziron Environmental Services Inc.
U.S. EPA ID Number: ILR000107581

7. Transporter 2 Company Name
CN Railway
U.S. EPA ID Number: ILR000180109

8. Designated Facility Name and Site Address
Chemical Waste Management, Inc.
17629 Cedar Springs Lane
Arlington OR 97812-9709
Facility's Phone: 541 454-2643
U.S. EPA ID Number: ORD089452353

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non-RCRA, Non-DOT	0038	CF	21,427	P
2. ~~Non-RCRA, Non-DOT~~	0000	CF	0000	P
3. Non-RCRA, Non-DOT	0001	DM	0055	G
4.				

13. Special Handling Instructions and Additional Information
1. Spent Bag Filters, Jute Netting & Boom Contaminated with PFAS Profile# OR349641
~~2. PFAS Impacted PPE/Equipment Profile# OR349642~~
3. Surface Water Foam Profile# 349686 481 lbs
Box# WMX4980309 DTX 78112 E

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Fred J Ringle
Signature: Fred J Ringle
Month 10 Day 07 Year 24

INT'L

15. International Shipments ☑ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jon Snow
Signature:
Month 10 Day 7 Year 24
Transporter 2 Printed/Typed Name: SARA WOLDSMICHAEL FOR CN
Signature:
Month 12 Day 18 Year 24

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a
Printed/Typed Name: Dawn Dunlap
Signature:
Month 1 Day 23 Year 25
DMP 1/23/25

169-BLC-O 6 10498 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

514113

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number	20. Page 2 of 2	21. Waste Tracking Number 598-2024-20-08

22. Generator's Name: GridPoint Waste Solutions Corp

23. Transporter 3 Company Name: BNSF Railway — U.S. EPA ID Number: MND048341788

24. Transporter 4 Company Name: UPRR — U.S. EPA ID Number: NED001792910

25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.

29. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

30. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		12	29	24

31. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		1	7	25

DESIGNATED FACILITY

32. Discrepancy

514113

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number	20. Page 3 of 3	21. Waste Tracking Number 598-2024-20-08

22. Generator's Name: Endpoint Waste Solutions Corp

23. Transporter 5 Company Name: PCC — U.S. EPA ID Number: ORQ000041180

24. Transporter ____ Company Name: ____ — U.S. EPA ID Number: ____

GENERATOR

	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	

29. Special Handling Instructions and Additional Information

TRANSPORTER

30. Transporter 5 Acknowledgment of Receipt of Materials

Printed/Typed Name: SAM WILDAMICHAEL FOR PCC — Signature: [signature] — Month: 1 Day: 10 Year: 25

31. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name: ____ — Signature: ____ — Month: ____ Day: ____ Year: ____

DESIGNATED FACILITY

32. Discrepancy

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

DESIGNATED FACILITY TO GENERATOR

Attachment 3

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Lisa Rutkowski
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Generated 6/28/2024 2:08:57 PM

JOB DESCRIPTION

Marinette, WI 30171092.4.1.3 Collapsed Foam

JOB NUMBER

500-251941-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Compliance Statement

The LOD and LOQ reported are adjusted by the dilution factor when a dilution factor greater than 1 is needed. Additionally, where results are indicated as being reported on a dry weight basis, the LOD and LOQ are adjusted for moisture content as well.

Definitions of Limits
- LOD = Limit of Detection = MDL as defined by 40 CFR part 136 Appendix B
- LOQ = Limit of Quantitation = 3.33 x LOD as defined by Wisconsin
- RL = Report Limit = a concentration supported by a standard in the calibration curves

Authorization

Generated
6/28/2024 2:08:57 PM

Authorized for release by
Sandie Fredrick, Senior Project Manager
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(920)261-1660

Table of Contents

Job ID: 500-251941-1 Eurofins Chicago

Job Narrative
500-251941-1

Receipt
The sample was received on 6/12/2024 9:30 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 1.3º C.

Receipt Exceptions
The Chain-of-Custody (COC) was improperly completed. Per client, sample ID should be COLLAPSED SW FOAM (6-11-24). Sample was recorded on COC as COLLAPSED SW FOAM (061124). Logged per client instruction.

LCMS
Method 537 (modified): The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: COLLAPSED SW FOAM (6-11-24) (500-251941-1). 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): Results for sample COLLAPSED SW FOAM (6-11-24) (500-251941-1) 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 102% after the dilution factor was applied to the labeled internal standard area count.

Method 537 (modified): The concentration of one or more analyte associated with the following samples exceeded the instrument calibration range: COLLAPSED SW FOAM (6-11-24) (500-251941-1). 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): Results for sample COLLAPSED SW FOAM (6-11-24) (500-251941-1) were reported from the analysis of a diluted extract due to high concentration of the matrix 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 10X analysis is 85% after the dilution factor was applied to the labeled internal standard area count.

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

Organic Prep
Method 3535: Due to the matrix, the initial volume used for the following sample deviated from the standard procedure: COLLAPSED SW FOAM (6-11-24) (500-251941-1). A 10x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately.

Method 3535: The following sample was black in color and foamy prior to the solid-phase extraction: COLLAPSED SW FOAM (6-11-24) (500-251941-1). The foam did not stabilized for a long period of time.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-771685.

Method 3535: During the solid phase extraction process, the following sample contained non-settable particulates which clogged the solid phase extraction column: COLLAPSED SW FOAM (6-11-24) (500-251941-1).

Method 3535: The following samples in preparation batch 320-771685 were yellow in color following extraction. COLLAPSED SW FOAM (6-11-24) (500-251941-1)

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-773461.

Method 3535: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: COLLAPSED SW FOAM (6-11-24) (500-251941-1). A 100x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately.

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.
Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

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

Sample Summary

Client: Arcadis U.S., Inc.
Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-251941-1	COLLAPSED SW FOAM (6-11-24)	Water	06/11/24 09:45	06/12/24 09:30

Client Sample ID: COLLAPSED SW FOAM (6-11-24)
Lab Sample ID: 500-251941-1

Date Collected: 06/11/24 09:45
Matrix: Water
Date Received: 06/12/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**190**		50	24	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluoropentanoic acid (PFPeA)	**330**		20	4.9	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorohexanoic acid (PFHxA)	**5500**	**E**	20	5.8	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluoroheptanoic acid (PFHpA)	**510**		20	2.5	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorooctanoic acid (PFOA)	**67000**	**E**	20	8.5	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorononanoic acid (PFNA)	**76000**	**E**	20	2.7	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorodecanoic acid (PFDA)	**13000**	**E**	20	3.1	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluoroundecanoic acid (PFUnA)	**2200**		20	11	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorododecanoic acid (PFDoA)	**170**		20	5.5	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorotridecanoic acid (PFTriA)	**24**		20	13	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorobutanesulfonic acid (PFBS)	<20		20	2.0	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluoropentanesulfonic acid (PFPeS)	<20		20	3.0	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorohexanesulfonic acid (PFHxS)	**720**		20	5.7	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluoroheptanesulfonic acid (PFHpS)	**1500**		20	1.9	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorooctanesulfonic acid (PFOS)	**300000**	**E**	20	5.4	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorononanesulfonic acid (PFNS)	**30**		20	3.7	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorodecanesulfonic acid (PFDS)	**89**		20	3.2	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.7	ng/L		06/13/24 05:01	06/14/24 02:54	1
Perfluorooctanesulfonamide (FOSA)	**8100**	**E**	20	9.8	ng/L		06/13/24 05:01	06/14/24 02:54	1
NEtFOSA	**40**		20	8.7	ng/L		06/13/24 05:01	06/14/24 02:54	1
NMeFOSA	**9.4**	**J**	20	4.3	ng/L		06/13/24 05:01	06/14/24 02:54	1
NMeFOSAA	**250**		50	12	ng/L		06/13/24 05:01	06/14/24 02:54	1
NEtFOSAA	**2500**		50	13	ng/L		06/13/24 05:01	06/14/24 02:54	1
NMeFOSE	<40		40	14	ng/L		06/13/24 05:01	06/14/24 02:54	1
NEtFOSE	**18**	**J**	20	8.5	ng/L		06/13/24 05:01	06/14/24 02:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<20		20	4.0	ng/L		06/13/24 05:01	06/14/24 02:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<40		40	15	ng/L		06/13/24 05:01	06/14/24 02:54	1
F-53B Major	<20		20	2.4	ng/L		06/13/24 05:01	06/14/24 02:54	1
F-53B Minor	<20		20	3.2	ng/L		06/13/24 05:01	06/14/24 02:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C5 PFPeA	*125*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C2 PFHxA	*146*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C4 PFHpA	*141*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C4 PFOA	*88*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C5 PFNA	*62*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C2 PFDA	*71*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C2 PFUnA	*91*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C2 PFDoA	*59*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C3 PFBS	*141*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*

Client Sample ID: COLLAPSED SW FOAM (6-11-24)
Lab Sample ID: 500-251941-1

Date Collected: 06/11/24 09:45
Matrix: Water
Date Received: 06/12/24 09:30

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*137*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C4 PFOS	*60*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C8 FOSA	*63*		*10 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d3-NMeFOSAA	*56*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d5-NEtFOSAA	*70*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d-N-MeFOSA-M	*69*		*10 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d-N-EtFOSA-M	*62*		*10 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d7-N-MeFOSE-M	*78*		*10 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
d9-N-EtFOSE-M	*81*		*10 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*
13C3 HFPO-DA	*148*		*25 - 150*	*06/13/24 05:01*	*06/14/24 02:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5000		5000	2400	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluoropentanoic acid (PFPeA)	<2000		2000	490	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorohexanoic acid (PFHxA)	**6200**		2000	580	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluoroheptanoic acid (PFHpA)	**430**	**J**	2000	250	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorooctanoic acid (PFOA)	**92000**		2000	850	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorononanoic acid (PFNA)	**92000**		2000	270	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorodecanoic acid (PFDA)	**9700**		2000	310	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluoroundecanoic acid (PFUnA)	**1900**	**J**	2000	1100	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorododecanoic acid (PFDoA)	<2000		2000	550	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorotridecanoic acid (PFTriA)	<2000		2000	1300	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorobutanesulfonic acid (PFBS)	<2000		2000	200	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluoropentanesulfonic acid (PFPeS)	<2000		2000	300	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorohexanesulfonic acid (PFHxS)	**650**	**J**	2000	570	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluoroheptanesulfonic acid (PFHpS)	<2000		2000	190	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorooctanesulfonic acid (PFOS)	**230000**		2000	540	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorononanesulfonic acid (PFNS)	<2000		2000	370	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorodecanesulfonic acid (PFDS)	<2000		2000	320	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorododecanesulfonic acid (PFDoS)	<2000		2000	970	ng/L		06/13/24 05:01	06/14/24 21:30	100
Perfluorooctanesulfonamide (FOSA)	**7000**		2000	980	ng/L		06/13/24 05:01	06/14/24 21:30	100
NEtFOSA	<2000		2000	870	ng/L		06/13/24 05:01	06/14/24 21:30	100
NMeFOSA	<2000		2000	430	ng/L		06/13/24 05:01	06/14/24 21:30	100
NMeFOSAA	<5000		5000	1200	ng/L		06/13/24 05:01	06/14/24 21:30	100
NEtFOSAA	**2300**	**J**	5000	1300	ng/L		06/13/24 05:01	06/14/24 21:30	100
NMeFOSE	<4000		4000	1400	ng/L		06/13/24 05:01	06/14/24 21:30	100
NEtFOSE	<2000		2000	850	ng/L		06/13/24 05:01	06/14/24 21:30	100
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2000		2000	400	ng/L		06/13/24 05:01	06/14/24 21:30	100
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4000		4000	1500	ng/L		06/13/24 05:01	06/14/24 21:30	100
F-53B Major	<2000		2000	240	ng/L		06/13/24 05:01	06/14/24 21:30	100
F-53B Minor	<2000		2000	320	ng/L		06/13/24 05:01	06/14/24 21:30	100

Client Sample ID: COLLAPSED SW FOAM (6-11-24)
Lab Sample ID: 500-251941-1

Date Collected: 06/11/24 09:45
Matrix: Water
Date Received: 06/12/24 09:30

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C5 PFPeA	*100*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C2 PFHxA	*89*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C4 PFHpA	*87*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C4 PFOA	*86*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C5 PFNA	*87*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C2 PFDA	*77*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C2 PFUnA	*63*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C2 PFDoA	*55*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C3 PFBS	*104*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
18O2 PFHxS	*98*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C4 PFOS	*91*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C8 FOSA	*93*		*10 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d3-NMeFOSAA	*66*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d5-NEtFOSAA	*75*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d-N-MeFOSA-M	*48*		*10 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d-N-EtFOSA-M	*33*		*10 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d7-N-MeFOSE-M	*76*		*10 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
d9-N-EtFOSE-M	*41*		*10 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*
13C3 HFPO-DA	*72*		*25 - 150*	*06/13/24 05:01*	*06/14/24 21:30*	*100*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	<200		200	73	ng/L		06/20/24 12:33	06/23/24 14:15	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<200		200	89	ng/L		06/20/24 12:33	06/23/24 14:15	1
Perfluoro-n-octadecanoic acid (PFODA)	<200		200	94	ng/L		06/20/24 12:33	06/23/24 14:15	1
4:2 FTS	**38**	**J**	200	24	ng/L		06/20/24 12:33	06/23/24 14:15	1
6:2 FTS	**94000**	**E**	500	250	ng/L		06/20/24 12:33	06/23/24 14:15	1
8:2 FTS	**150000**	**E**	200	46	ng/L		06/20/24 12:33	06/23/24 14:15	1
10:2 FTS	**360**		200	67	ng/L		06/20/24 12:33	06/23/24 14:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*72*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*
13C2 PFHxDA	*58*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*
M2-4:2 FTS	*139*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*
M2-6:2 FTS	*104*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*
M2-8:2 FTS	*104*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*
13C2 10:2 FTS	*111*		*25 - 150*	*06/20/24 12:33*	*06/23/24 14:15*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - REDL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	<2000		2000	730	ng/L		06/20/24 12:33	06/23/24 13:55	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2000		2000	890	ng/L		06/20/24 12:33	06/23/24 13:55	10
Perfluoro-n-octadecanoic acid (PFODA)	<2000		2000	940	ng/L		06/20/24 12:33	06/23/24 13:55	10
4:2 FTS	<2000		2000	240	ng/L		06/20/24 12:33	06/23/24 13:55	10
6:2 FTS	**96000**		5000	2500	ng/L		06/20/24 12:33	06/23/24 13:55	10
8:2 FTS	**210000**		2000	460	ng/L		06/20/24 12:33	06/23/24 13:55	10
10:2 FTS	<2000		2000	670	ng/L		06/20/24 12:33	06/23/24 13:55	10

Client Sample ID: COLLAPSED SW FOAM (6-11-24)
Lab Sample ID: 500-251941-1

Date Collected: 06/11/24 09:45
Matrix: Water
Date Received: 06/12/24 09:30

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	73		25 - 150	06/20/24 12:33	06/23/24 13:55	10
13C2 PFHxDA	57		25 - 150	06/20/24 12:33	06/23/24 13:55	10
M2-4:2 FTS	114		25 - 150	06/20/24 12:33	06/23/24 13:55	10
M2-6:2 FTS	120		25 - 150	06/20/24 12:33	06/23/24 13:55	10
M2-8:2 FTS	132		25 - 150	06/20/24 12:33	06/23/24 13:55	10
13C2 10:2 FTS	93		25 - 150	06/20/24 12:33	06/23/24 13:55	10

Definitions/Glossary

Client: Arcadis U.S., Inc. Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

Qualifiers

LCMS

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

Glossary

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

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-771685/1-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 771685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	0.19	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		06/13/24 05:01	06/13/24 23:46	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		06/13/24 05:01	06/13/24 23:46	1
NEtFOSA	<2.0		2.0	0.87	ng/L		06/13/24 05:01	06/13/24 23:46	1
NMeFOSA	<2.0		2.0	0.43	ng/L		06/13/24 05:01	06/13/24 23:46	1
NMeFOSAA	<5.0		5.0	1.2	ng/L		06/13/24 05:01	06/13/24 23:46	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		06/13/24 05:01	06/13/24 23:46	1
NMeFOSE	<4.0		4.0	1.4	ng/L		06/13/24 05:01	06/13/24 23:46	1
NEtFOSE	<2.0		2.0	0.85	ng/L		06/13/24 05:01	06/13/24 23:46	1
4:2 FTS	<2.0		2.0	0.24	ng/L		06/13/24 05:01	06/13/24 23:46	1
6:2 FTS	<5.0		5.0	2.5	ng/L		06/13/24 05:01	06/13/24 23:46	1
8:2 FTS	<2.0		2.0	0.46	ng/L		06/13/24 05:01	06/13/24 23:46	1
10:2 FTS	<2.0		2.0	0.67	ng/L		06/13/24 05:01	06/13/24 23:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	0.40	ng/L		06/13/24 05:01	06/13/24 23:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4.0		4.0	1.5	ng/L		06/13/24 05:01	06/13/24 23:46	1
F-53B Major	<2.0		2.0	0.24	ng/L		06/13/24 05:01	06/13/24 23:46	1
F-53B Minor	<2.0		2.0	0.32	ng/L		06/13/24 05:01	06/13/24 23:46	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*06/13/24 05:01*	*06/13/24 23:46*	*1*
13C5 PFPeA	*101*		*25 - 150*	*06/13/24 05:01*	*06/13/24 23:46*	*1*
13C2 PFHxA	*97*		*25 - 150*	*06/13/24 05:01*	*06/13/24 23:46*	*1*
13C4 PFHpA	*102*		*25 - 150*	*06/13/24 05:01*	*06/13/24 23:46*	*1*
13C4 PFOA	*97*		*25 - 150*	*06/13/24 05:01*	*06/13/24 23:46*	*1*

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

Lab Sample ID: MB 320-771685/1-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 771685

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	99		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 PFDA	96		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 PFUnA	98		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 PFDoA	104		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 PFTeDA	95		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 PFHxDA	83		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C3 PFBS	97		25 - 150	06/13/24 05:01	06/13/24 23:46	1
18O2 PFHxS	98		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C4 PFOS	97		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C8 FOSA	96		10 - 150	06/13/24 05:01	06/13/24 23:46	1
d3-NMeFOSAA	83		25 - 150	06/13/24 05:01	06/13/24 23:46	1
d5-NEtFOSAA	79		25 - 150	06/13/24 05:01	06/13/24 23:46	1
d-N-MeFOSA-M	88		10 - 150	06/13/24 05:01	06/13/24 23:46	1
d-N-EtFOSA-M	87		10 - 150	06/13/24 05:01	06/13/24 23:46	1
d7-N-MeFOSE-M	107		10 - 150	06/13/24 05:01	06/13/24 23:46	1
d9-N-EtFOSE-M	112		10 - 150	06/13/24 05:01	06/13/24 23:46	1
M2-4:2 FTS	103		25 - 150	06/13/24 05:01	06/13/24 23:46	1
M2-6:2 FTS	119		25 - 150	06/13/24 05:01	06/13/24 23:46	1
M2-8:2 FTS	120		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C3 HFPO-DA	94		25 - 150	06/13/24 05:01	06/13/24 23:46	1
13C2 10:2 FTS	131		25 - 150	06/13/24 05:01	06/13/24 23:46	1

Lab Sample ID: LLCS 320-771685/2-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 771685

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.20		ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.42		ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.09		ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	7.98		ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.20		ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	8.00	7.40		ng/L		92	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.10		ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.24		ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.70		ng/L		109	50 - 150
Perfluorotridecanoic acid (PFTriA)	8.00	8.34		ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.93		ng/L		112	50 - 150
Perfluoro-n-hexadecanoic acid (PFHxDA)	8.00	7.97		ng/L		100	50 - 150
Perfluoro-n-octadecanoic acid (PFODA)	8.00	6.97		ng/L		87	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	7.78		ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.69		ng/L		102	50 - 150

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

Lab Sample ID: LLCS 320-771685/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 771988 **Prep Batch: 771685**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.06		ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	7.85		ng/L		103	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.46		ng/L		114	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	7.46		ng/L		97	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	6.94		ng/L		90	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.29		ng/L		94	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	8.91		ng/L		111	50 - 150
NEtFOSA	8.00	7.11		ng/L		89	50 - 150
NMeFOSA	8.00	7.23		ng/L		90	50 - 150
NMeFOSAA	8.00	8.36		ng/L		104	50 - 150
NEtFOSAA	8.00	9.53		ng/L		119	50 - 150
NMeFOSE	8.00	6.72		ng/L		84	50 - 150
NEtFOSE	8.00	7.32		ng/L		91	50 - 150
4:2 FTS	7.50	7.40		ng/L		99	50 - 150
6:2 FTS	7.62	7.66		ng/L		101	50 - 150
8:2 FTS	7.68	8.25		ng/L		107	50 - 150
10:2 FTS	7.73	7.95		ng/L		103	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	7.35		ng/L		97	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	8.00	8.59		ng/L		107	50 - 150
F-53B Major	7.47	6.83		ng/L		91	50 - 150
F-53B Minor	7.55	7.07		ng/L		94	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*96*		*25 - 150*
13C5 PFPeA	*99*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*
13C4 PFHpA	*107*		*25 - 150*
13C4 PFOA	*98*		*25 - 150*
13C5 PFNA	*102*		*25 - 150*
13C2 PFDA	*101*		*25 - 150*
13C2 PFUnA	*97*		*25 - 150*
13C2 PFDoA	*99*		*25 - 150*
13C2 PFTeDA	*89*		*25 - 150*
13C2 PFHxDA	*85*		*25 - 150*
13C3 PFBS	*95*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*
13C4 PFOS	*105*		*25 - 150*
13C8 FOSA	*95*		*10 - 150*
d3-NMeFOSAA	*83*		*25 - 150*
d5-NEtFOSAA	*79*		*25 - 150*
d-N-MeFOSA-M	*90*		*10 - 150*
d-N-EtFOSA-M	*88*		*10 - 150*

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

Lab Sample ID: LLCS 320-771685/2-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 771685

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
d7-N-MeFOSE-M	*109*		*10 - 150*
d9-N-EtFOSE-M	*109*		*10 - 150*
M2-4:2 FTS	*107*		*25 - 150*
M2-6:2 FTS	*119*		*25 - 150*
M2-8:2 FTS	*127*		*25 - 150*
13C3 HFPO-DA	*96*		*25 - 150*
13C2 10:2 FTS	*129*		*25 - 150*

Lab Sample ID: LLCSD 320-771685/3-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 771685

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			8.00	7.61		ng/L		95	50 - 150	8	30
Perfluoropentanoic acid (PFPeA)			8.00	7.79		ng/L		97	50 - 150	8	30
Perfluorohexanoic acid (PFHxA)			8.00	8.14		ng/L		102	50 - 150	0.6	30
Perfluoroheptanoic acid (PFHpA)			8.00	8.06		ng/L		101	50 - 150	1	30
Perfluorooctanoic acid (PFOA)			8.00	7.64		ng/L		95	50 - 150	7	30
Perfluorononanoic acid (PFNA)			8.00	7.45		ng/L		93	50 - 150	0.8	30
Perfluorodecanoic acid (PFDA)			8.00	8.18		ng/L		102	50 - 150	1	30
Perfluoroundecanoic acid (PFUnA)			8.00	7.46		ng/L		93	50 - 150	10	30
Perfluorododecanoic acid (PFDoA)			8.00	8.17		ng/L		102	50 - 150	6	30
Perfluorotridecanoic acid (PFTriA)			8.00	7.95		ng/L		99	50 - 150	5	30
Perfluorotetradecanoic acid (PFTeA)			8.00	8.49		ng/L		106	50 - 150	5	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			8.00	7.64		ng/L		95	50 - 150	4	30
Perfluoro-n-octadecanoic acid (PFODA)			8.00	6.63		ng/L		83	50 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)			7.10	6.98		ng/L		98	50 - 150	11	30
Perfluoropentanesulfonic acid (PFPeS)			7.52	7.55		ng/L		100	50 - 150	2	30
Perfluorohexanesulfonic acid (PFHxS)			7.30	6.99		ng/L		96	50 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)			7.63	7.99		ng/L		105	50 - 150	2	30
Perfluorooctanesulfonic acid (PFOS)			7.44	6.54		ng/L		88	50 - 150	26	30
Perfluorononanesulfonic acid (PFNS)			7.70	7.48		ng/L		97	50 - 150	0.3	30
Perfluorodecanesulfonic acid (PFDS)			7.71	6.92		ng/L		90	50 - 150	0.3	30
Perfluorododecanesulfonic acid (PFDoS)			7.76	8.52		ng/L		110	50 - 150	16	30
Perfluorooctanesulfonamide (FOSA)			8.00	7.68		ng/L		96	50 - 150	15	30
NEtFOSA			8.00	7.19		ng/L		90	50 - 150	1	30
NMeFOSA			8.00	7.35		ng/L		92	50 - 150	2	30
NMeFOSAA			8.00	7.71		ng/L		96	50 - 150	8	30

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

Lab Sample ID: LLCSD 320-771685/3-A
Matrix: Water
Analysis Batch: 771988

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 771685

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
NEtFOSAA			8.00	7.88		ng/L		98	50 - 150	19	30
NMeFOSE			8.00	7.69		ng/L		96	50 - 150	13	30
NEtFOSE			8.00	7.68		ng/L		96	50 - 150	5	30
4:2 FTS			7.50	7.83		ng/L		104	50 - 150	6	30
6:2 FTS			7.62	6.93		ng/L		91	50 - 150	10	30
8:2 FTS			7.68	7.22		ng/L		94	50 - 150	13	30
10:2 FTS			7.73	8.57		ng/L		111	50 - 150	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			7.57	7.01		ng/L		93	50 - 150	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			8.00	8.11		ng/L		101	50 - 150	6	30
F-53B Major			7.47	6.82		ng/L		91	50 - 150	0.2	30
F-53B Minor			7.55	6.98		ng/L		92	50 - 150	1	30

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFBA	*105*		*25 - 150*
13C5 PFPeA	*103*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*107*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*105*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*104*		*25 - 150*
13C2 PFDoA	*104*		*25 - 150*
13C2 PFTeDA	*96*		*25 - 150*
13C2 PFHxDA	*86*		*25 - 150*
13C3 PFBS	*104*		*25 - 150*
18O2 PFHxS	*107*		*25 - 150*
13C4 PFOS	*107*		*25 - 150*
13C8 FOSA	*106*		*10 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*84*		*25 - 150*
d-N-MeFOSA-M	*89*		*10 - 150*
d-N-EtFOSA-M	*96*		*10 - 150*
d7-N-MeFOSE-M	*108*		*10 - 150*
d9-N-EtFOSE-M	*110*		*10 - 150*
M2-4:2 FTS	*107*		*25 - 150*
M2-6:2 FTS	*119*		*25 - 150*
M2-8:2 FTS	*134*		*25 - 150*
13C3 HFPO-DA	*97*		*25 - 150*
13C2 10:2 FTS	*142*		*25 - 150*

Lab Sample ID: MB 320-773461/1-A
Matrix: Water
Analysis Batch: 773712

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 773461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		06/20/24 12:33	06/21/24 16:36	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		06/20/24 12:33	06/21/24 16:36	1

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

Lab Sample ID: MB 320-773461/1-A
Matrix: Water
Analysis Batch: 773712

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 773461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		06/20/24 12:33	06/21/24 16:36	1
4:2 FTS	<2.0		2.0	0.24	ng/L		06/20/24 12:33	06/21/24 16:36	1
6:2 FTS	<5.0		5.0	2.5	ng/L		06/20/24 12:33	06/21/24 16:36	1
8:2 FTS	<2.0		2.0	0.46	ng/L		06/20/24 12:33	06/21/24 16:36	1
10:2 FTS	<2.0		2.0	0.67	ng/L		06/20/24 12:33	06/21/24 16:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*102*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*
13C2 PFHxDA	*89*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*
M2-4:2 FTS	*112*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*
M2-6:2 FTS	*116*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*
M2-8:2 FTS	*110*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*
13C2 10:2 FTS	*126*		*25 - 150*	*06/20/24 12:33*	*06/21/24 16:36*	*1*

Lab Sample ID: LCS 320-773461/3-A
Matrix: Water
Analysis Batch: 773712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 773461

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeA)			160	179		ng/L		112	60 - 135		
Perfluoro-n-hexadecanoic acid (PFHxDA)			160	170		ng/L		106	60 - 135		
Perfluoro-n-octadecanoic acid (PFODA)			160	143		ng/L		89	60 - 135		
4:2 FTS			150	165		ng/L		110	60 - 135		
6:2 FTS			152	162		ng/L		107	60 - 135		
8:2 FTS			154	171		ng/L		111	60 - 135		
10:2 FTS			155	163		ng/L		105	60 - 135		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFTeDA	*103*		*25 - 150*
13C2 PFHxDA	*89*		*25 - 150*
M2-4:2 FTS	*111*		*25 - 150*
M2-6:2 FTS	*115*		*25 - 150*
M2-8:2 FTS	*110*		*25 - 150*
13C2 10:2 FTS	*117*		*25 - 150*

Lab Sample ID: LCSD 320-773461/4-A
Matrix: Water
Analysis Batch: 773712

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 773461

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeA)			160	172		ng/L		107	60 - 135	4	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			160	172		ng/L		108	60 - 135	1	30
Perfluoro-n-octadecanoic acid (PFODA)			160	129		ng/L		81	60 - 135	10	30
4:2 FTS			150	163		ng/L		108	60 - 135	1	30

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

Lab Sample ID: LCSD 320-773461/4-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 773712 **Prep Batch: 773461**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
6:2 FTS			152	154		ng/L		101	60 - 135	5	30
8:2 FTS			154	163		ng/L		106	60 - 135	5	30
10:2 FTS			155	173		ng/L		112	60 - 135	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFTeDA	*102*		*25 - 150*
13C2 PFHxDA	*85*		*25 - 150*
M2-4:2 FTS	*110*		*25 - 150*
M2-6:2 FTS	*123*		*25 - 150*
M2-8:2 FTS	*122*		*25 - 150*
13C2 10:2 FTS	*115*		*25 - 150*

Lab Sample ID: LLCS 320-773461/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 773712 **Prep Batch: 773461**

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeA)			8.00	8.12		ng/L		101	50 - 150		
Perfluoro-n-hexadecanoic acid (PFHxDA)			8.00	7.84		ng/L		98	50 - 150		
Perfluoro-n-octadecanoic acid (PFODA)			8.00	7.25		ng/L		91	50 - 150		
4:2 FTS			7.50	7.46		ng/L		99	50 - 150		
6:2 FTS			7.62	7.20		ng/L		95	50 - 150		
8:2 FTS			7.68	8.61		ng/L		112	50 - 150		
10:2 FTS			7.73	8.04		ng/L		104	50 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFTeDA	*91*		*25 - 150*
13C2 PFHxDA	*81*		*25 - 150*
M2-4:2 FTS	*118*		*25 - 150*
M2-6:2 FTS	*127*		*25 - 150*
M2-8:2 FTS	*116*		*25 - 150*
13C2 10:2 FTS	*127*		*25 - 150*

Lab Chronicle

Client: Arcadis U.S., Inc.
Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

Client Sample ID: COLLAPSED SW FOAM (6-11-24)
Lab Sample ID: 500-251941-1

Date Collected: 06/11/24 09:45
Matrix: Water
Date Received: 06/12/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535	REDL		773461	KMG	EET SAC	06/20/24 12:33
Total/NA	Analysis	537 (modified)	REDL	10	773970	K1S	EET SAC	06/23/24 13:55
Total/NA	Prep	3535	RE		773461	KMG	EET SAC	06/20/24 12:33
Total/NA	Analysis	537 (modified)	RE	1	773970	K1S	EET SAC	06/23/24 14:15
Total/NA	Prep	3535			771685	GAT	EET SAC	06/13/24 05:01
Total/NA	Analysis	537 (modified)		1	771988	JTD	EET SAC	06/14/24 02:54
Total/NA	Prep	3535	DL		771685	GAT	EET SAC	06/13/24 05:01
Total/NA	Analysis	537 (modified)	DL	100	772194	S1C	EET SAC	06/14/24 21:30

Laboratory References:

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

Accreditation/Certification Summary

Client: Arcadis U.S., Inc. Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-25

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

Chain of Custody Record

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Client Information	Sampler: DK	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-125452-50038 1
Client Contact: Lisa Rutkowski	Phone: 414-276-7742	E-Mail: Sandra Fredrick@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: Arcadis U S., Inc.	PWSID:			Job #:
Address: 126 North Jefferson Street Suite 400	Due Date Requested:			Preservation Codes: N None
City: Milwaukee	TAT Requested (days):			
State, Zip: WI 53202	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 30171092.4 1 3			
Email: lisa.rutkowski@arcadis.com	WO #:			
Project Name: Marinette, WI 30171092.4 1 3 Foam Mgmt	Project #: 50018970			
Site:	SSOW#:			Other:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_WI - PFAS, Standard List (36 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		N				
Collapsed SW Foam (061124)	6-11-24	0945	G	Water	N	N	X	3	

500-251941 Chain of Custody

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

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

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

Special Instructions/QC Requirements.

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Emma Kehm	6-11-24 1030	Arcadis		6-11-24 1030	Eurofins
2		6-11-24 1630	Eurofins		6-11-24 1630	
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No 2578339 | Cooler Temperature(s) °C and Other Remarks: 1.3c

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 500-251941-1

Login Number: 251941
List Number: 1
Creator: Medeiros, Ryan M

List Source: Eurofins Sacramento
List Creation: 06/12/24 12:27 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2578339
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	1.3
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	

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Sacramento Sample Receiving Notes (SSRN)

500-251941 Field Sheet

Tracking # 741402913670

Job _____

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

GSL / OnTrac / Goldstreak / USPS / Other_____

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

Therm. ID L-11 Corr. Factor (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal 2578339

Cooler ID _____

Temp Observed 1.3 °C Corrected 1.3 °C

From Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials _____ Date 06.12.24

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

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

Initials DM Date 06/12/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

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

Initials DM Date 06/12/24

Isotope Dilution Summary

Client: Arcadis U.S., Inc. Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-251941-1	COLLAPSED SW FOAM (6-11-2	97	125	146	141	88	62	71	91
500-251941-1 - DL	COLLAPSED SW FOAM (6-11-24)	85	100	89	87	86	87	77	63
500-251941-1 - REDL	COLLAPSED SW FOAM (6-11-24)								
500-251941-1 - RE	COLLAPSED SW FOAM (6-11-24)								
LCS 320-773461/3-A	Lab Control Sample								
LCSD 320-773461/4-A	Lab Control Sample Dup								
LLCS 320-771685/2-A	Lab Control Sample	96	99	96	107	98	102	101	97
LLCS 320-773461/2-A	Lab Control Sample								
LLCSD 320-771685/3-A	Lab Control Sample Dup	105	103	99	107	102	105	94	104
MB 320-771685/1-A	Method Blank	101	101	97	102	97	99	96	98
MB 320-773461/1-A	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-251941-1	COLLAPSED SW FOAM (6-11-2	59			141	137	60	63	56
500-251941-1 - DL	COLLAPSED SW FOAM (6-11-24)	55			104	98	91	93	66
500-251941-1 - REDL	COLLAPSED SW FOAM (6-11-24)		73	57					
500-251941-1 - RE	COLLAPSED SW FOAM (6-11-24)		72	58					
LCS 320-773461/3-A	Lab Control Sample		103	89					
LCSD 320-773461/4-A	Lab Control Sample Dup		102	85					
LLCS 320-771685/2-A	Lab Control Sample	99	89	85	95	104	105	95	83
LLCS 320-773461/2-A	Lab Control Sample		91	81					
LLCSD 320-771685/3-A	Lab Control Sample Dup	104	96	86	104	107	107	106	89
MB 320-771685/1-A	Method Blank	104	95	83	97	98	97	96	83
MB 320-773461/1-A	Method Blank		102	89					

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-251941-1	COLLAPSED SW FOAM (6-11-2	70	69	62	78	81			
500-251941-1 - DL	COLLAPSED SW FOAM (6-11-24)	75	48	33	76	41			
500-251941-1 - REDL	COLLAPSED SW FOAM (6-11-24)						114	120	132
500-251941-1 - RE	COLLAPSED SW FOAM (6-11-24)						139	104	104
LCS 320-773461/3-A	Lab Control Sample						111	115	110
LCSD 320-773461/4-A	Lab Control Sample Dup						110	123	122
LLCS 320-771685/2-A	Lab Control Sample	79	90	88	109	109	107	119	127
LLCS 320-773461/2-A	Lab Control Sample						118	127	116
LLCSD 320-771685/3-A	Lab Control Sample Dup	84	89	96	108	110	107	119	134
MB 320-771685/1-A	Method Blank	79	88	87	107	112	103	119	120
MB 320-773461/1-A	Method Blank						112	116	110

Isotope Dilution Summary

Client: Arcadis U.S., Inc. Job ID: 500-251941-1
Project/Site: Marinette, WI 30171092.4.1.3 Collapsed Foam

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS (25-150)
500-251941-1	COLLAPSED SW FOAM (6-11-2	148	
500-251941-1 - DL	COLLAPSED SW FOAM (6-11-24)	72	
500-251941-1 - REDL	COLLAPSED SW FOAM (6-11-24)		93
500-251941-1 - RE	COLLAPSED SW FOAM (6-11-24)		111
LCS 320-773461/3-A	Lab Control Sample		117
LCSD 320-773461/4-A	Lab Control Sample Dup		115
LLCS 320-771685/2-A	Lab Control Sample	96	129
LLCS 320-773461/2-A	Lab Control Sample		127
LLCSD 320-771685/3-A	Lab Control Sample Dup	97	142
MB 320-771685/1-A	Method Blank	94	131
MB 320-773461/1-A	Method Blank		126

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxDA = 13C2 PFHxDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
M102FTS = 13C2 10:2 FTS

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ANALYTICAL REPORT

PREPARED FOR

Attn: Lisa Rutkowski
Arcadis U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

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JOB DESCRIPTION

Marinette, WI 30232727.4.1.3 Collapsed SW Foam

JOB NUMBER

500-255238-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

Results relate only to the items tested and the sample(s) as received by the laboratory. The results, detection limits (LOD) and Quantitation Limits (LOQ) have been adjusted for sample dilutions and/or solids content.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Compliance Statement

The LOD and LOQ reported are adjusted by the dilution factor when a dilution factor greater than 1 is needed. Additionally, where results are indicated as being reported on a dry weight basis, the LOD and LOQ are adjusted for moisture content as well.

Definitions of Limits
- LOD = Limit of Detection = MDL as defined by 40 CFR part 136 Appendix B
- LOQ = Limit of Quantitation = 3.33 x LOD as defined by Wisconsin
- RL = Report Limit = a concentration supported by a standard in the calibration curves

Authorization

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8/27/2024 7:26:49 PM

Authorized for release by
Sandie Fredrick, Senior Project Manager
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

Table of Contents

Job ID: 500-255238-1 Eurofins Chicago

Job Narrative
500-255238-1

Receipt
The sample was received on 8/16/2024 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 0.4° C.

LCMS
Method 537 (modified): The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: Collapsed SW Foam (08-15-24) (500-255238-1). 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 were reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside 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 (08-15-24) (500-255238-1).

Method 537 (modified): Results for sample Collapsed SW Foam (08-15-24) (500-255238-1) were reported from the analysis of a diluted extract due to high concentration of the matrix 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 5X analysis is 101% after the dilution factor was applied to the labeled internal standard area count.

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

Organic Prep
Method 3535: Due to prep comment, the initial volumes used for the following sample Collapsed SW Foam (08-15-24) (500-255238-1) in preparation batch 320-792278 deviated from the standard procedure. A 10x dilution was made on the sample, then fortified Isotope Dilution Analyte (IDA) and extracted. The reporting limits (RLs) have been adjusted proportionately.

Method 3535: The following samples in preparation batch 320-792278 were observed to have floating particulates present in the sample bottle. Collapsed SW Foam (08-15-24) (500-255238-1)

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.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

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

Sample Summary

Client: Arcadis U.S., Inc.
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Job ID: 500-255238-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-255238-1	Collapsed SW Foam (08-15-24)	Water	08/15/24 11:00	08/16/24 09:20

Client Sample ID: Collapsed SW Foam (08-15-24)
Lab Sample ID: 500-255238-1

Date Collected: 08/15/24 11:00
Matrix: Water

Date Received: 08/16/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**89**		50	24	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoropentanoic acid (PFPeA)	**380**		20	4.9	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorohexanoic acid (PFHxA)	**370**		20	5.8	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoroheptanoic acid (PFHpA)	**200**		20	2.5	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorooctanoic acid (PFOA)	**1800**		20	8.5	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorononanoic acid (PFNA)	**3300**		20	2.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorodecanoic acid (PFDA)	**580**		20	3.1	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoroundecanoic acid (PFUnA)	**110**		20	11	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorododecanoic acid (PFDoA)	<20		20	5.5	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorotridecanoic acid (PFTriA)	<20		20	13	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorotetradecanoic acid (PFTeA)	<20		20	7.3	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<20		20	8.9	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoro-n-octadecanoic acid (PFODA)	<20		20	9.4	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorobutanesulfonic acid (PFBS)	**4.2**	**J I**	20	2.0	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoropentanesulfonic acid (PFPeS)	<20		20	3.0	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorohexanesulfonic acid (PFHxS)	**42**		20	5.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluoroheptanesulfonic acid (PFHpS)	**25**		20	1.9	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorooctanesulfonic acid (PFOS)	**11000**	**E**	20	5.4	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorononanesulfonic acid (PFNS)	<20		20	3.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorodecanesulfonic acid (PFDS)	<20		20	3.2	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
Perfluorooctanesulfonamide (FOSA)	**610**		20	9.8	ng/L		08/19/24 06:50	08/20/24 16:08	1
NEtFOSA	<20		20	8.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
NMeFOSA	<20		20	4.3	ng/L		08/19/24 06:50	08/20/24 16:08	1
NMeFOSAA	**16**	**J I**	50	12	ng/L		08/19/24 06:50	08/20/24 16:08	1
NEtFOSAA	**150**		50	13	ng/L		08/19/24 06:50	08/20/24 16:08	1
NMeFOSE	<40		40	14	ng/L		08/19/24 06:50	08/20/24 16:08	1
NEtFOSE	<20		20	8.5	ng/L		08/19/24 06:50	08/20/24 16:08	1
4:2 FTS	<20		20	2.4	ng/L		08/19/24 06:50	08/20/24 16:08	1
6:2 FTS	**1500**		50	25	ng/L		08/19/24 06:50	08/20/24 16:08	1
8:2 FTS	**11000**	**E**	20	4.6	ng/L		08/19/24 06:50	08/20/24 16:08	1
10:2 FTS	**18**	**J**	20	6.7	ng/L		08/19/24 06:50	08/20/24 16:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<20		20	4.0	ng/L		08/19/24 06:50	08/20/24 16:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<40		40	15	ng/L		08/19/24 06:50	08/20/24 16:08	1
F-53B Major	<20		20	2.4	ng/L		08/19/24 06:50	08/20/24 16:08	1
F-53B Minor	<20		20	3.2	ng/L		08/19/24 06:50	08/20/24 16:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*08/19/24 06:50*	*08/20/24 16:08*	*1*
13C5 PFPeA	*104*		*25 - 150*	*08/19/24 06:50*	*08/20/24 16:08*	*1*

Client: Arcadis U.S., Inc.
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Job ID: 500-255238-1

Client Sample ID: Collapsed SW Foam (08-15-24)

Date Collected: 08/15/24 11:00
Date Received: 08/16/24 09:20

Lab Sample ID: 500-255238-1

Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	102		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C4 PFHpA	102		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C4 PFOA	104		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C5 PFNA	90		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 PFDA	108		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 PFUnA	95		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 PFDoA	99		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 PFTeDA	84		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 PFHxDA	78		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C3 PFBS	95		25 - 150	08/19/24 06:50	08/20/24 16:08	1
18O2 PFHxS	110		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C4 PFOS	95		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C8 FOSA	102		10 - 150	08/19/24 06:50	08/20/24 16:08	1
d3-NMeFOSAA	84		25 - 150	08/19/24 06:50	08/20/24 16:08	1
d5-NEtFOSAA	92		25 - 150	08/19/24 06:50	08/20/24 16:08	1
d-N-MeFOSA-M	96		10 - 150	08/19/24 06:50	08/20/24 16:08	1
d-N-EtFOSA-M	97		10 - 150	08/19/24 06:50	08/20/24 16:08	1
d7-N-MeFOSE-M	102		10 - 150	08/19/24 06:50	08/20/24 16:08	1
d9-N-EtFOSE-M	109		10 - 150	08/19/24 06:50	08/20/24 16:08	1
M2-4:2 FTS	105		25 - 150	08/19/24 06:50	08/20/24 16:08	1
M2-6:2 FTS	111		25 - 150	08/19/24 06:50	08/20/24 16:08	1
M2-8:2 FTS	113		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C3 HFPO-DA	99		25 - 150	08/19/24 06:50	08/20/24 16:08	1
13C2 10:2 FTS	106		25 - 150	08/19/24 06:50	08/20/24 16:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<250		250	120	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoropentanoic acid (PFPeA)	**450**		100	25	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorohexanoic acid (PFHxA)	**390**		100	29	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoroheptanoic acid (PFHpA)	**200**		100	13	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorooctanoic acid (PFOA)	**1700**		100	43	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorononanoic acid (PFNA)	**3200**		100	14	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorodecanoic acid (PFDA)	**590**		100	16	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoroundecanoic acid (PFUnA)	**110**		100	55	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorododecanoic acid (PFDoA)	<100		100	28	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorotridecanoic acid (PFTriA)	<100		100	65	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorotetradecanoic acid (PFTeA)	<100		100	37	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoro-n-hexadecanoic acid (PFHxDA)	<100		100	45	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoro-n-octadecanoic acid (PFODA)	<100		100	47	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorobutanesulfonic acid (PFBS)	<100		100	10	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoropentanesulfonic acid (PFPeS)	<100		100	15	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorohexanesulfonic acid (PFHxS)	**43**	**J**	100	29	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluoroheptanesulfonic acid (PFHpS)	<100		100	9.5	ng/L		08/19/24 06:50	08/21/24 17:17	5

Client: Arcadis U.S., Inc.
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Job ID: 500-255238-1

Client Sample ID: Collapsed SW Foam (08-15-24)

Date Collected: 08/15/24 11:00
Date Received: 08/16/24 09:20

Lab Sample ID: 500-255238-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**11000**		100	27	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorononanesulfonic acid (PFNS)	<100		100	19	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorodecanesulfonic acid (PFDS)	<100		100	16	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorododecanesulfonic acid (PFDoS)	<100		100	49	ng/L		08/19/24 06:50	08/21/24 17:17	5
Perfluorooctanesulfonamide (FOSA)	**620**		100	49	ng/L		08/19/24 06:50	08/21/24 17:17	5
NEtFOSA	<100		100	44	ng/L		08/19/24 06:50	08/21/24 17:17	5
NMeFOSA	<100		100	22	ng/L		08/19/24 06:50	08/21/24 17:17	5
NMeFOSAA	<250		250	60	ng/L		08/19/24 06:50	08/21/24 17:17	5
NEtFOSAA	<250		250	65	ng/L		08/19/24 06:50	08/21/24 17:17	5
NMeFOSE	<200		200	70	ng/L		08/19/24 06:50	08/21/24 17:17	5
NEtFOSE	<100		100	43	ng/L		08/19/24 06:50	08/21/24 17:17	5
4:2 FTS	<100		100	12	ng/L		08/19/24 06:50	08/21/24 17:17	5
6:2 FTS	**1700**		250	130	ng/L		08/19/24 06:50	08/21/24 17:17	5
8:2 FTS	**11000**		100	23	ng/L		08/19/24 06:50	08/21/24 17:17	5
10:2 FTS	<100		100	34	ng/L		08/19/24 06:50	08/21/24 17:17	5
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<100		100	20	ng/L		08/19/24 06:50	08/21/24 17:17	5
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<200		200	75	ng/L		08/19/24 06:50	08/21/24 17:17	5
F-53B Major	<100		100	12	ng/L		08/19/24 06:50	08/21/24 17:17	5
F-53B Minor	<100		100	16	ng/L		08/19/24 06:50	08/21/24 17:17	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C5 PFPeA	*91*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFHxA	*96*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C4 PFHpA	*99*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C4 PFOA	*104*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C5 PFNA	*103*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFDA	*99*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFUnA	*100*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFDoA	*95*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFTeDA	*91*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C2 PFHxDA	*75*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C3 PFBS	*87*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
18O2 PFHxS	*99*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C4 PFOS	*98*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
13C8 FOSA	*92*		*10 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d3-NMeFOSAA	*113*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d5-NEtFOSAA	*116*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d-N-MeFOSA-M	*83*		*10 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d-N-EtFOSA-M	*83*		*10 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d7-N-MeFOSE-M	*89*		*10 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
d9-N-EtFOSE-M	*87*		*10 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
M2-4:2 FTS	*105*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
M2-6:2 FTS	*87*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*
M2-8:2 FTS	*104*		*25 - 150*	*08/19/24 06:50*	*08/21/24 17:17*	*5*

Client: Arcadis U.S., Inc.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Client Sample ID: Collapsed SW Foam (08-15-24)
Lab Sample ID: 500-255238-1
Date Collected: 08/15/24 11:00
Matrix: Water
Date Received: 08/16/24 09:20

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		25 - 150	08/19/24 06:50	08/21/24 17:17	5
13C2 10:2 FTS	86		25 - 150	08/19/24 06:50	08/21/24 17:17	5

Definitions/Glossary

Client: Arcadis U.S., Inc.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Qualifiers

LCMS

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

Client: Arcadis U.S., Inc.
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Job ID: 500-255238-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-792278/1-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 792278

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	0.19	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		08/19/24 06:50	08/20/24 14:40	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		08/19/24 06:50	08/20/24 14:40	1
NEtFOSA	<2.0		2.0	0.87	ng/L		08/19/24 06:50	08/20/24 14:40	1
NMeFOSA	<2.0		2.0	0.43	ng/L		08/19/24 06:50	08/20/24 14:40	1
NMeFOSAA	<5.0		5.0	1.2	ng/L		08/19/24 06:50	08/20/24 14:40	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		08/19/24 06:50	08/20/24 14:40	1
NMeFOSE	<4.0		4.0	1.4	ng/L		08/19/24 06:50	08/20/24 14:40	1
NEtFOSE	<2.0		2.0	0.85	ng/L		08/19/24 06:50	08/20/24 14:40	1
4:2 FTS	<2.0		2.0	0.24	ng/L		08/19/24 06:50	08/20/24 14:40	1
6:2 FTS	<5.0		5.0	2.5	ng/L		08/19/24 06:50	08/20/24 14:40	1
8:2 FTS	<2.0		2.0	0.46	ng/L		08/19/24 06:50	08/20/24 14:40	1
10:2 FTS	<2.0		2.0	0.67	ng/L		08/19/24 06:50	08/20/24 14:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	0.40	ng/L		08/19/24 06:50	08/20/24 14:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<4.0		4.0	1.5	ng/L		08/19/24 06:50	08/20/24 14:40	1
F-53B Major	<2.0		2.0	0.24	ng/L		08/19/24 06:50	08/20/24 14:40	1
F-53B Minor	<2.0		2.0	0.32	ng/L		08/19/24 06:50	08/20/24 14:40	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*08/19/24 06:50*	*08/20/24 14:40*	*1*
13C5 PFPeA	*82*		*25 - 150*	*08/19/24 06:50*	*08/20/24 14:40*	*1*
13C2 PFHxA	*82*		*25 - 150*	*08/19/24 06:50*	*08/20/24 14:40*	*1*
13C4 PFHpA	*82*		*25 - 150*	*08/19/24 06:50*	*08/20/24 14:40*	*1*

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

Lab Sample ID: MB 320-792278/1-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 792278

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	85		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C5 PFNA	81		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 PFDA	80		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 PFUnA	74		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 PFDoA	75		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 PFTeDA	70		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 PFHxDA	68		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C3 PFBS	78		25 - 150	08/19/24 06:50	08/20/24 14:40	1
18O2 PFHxS	92		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C4 PFOS	83		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C8 FOSA	81		10 - 150	08/19/24 06:50	08/20/24 14:40	1
d3-NMeFOSAA	68		25 - 150	08/19/24 06:50	08/20/24 14:40	1
d5-NEtFOSAA	74		25 - 150	08/19/24 06:50	08/20/24 14:40	1
d-N-MeFOSA-M	71		10 - 150	08/19/24 06:50	08/20/24 14:40	1
d-N-EtFOSA-M	67		10 - 150	08/19/24 06:50	08/20/24 14:40	1
d7-N-MeFOSE-M	78		10 - 150	08/19/24 06:50	08/20/24 14:40	1
d9-N-EtFOSE-M	89		10 - 150	08/19/24 06:50	08/20/24 14:40	1
M2-4:2 FTS	80		25 - 150	08/19/24 06:50	08/20/24 14:40	1
M2-6:2 FTS	88		25 - 150	08/19/24 06:50	08/20/24 14:40	1
M2-8:2 FTS	79		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C3 HFPO-DA	80		25 - 150	08/19/24 06:50	08/20/24 14:40	1
13C2 10:2 FTS	93		25 - 150	08/19/24 06:50	08/20/24 14:40	1

Lab Sample ID: LCS 320-792278/3-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 792278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	39.0		ng/L		98	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	37.4		ng/L		94	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.7		ng/L		99	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	39.7		ng/L		99	60 - 135
Perfluorononanoic acid (PFNA)	40.0	41.0		ng/L		103	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	40.5		ng/L		101	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	39.5		ng/L		99	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	44.8		ng/L		112	60 - 135
Perfluorotridecanoic acid (PFTriA)	40.0	44.4		ng/L		111	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	41.4		ng/L		103	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	39.1		ng/L		98	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	33.2		ng/L		83	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.5	38.8		ng/L		109	60 - 135

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

Lab Sample ID: LCS 320-792278/3-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 792278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.0		ng/L		104	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.6		ng/L		98	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.3		ng/L		103	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.2	35.0		ng/L		94	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.5	37.1		ng/L		96	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	38.9		ng/L		101	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.4		ng/L		101	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	41.7		ng/L		104	60 - 135
NEtFOSA	40.0	39.3		ng/L		98	60 - 135
NMeFOSA	40.0	43.4		ng/L		108	60 - 135
NMeFOSAA	40.0	38.6		ng/L		97	60 - 135
NEtFOSAA	40.0	31.5		ng/L		79	60 - 135
NMeFOSE	40.0	38.8		ng/L		97	60 - 135
NEtFOSE	40.0	37.1		ng/L		93	60 - 135
4:2 FTS	37.5	36.5		ng/L		97	60 - 135
6:2 FTS	38.1	35.3		ng/L		93	60 - 135
8:2 FTS	38.4	38.8		ng/L		101	60 - 135
10:2 FTS	38.6	40.0		ng/L		104	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.6		ng/L		102	60 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	44.0		ng/L		110	60 - 135
F-53B Major	37.4	41.3		ng/L		110	60 - 135
F-53B Minor	37.8	37.0		ng/L		98	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*
13C4 PFHpA	*99*		*25 - 150*
13C4 PFOA	*98*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*100*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*92*		*25 - 150*
13C2 PFTeDA	*94*		*25 - 150*
13C2 PFHxDA	*84*		*25 - 150*
13C3 PFBS	*93*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*
13C4 PFOS	*101*		*25 - 150*
13C8 FOSA	*98*		*10 - 150*
d3-NMeFOSAA	*80*		*25 - 150*

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

Lab Sample ID: LCS 320-792278/3-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 792278

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	85		25 - 150
d-N-MeFOSA-M	79		10 - 150
d-N-EtFOSA-M	83		10 - 150
d7-N-MeFOSE-M	99		10 - 150
d9-N-EtFOSE-M	106		10 - 150
M2-4:2 FTS	100		25 - 150
M2-6:2 FTS	102		25 - 150
M2-8:2 FTS	93		25 - 150
13C3 HFPO-DA	99		25 - 150
13C2 10:2 FTS	105		25 - 150

Lab Sample ID: LLCS 320-792278/2-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 792278

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.57		ng/L		107	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.10		ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.34		ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	8.62		ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	7.95		ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.31		ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.62		ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.58		ng/L		107	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.19		ng/L		115	50 - 150
Perfluorotridecanoic acid (PFTriA)	8.00	9.79		ng/L		122	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.24		ng/L		103	50 - 150
Perfluoro-n-hexadecanoic acid (PFHxDA)	8.00	8.46		ng/L		106	50 - 150
Perfluoro-n-octadecanoic acid (PFODA)	8.00	7.38		ng/L		92	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.31		ng/L		117	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.42		ng/L		112	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.43		ng/L		102	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.84		ng/L		116	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.02		ng/L		108	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	7.69		ng/L		100	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.75		ng/L		100	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	8.06		ng/L		104	50 - 150

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

Lab Sample ID: LLCS 320-792278/2-A
Matrix: Water
Analysis Batch: 792916

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 792278

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	9.07		ng/L		113	50 - 150
NEtFOSA	8.00	8.02		ng/L		100	50 - 150
NMeFOSA	8.00	7.67		ng/L		96	50 - 150
NMeFOSAA	8.00	8.09		ng/L		101	50 - 150
NEtFOSAA	8.00	6.57		ng/L		82	50 - 150
NMeFOSE	8.00	7.93		ng/L		99	50 - 150
NEtFOSE	8.00	7.34		ng/L		92	50 - 150
4:2 FTS	7.50	7.26		ng/L		97	50 - 150
6:2 FTS	7.62	7.45		ng/L		98	50 - 150
8:2 FTS	7.68	8.43		ng/L		110	50 - 150
10:2 FTS	7.73	9.53		ng/L		123	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.45		ng/L		112	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	8.00	9.05		ng/L		113	50 - 150
F-53B Major	7.47	8.90		ng/L		119	50 - 150
F-53B Minor	7.55	8.14		ng/L		108	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*73*		*25 - 150*
13C5 PFPeA	*79*		*25 - 150*
13C2 PFHxA	*78*		*25 - 150*
13C4 PFHpA	*78*		*25 - 150*
13C4 PFOA	*83*		*25 - 150*
13C5 PFNA	*78*		*25 - 150*
13C2 PFDA	*80*		*25 - 150*
13C2 PFUnA	*69*		*25 - 150*
13C2 PFDoA	*75*		*25 - 150*
13C2 PFTeDA	*72*		*25 - 150*
13C2 PFHxDA	*65*		*25 - 150*
13C3 PFBS	*74*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*80*		*25 - 150*
13C8 FOSA	*80*		*10 - 150*
d3-NMeFOSAA	*66*		*25 - 150*
d5-NEtFOSAA	*61*		*25 - 150*
d-N-MeFOSA-M	*67*		*10 - 150*
d-N-EtFOSA-M	*66*		*10 - 150*
d7-N-MeFOSE-M	*82*		*10 - 150*
d9-N-EtFOSE-M	*85*		*10 - 150*
M2-4:2 FTS	*77*		*25 - 150*
M2-6:2 FTS	*87*		*25 - 150*
M2-8:2 FTS	*75*		*25 - 150*
13C3 HFPO-DA	*78*		*25 - 150*
13C2 10:2 FTS	*83*		*25 - 150*

Lab Chronicle

Client: Arcadis U.S., Inc.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Client Sample ID: Collapsed SW Foam (08-15-24)
Lab Sample ID: 500-255238-1

Date Collected: 08/15/24 11:00
Matrix: Water
Date Received: 08/16/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535	DL		792278	C1A	EET SAC	08/19/24 06:50
Total/NA	Analysis	537 (modified)	DL	5	793184	K1S	EET SAC	08/21/24 17:17
Total/NA	Prep	3535			792278	C1A	EET SAC	08/19/24 06:50
Total/NA	Analysis	537 (modified)		1	792916	S1C	EET SAC	08/20/24 16:08

Laboratory References:

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

Accreditation/Certification Summary

Client: Arcadis U.S., Inc.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-25

Eurofins TestAmerica, Sacramento
880 Riverside Parkway

West Sacramento, CA 95605-1500
phone 916 373 5600 fax 303 467 7248

Chain of Custody Record

eurofins

8/27/2024

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Lisa Rutkowski	Sampler: N/A	Date: 8-15-24	COC No: 1
Arcadis U S , Inc.	Email: N/A	Lab Contact: Sandie Fredrick	Carrier: FedEx	1 of 1 COCs
126 North Jefferson Street, Suite 400	Tel/Fax: N/A			
Milwaukee, WI 53202	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only: Walk-in Client: Lab Sampling:
Phone	TAT if different from Below: ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			Lab Project Number: 50018970
FAX				
Project Name Marinette, WI				
Site Marinette, WI				
P O # 30232727 4.1 3				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 537 Modified (36 Compounds)	Sample Specific Notes:
Collapsed SW Foam (8-15-24)	8-15-24	11:00	G	W	3	N	N	X	

500-255238 Chain of Custody

Preservation Used: 1= Ice, 2=HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

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
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No 1478811		Cooler Temp (°C): Obs'd 0.4	Corr'd. 0.4	Therm ID No: CO9	
Relinquished by: Jacob Lominger	Company: Barley Excavating	Date/Time: 8-15-24/11:30	Received by: Fed Ex	Company:	Date/Time	
Relinquished by:	Company:	Date/Time	Received by:	Company: EETSAC	Date/Time: 8/16/24 920	
Relinquished by:	Company:	Date/Time	Received in Laboratory by:	Company	Date/Time:	

Form No. CA-C-WI-002, Rev. 4.23, dated 4/16/2019

Login Sample Receipt Checklist

Client: Arcadis U.S., Inc.

Job Number: 500-255238-1

Login Number: 255238
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento
List Creation: 08/16/24 01:43 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1448811
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	0.4C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
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	

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Sacramento Sample Receiving Notes (SSRN)

Job ___ 500 255238 Field Sheet ___

Tracking # 6283 9315 5210

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

GSL / OnTrac / Goldstreak / USPS / Other_____

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

Therm. ID L-09 Corr. Factor (+/-) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 1448811

Cooler ID: —

Temp Observed 0.4 °C Corrected 0.4 °C

From Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials FSH Date 8/16/24

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

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

Initials SO Date 8/

Notes:_____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s). _____

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

Initials SO Date 8/16/24

Isotope Dilution Summary

Client: Arcadis U.S., Inc.
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

Job ID: 500-255238-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-255238-1	Collapsed SW Foam (08-15-24)	99	104	102	102	104	90	108	95
500-255238-1 - DL	Collapsed SW Foam (08-15-24)	93	91	96	99	104	103	99	100
LCS 320-792278/3-A	Lab Control Sample	92	101	96	99	98	96	100	92
LLCS 320-792278/2-A	Lab Control Sample	73	79	78	78	83	78	80	69
MB 320-792278/1-A	Method Blank	79	82	82	82	85	81	80	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-255238-1	Collapsed SW Foam (08-15-24)	99	84	78	95	110	95	102	84
500-255238-1 - DL	Collapsed SW Foam (08-15-24)	95	91	75	87	99	98	92	113
LCS 320-792278/3-A	Lab Control Sample	92	94	84	93	104	101	98	80
LLCS 320-792278/2-A	Lab Control Sample	75	72	65	74	88	80	80	66
MB 320-792278/1-A	Method Blank	75	70	68	78	92	83	81	68

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-255238-1	Collapsed SW Foam (08-15-24)	92	96	97	102	109	105	111	113
500-255238-1 - DL	Collapsed SW Foam (08-15-24)	116	83	83	89	87	105	87	104
LCS 320-792278/3-A	Lab Control Sample	85	79	83	99	106	100	102	93
LLCS 320-792278/2-A	Lab Control Sample	61	67	66	82	85	77	87	75
MB 320-792278/1-A	Method Blank	74	71	67	78	89	80	88	79

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS (25-150)
500-255238-1	Collapsed SW Foam (08-15-24)	99	106
500-255238-1 - DL	Collapsed SW Foam (08-15-24)	105	86
LCS 320-792278/3-A	Lab Control Sample	99	105
LLCS 320-792278/2-A	Lab Control Sample	78	83
MB 320-792278/1-A	Method Blank	80	93

Surrogate Legend

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

Isotope Dilution Summary

Client: Arcadis U.S., Inc.
Job ID: 500-255238-1
Project/Site: Marinette, WI 30232727.4.1.3 Collapsed SW Foam

dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
M102FTS = 13C2 10:2 FTS