State of Wisconsin Department of Natural Resources PO Box 7921, Madison WI 53707-7921 dnr.wi.gov

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

Form 4400-237 (R 12/18)

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Notice: Use this form to request a written response (on agency letterhead) from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

Definitions

- "Property" refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.
- "Liability Clarification" refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55. Wis. Stats.
- "Technical Assistance" refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.
- "Post-closure modification" refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

Select the Correct Form

This from should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

Do not use this form if one of the following applies:

- Request for an off-site liability exemption or clarification for Property that has been or is perceived to be contaminated by one
 or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site
 Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the Lender Liability Exemption, s 292.21, Wis. Stats., if no response or review by DNR is requested. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an exemption to develop on a historic fill site or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- Request for closure for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure GIS Registry Form 4400-202.

All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.

Instructions

- 1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
- 2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
- 3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
- 4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located. See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf"

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

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Section 1. Contact and Re	ecipient Information					
Requester Information						
This is the person requesting specialized agreement and is	technical assistance or a post-oidentified as the requester in S	closure ection	modification review 7. DNR will addres	w, that his or her li s its response lette	ability be clari er to this perso	fied or a
Last Name	First	MI	Organization/ Bus	iness Name		
Nelson	Denice		Tyco Fire Produ	icts LP		
Mailing Address	•		City		State	ZIP Code
2700 Industrial Parkway S	outh		Marinette		WI	54143
Phone # (include area code)	Fax # (include area code)		Email			
The requester listed above: (s	elect all that apply)		1			
x Is currently the owner			Is considering s	selling the Property	′	
Is renting or leasing the	Property		s considering a	acquiring the Prope	erty	
Is a lender with a mortg	agee interest in the Property					
Other. Explain the statu	s of the Property with respect t	o the a	pplicant:			
Contact Information (to b	e contacted with questions	ahout	this request\		Select if sa	ıme as requester
Contact Last Name	First	MI	Organization/ Bus	iness Name	00100111100	
Verburg	Ben		Arcadis			
Mailing Address	•		City		State	ZIP Code
126 N Jefferson Street, Sui	ite 400		Milwaukee		WI	53202
Phone # (include area code)	Fax # (include area code)		Email		•	
(414) 276-7742			Ben.Verburg@a	rcadis.com		
Environmental Consulta						
Contact Last Name	First	MI	Organization/ Bus	siness Name		
Verburg	Ben		Arcadis		lotata	Tain Code
Mailing Address	400		City		State	
126 N Jefferson Street, Sui Phone # (include area code)	Fax # (include area code)		Milwaukee Email		WI	53202
,	rax # (ilicidue area code)		1	1:		
(414) 276-7742 Section 2. Property Information	ation		Ben.Verburg@a	ircadis.com		
Property Name	ation			FI	D No. (if knov	vn)
Tyco Fire Technology Cen	iter - PFCs			43	38005590	
BRRTS No. (if known)			Parcel Identification	on Number		
0238580694						
Street Address			City		State	ZIP Code
2700 Industrial Parkway S	outh		Marinette		WI	54143
County	Municipality where the Property	is loca	ated	Property is compo		operty Size Acres
Marinette	City Town Village of	Mari	nette	Single tax	Multiple tax 38	30

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1. Is a responsible plan according	onse needed by a specific date? (e.g., Property closing date) Note: Most requests are completed within 60 days. Please ordingly.
No	○ Yes
	Date requested by:
	Reason:
_	equester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?
$\overline{}$	nclude the fee that is required for your request in Section 3, 4 or 5.
•	Do not include a separate fee. This request will be billed separately through the VPLE Program.
Sectio	he information in Section 3, 4 or 5 which corresponds with the type of request: on 3. Technical Assistance or Post-Closure Modifications; on 4. Liability Clarification; or Section 5. Specialized Agreement.
Section 3.	Request for Technical Assistance or Post-Closure Modification
Select the ty	ype of technical assistance requested: [Numbers in brackets are for WI DNR Use]
_ to	lo Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - Include a fee of \$350. Use for a written response of an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event. eview of Site Investigation Work Plan - NR 716.09, [135] - Include a fee of \$700.
	eview of Site Investigation Report - NR 716.15, [137] - Include a fee of \$1050.
Ar	pproval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - Include a fee of \$1050.
R	eview of a Remedial Action Options Report - NR 722.13, [143] - Include a fee of \$1050.
R	eview of a Remedial Action Design Report - NR 724.09, [148] - Include a fee of \$1050.
☐ Re	eview of a Remedial Action Documentation Report - NR 724.15, [152] - Include a fee of \$350
x Re	eview of a Long-term Monitoring Plan - NR 724.17, [25] - Include a fee of \$425.
☐ Re	eview of an Operation and Maintenance Plan - NR 724.13, [192] - Include a fee of \$425.
Other Te	echnical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)
☐ Sc	chedule a Technical Assistance Meeting - Include a fee of \$700.
	azardous Waste Determination - Include a fee of \$700.
	ther Technical Assistance - Include a fee of \$700. Explain your request in an attachment.
Post-Clo	osure Modifications - NR 727, [181]
ு și	ost-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; ites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. Include a fee of 1050, and:
	Include a fee of \$300 for sites with residual soil contamination; and
	Include a fee of \$350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing obligations.
to	ttach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents ay be submitted later in the approval process, on a case-by-case basis).
	ections 4 and 5 if the technical assistance you are requesting is listed above and complete Sections 6 and 7 of this fo Other Information Submitted
	all materials that are included with this request.
Send bo	oth a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.
request	one copy of any document from any state agency files that you want the Department to review as part of this . The person submitting this request is responsible for contacting other state agencies to obtain appropriate or information.
Phas	se I Environmental Site Assessment Report - Date:
	se II Environmental Site Assessment Report - Date:
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Legal Description of Property (required for all liability requests and sp	ecialized agreements)
Map of the Property (required for all liability requests and specialized	agreements)
Analytical results of the following sampled media: Select all that apply	and include date of collection.
☐ Groundwater ☐ Soil ☐ Sediment ☐ Other med	lium - Describe:
Date of Collection:	
A copy of the closure letter and submittal materials	
Draft tax cancellation agreement	
Draft agreement for assignment of tax foreclosure judgment	
Tother report(s) or information - Describe: Revised Long-Term Pota	ble Well Sampling Plan, v.8
For Property with newly identified discharges of hazardous substances only: been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?	Has a notification of a discharge of a hazardous substance
O Yes - Date (if known):	
○ No	
Note: The Notification for Hazardous Substance Discharge (non-emergency dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.	/) form is available at:
Section 7. Certification by the Person who completed this form	
I am the person submitting this request (requester)	
I prepared this request for: Denice Nelson	
Requester Name	_
certify that I am familiar with the information submitted on this request, and true, accurate and complete to the best of my knowledge. I also certify I have this request.	•
Jisam Rutkowski	10/2/2023
Signature (Date Signed
Senior Environmental Specialist	(414) 277-6233
Title	Telephone Number (include area code)

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Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a DNR regional brownfields specialist with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf.

DNR NORTHERN REGION

Attn: RR Program Assistant Department of Natural Resources 223 E Steinfest Rd Antigo, WI 54409

DNR NORTHEAST REGION

Attn: RR Program Assistant Department of Natural Resources 2984 Shawano Avenue Green Bay WI 54313

DNR SOUTH CENTRAL REGION

Attn: RR Program Assistant Department of Natural Resources 3911 Fish Hatchery Road Fitchburg WI 53711

DNR SOUTHEAST REGION

Attn: RR Program Assistant
Department of Natural Resources
2300 North Martin Luther King Drive
Milwaukee WI 53212

DNR WEST CENTRAL REGION

Attn: RR Program Assistant Department of Natural Resources 1300 Clairemont Ave. Eau Claire WI 54702



Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.

	DNR Use Only							
Date Received	Date Assigned		BRRTS Activity Code	BRRTS No. (if used)				
DNR Reviewer	C	Comme	ents					
Fee Enclosed?	Fee Amount		Date Additional Information Requested	Date Requested for DNR Response Letter				
Yes No	\$							
Date Approved	Final Determination							



Tyco Fire Products LP

REVISED LONG-TERM POTABLE WELL SAMPLING PLAN

Tyco Fire Technology Center 2700 Industrial Parkway South Marinette, Wisconsin 54143 BRRTS# 02-38-580694

October 2, 2023

REVISED LONG-TERM POTABLE WELL SAMPLING PLAN

Tyco Fire Technology Center, 2700 Industrial Parkway South Marinette, Wisconsin 54143 BRRTS# 02-38-580694

October 2, 2023

Prepared By:

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

Phone: 414 276 7742 Fax: 414 276 7603

Our Ref: 30168806

Lisa M. Rutkowski

Senior Environmental Scientist

Ben Verburg, P.E.

Certified Project Manager

Byr July

Scott T. Potter, PhD Chief Hydrogeologist **Prepared For:**

Tyco Fire Products LP 2700 Industrial Parkway South Marinette, Wisconsin 54143

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Version Control

Revision No.	Date Issued	Page No.	Description
0	3/8/2018	All	Initial Release
1	4/20/2018	All	Revisions based on WDNR comment letter dated March 30, 2018
2	4/1/2020	All	Regular update as requested by WDNR
3	3/16/2021	All	Revisions based on WDNR letter dated November 16, 2020
4	10/1/2021	All	Revisions based on WDNR comment letter dated June 18, 2021
5	5/17/2022	All	Revisions based on WDNR comment letters dated December 16, 2021
6	10/3/2022	All	Revisions reflecting potential drinking water source changes within PWSA
7	4/3/2023	All	Revisions based on WDNR comment letter dated 11/18/2022
8	10/2/2023	All	Regular update as requested by WDNR

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Acronyms and Abbreviations

Arcadis U.S., Inc.
COC chain-of-custody

FTC Fire Technology Center

GAC Granular Activated Carbon

HDPE high-density polyethylene

ID identification

JCI Johnson Controls, Inc.

PFAS per- and polyfluoroalkyl substances

PFOA perfluorooctanoic acid

PFOS perfluorooctanesulfonic acid

POET point of entry treatment
PTFE polytetrafluoroethylene

PWSA potable well sampling area

RL reporting limit

TOC total organic carbon

Tyco Tyco Fire Products LP

WDHS Wisconsin Department of Health Services

WDNR Wisconsin Department of Natural Resources

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Executive Summary

Arcadis U.S., Inc on behalf of Tyco Fire Products LP (Tyco) has prepared this Revised Long-Term Potable Well Sampling Plan (sampling plan) for the Tyco Fire Technology Center site located at 2700 Industrial Parkway South in Marinette, Wisconsin (Site). This sampling plan outlines the activities that Tyco is performing to eliminate the primary potential exposure pathway (drinking water) for per- and polyfluoroalkyl substances (PFAS) in the potable well sampling area (PWSA) (as defined herein).

Tyco is addressing potentially impacted drinking water in the PWSA in three ways. First, Tyco has offered free bottled water to every parcel with a potable well within the PWSA. The bottled water is offered, regardless of the results of any sampling results from the potable well.

Second, Tyco offered a Point-of-Entry Treatment (POET) system for every residential drinking water well within the PWSA that had confirmed detections of PFAS. This report details the POET Monitoring Program that Tyco will continue to provide for each installed POET, until the private replacement deep bedrock drinking water well (Replacement Well) is installed for that parcel. After the Replacement Well is installed for a parcel and test results confirm that the drinking water meets drinking water limits that apply to municipal drinking water in Marinette, the property owners will be allowed to keep the POET and maintain it at their own cost and expense, or Tyco will pay to remove the POET.

Third, Tyco is installing Replacement Wells in the PWSA. Tyco will continue to sample the previously existing potable wells that have been sampled in the PWSA, at the frequency previously used, until the Replacement Wells are installed for a parcel.² At the time of installation, Tyco will sample the Replacement Well to confirm that the drinking water meets drinking water limits that apply to municipal drinking water in Marinette. Thereafter, Tyco will sample the Replacement Wells quarterly for 1 year to continue to confirm that there is no PFAS above recommended standards and that the systems installed are successfully treating naturally occurring elements in the water. Tyco will also continue to conduct sampling of groundwater wells in the PWSA pursuant to an approved Groundwater Monitoring Plan.

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¹ Wisconsin Department of Natural Resources (WDNR) has incorrectly identified Johnson Controls, Inc. (JCI) as a "responsible party" for this property under the Wisconsin Spills Law. The WDNR is in error. JCI does not own or operate the property at issue. In addition, JCI is not the corporate parent of Tyco.

² Tyco believes that continuing sampling at the frequency previously used will result in less disruption and confusion to the well owners and citizens of Marinette County. However, by continuing this activity, Tyco is not acknowledging the authority of the WDNR to require an investigation or remediation of PFAS, or to require the provision of alternate water supplies. Tyco is also not acknowledging or confirming the validity, enforceability, accuracy, or scientific basis for, the use of any proposed or final enforcement standards for PFAS enforced by Wisconsin Department of Health Services, WDNR, or other state or federal agency.

1 Introduction

On behalf of Tyco Fire Products LP (Tyco), Arcadis U.S., Inc. (Arcadis) prepared this *Revised Long-Term Potable Well Sampling Plan* (sampling plan) for the Tyco Fire Technology Center (FTC) located at 2700 Industrial Parkway South in Marinette, Wisconsin. Tyco and Arcadis are conducting Site investigation and monitoring activities under the oversight of the Wisconsin Department of Natural Resources (WDNR). As requested by WDNR, this document provides an update to the Revised Long-Term Potable Well Sampling Plan (Arcadis 2023a). This sampling plan and future versions, to be submitted every 6 months, will be applicable as described herein while existing potable wells (**Table 1**) in the potable well sampling area (PWSA) are in operation. This sampling plan does not apply to any Replacement Wells because they will be subject to the provisions of the Groundwater Monitoring Program.

In the PWSA, Tyco (a) provides bottled water, (b) offered a Point-of-Entry Treatment (POET) system for every residential drinking water well within the PWSA that had confirmed detections of per- and polyfluoroalkyl substances (PFAS) and conducts a POET Monitoring Program (**Table 2**), (c) conducts a potable well sampling program that was initiated in December 2017 and continues quarterly, and (d) is installing Replacement Wells.

Tyco has offered free bottled water to every parcel with a potable well within the PWSA. The bottled water is offered, regardless of the results of any sampling results from the potable well. Bottled water will be discontinued following installation of a Replacement Well and associated treatment system, and the testing results demonstrate the water is safe to drink.

Tyco offered a POET system for every residential drinking water well within the PWSA that had confirmed detections of PFAS. This report details the POET Monitoring Program that Tyco will continue to provide for each installed POET, until the Replacement Well is installed for that parcel. After the Replacement Well is installed for a parcel and test results confirm that the drinking water meets drinking water limits that apply to municipal drinking water in Marinette, the property owners will be allowed to keep the POET and maintain it at their own cost and expense, or Tyco will pay to remove the POET.

Tyco is installing Replacement Wells in the PWSA. Tyco will continue to sample the previously existing potable wells that have been sampled in the PWSA, at the frequency previously used, until the Replacement Well is installed for a parcel. At the time of installation, Tyco will sample the Replacement Well to confirm that the drinking water meets drinking water limits that apply to municipal drinking water in Marinette. Thereafter, Tyco will sample the Replacement Wells quarterly for 1 year to continue to confirm that there is no PFAS above recommended standards and that the systems installed are successfully treating naturally occurring elements in the water.

Tyco will continue to monitor the extent of groundwater contamination in the PWSA through a network of monitoring wells and piezometers already in place or planned, pursuant to an approved Groundwater Monitoring Plan.

2 Potable Well Sampling Plan Summary

The PWSA is roughly defined to the north by University Drive, to the west by County Road B, to the south by Rader Road and to the east by the Bay of Green Bay. The PWSA is illustrated on **Figure 1**.

2.1 Bottled Water

Tyco continues to offer bottled water to private well users within the PWSA regardless of sampling participation or results. Bottled water is managed per the Comprehensive Alternative Water Management Plan submitted to WDNR in March 2020.

2.2 Potable Well Sampling Program

A list of wells within the Potable Well Sampling Program is presented in Table 1.

The spring 2023 quarterly potable well sampling event extended through June 30, 2023. During the previous events, Arcadis sampled a total of 173 potable wells located generally to the southeast of the Site where residents rely on private wells for drinking water. The list below categorizes wells based on the highest levels detected at that location in the history of this sampling program:

- Potable wells analyzed for 36 PFAS compound list: 152
- Potable wells with results above the reporting limit (RL) for compounds in Table 3: 102
- Potable wells with results between the method detection limit and RL for compounds in Table 3: 41
- Potable wells with no detected results for compounds in Table 3: 30

2.3 **POET Monitoring Program**

POETs were offered to every parcel owner in the PWSA where the potable well results confirmed PFAS detections. Forty-seven POET systems have been installed to date to treat groundwater used as drinking water under this program. A list of POET systems and associated status is included in **Table 2**. Currently Arcadis continues to collect POET system samples from active POETs on a regular basis to confirm the effectiveness of PFAS removal and system operations. No new POETs will be installed in the PWSA. In the event of a confirmed detection of PFAS at parcels located within the PWSA but outside the City of Marinette, a deep well will be offered. If the results are above **Table 3** criteria, a POET may be temporarily installed until the replacement well is

completed. For PWSA parcels located inside the City of Marinette, the owners are required to connect to municipal water.

As Replacement Wells are installed the POETs are no longer necessary. At the time that laboratory data are supplied to the homeowner demonstrating that the new well water is safe to drink, Tyco will allow the parcel owners to continue to own and maintain the POETs, or Tyco will remove the POET at Tyco's expense.

Routine maintenance is conducted on each POET system. Sediment filters are typically replaced every 3 months; UV lights and the quartz sleeves are replaced once every year; and granular activated carbon (GAC) tanks are replaced when initial breakthrough is observed or as appropriate based on a conservative analysis of previous results for the specific POET system over the course of at least 12 months. Those analyses indicated

Revised Long-Term Potable Well Sampling Plan

breakthrough varied based on water usage, concentrations of PFAS for each well, and concentration of total organic carbon (TOC). The water available or yield from a driven point well also causes variability in when breakthrough is observed. POET system PFAS monitoring data has been provided to WDNR.

3 Long-Term Sampling Plan for Existing Potable Wells

3.1 Existing Potable Wells

The frequency of sampling for existing potable wells will be consistent with those proposed in the *Sixth Revised Long-Term Potable Well Sampling Plan* (Arcadis 2022e). This approach is consistent with that previously approved in the *Fifth Revised Long-Term Potable Well Sampling Plan* (dated May 19, 2022), although there is no enforceable groundwater standard for PFOA or PFOS in the state of Wisconsin.

The potable well sampling plan criteria were established based on data collected to date that indicate most wells in the PWSA do not have detections above the reporting limit and all wells were offered bottled water to eliminate the drinking water exposure pathway regardless of sampling results. Results from potable wells are used to inform residents of their specific groundwater conditions relative to PFAS, but are not a source of remedial decision-making data. Instead, the borings, piezometers, and wells installed for monitoring purposes will be used to monitor groundwater quality over time.

As noted in **Section 1**, this sampling plan will be updated every six months. The next update will be provided April 1, 2024.

3.2 POET Systems

3.2.1 Proposed POET Maintenance Schedule for Existing POET Systems

POET systems installed for less than one year will be sampled on a quarterly basis to determine POET system efficiency. After a minimum of one year of monitoring, POET systems are transitioned to the maintenance program described below. The POET system maintenance program uses sampling data from each POET over the course of at least one year to determine a conservative GAC vessel change out schedule. Bottled water service remains available to POET users.

The conservative sampling schedule that was established for the POET program when systems were first installed starting in early 2018 resulted in a large amount of data available to help predict when POET systems would show breakthrough. In addition to analyzing inlet, mid-carbon and outlet samples for PFAS, TOC was collected from the well prior to POET system installation and flow meter readings were collected during each sampling event to determine weekly or monthly water usage. This information as well as the inlet concentrations and regular sampling to identify when initial breakthrough occurred resulted in the ability to reduce the sampling frequency for well-established POET systems and move them to a maintenance-only program.

The GAC change schedule was established by looking at all data relevant to each system. The GAC will be changed in every system at least once per year, even if breakthrough was observed two years or more after installation. Systems where breakthrough was observed earlier than 12 months will be changed out more frequently. Section 3.2.1 describes the various scenarios that are relevant to determining the GAC changeout schedule. The observed breakthrough and GAC change frequency for each POET is included in **Table 2**. The

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GAC changeout schedule is based on when initial breakthrough was observed, not when detections of PFAS exceeded the concentrations set forth on **Table 3**. This conservative approach to establishing the GAC changeout schedule in conjunction with the offer of bottled water to users of the potable wells, eliminates any potential drinking water exposure pathway.

Any POET systems with original GAC tanks that have been in operation for a year or more without exhibiting any signs of PFAS break-through will be maintained by replacing the GAC tanks once per year. POET systems with historic influent results below concentrations set forth in **Table 3** will be sampled at the effluent approximately every other year to confirm the efficacy of the selected maintenance program. POET systems with historic influent results above concentrations set forth in **Table 3** will be sampled at the effluent approximately annually to confirm the efficacy of the selected maintenance program. These samples will be collected immediately prior to the scheduled GAC tank replacement closest to the sampling schedule described above.

GAC Change Frequency	Rationale	Remaining POET Systems (as of Oct 2, 2023)
Annual	POET systems had non-detect concentrations at the mid- carbon and post-carbon sampling locations for more than a year.	10, 13, 14, 15, 16, 18, 20, 22, 24, 25, 26, 27, 28, 29, 31, 34, 35, 38, 39, 40, 41, 42, 43, 45, 46, 47
9 months	POET systems that have shown PFAS breakthrough between 9 months and 1 year.	1, 2
6 months	POET systems that have shown PFAS breakthrough between six months and nine months.	3, 17
As-needed	POET systems that have shown varying influent or PFAS breakthrough before six months will continue to be monitored on a quarterly basis and the GAC tanks will be replaced when breakthrough is observed. The sampling frequency may be increased or decreased based on future sampling results.	4, 6, 8, 12, 37, 44
2-3 months	POET systems that have shown PFAS breakthrough before three months.	5, 7, 19
Winterization Schedule	POET systems in operation for less than 12 months because of planned service disruption due to extended vacations or absence for the winter will be winterized and then reinstalled with new GAC upon the homeowner's return without the collection of additional samples. This also applies to properties with unplanned service disruption due to vacancy, death, or home for sale. Winterization consists of bypassing the system, removing the GAC tanks and filters, and removing residual water from the system.	11, 23, 26

GAC Change Frequency	Rationale	Remaining POET Systems (as of Oct 2, 2023)
Discontinued Service (Removed Systems)	POET systems that have been removed from service due to a Replacement Well installation, or by request of the owner (as indicated by an asterisk).	9*, 21, 30, 32, 33

POET systems that have not operated for at least a year will be monitored quarterly for at least 12 months to determine the future GAC maintenance schedule, at which point sampling will be discontinued. This does not apply to any systems currently. All systems in place have operated for a minimum of 12 months.

Sediment filters and UV/Quartz maintenance will continue to be changed out based on the schedule defined in Section 3.2.2.

3.2.2 Proposed POET Maintenance Schedule for New POET Systems

Tyco is now installing Replacement Wells in the PWSA. As a result, it is unlikely that any new POET systems will be installed. If they are, it will be a temporary solution and new POET systems will be monitored as noted in 3.2.1.

POET system performance monitoring samples will be collected at the inlet, mid-carbon and outlet locations according to the following schedule:

- Initial Sampling Upon system installation and start-up
- Month 3 (Week 12) After 3 months or 12 weeks of system operation
- Month 6 After 6 months of system operation
- Month 9 After 9 months of system operation
- Month 12 After 12 months of system operation.

3.2.3 Adjustments to POET Maintenance Schedules Based on Sampling Results

As described in **Section 3.2.1**, POET maintenance schedules were established based on observed breakthrough. It is reasonable to expect that there may be some instances where low levels of PFAS are detected in the POET effluent. Detections in POET effluent of less than one tenth of concentrations set forth in **Table 3** will be treated as demonstrating the effectiveness of the POET maintenance program and no changes will be made to the maintenance plan.

Detections in POET effluent greater than one tenth of concentrations set forth in **Table 3** will adjust the GAC changeout maintenance frequency to one category more conservative (i.e., annual maintenance will move to 9 months, 9 months will move to 6 months, or 6 months will move to quarterly) and an effluent sample will be collected at the time of the next GAC change. After sampling confirms the effectiveness of the updated maintenance schedule, the POET will remain in the new maintenance category and return to the sampling schedule described in **Section 3.2.1**.

4 Sample Procedure for Existing Potable Wells and POET Systems

The sections that follow provide an overview of the potable well and POET system sample procedures.

4.1 Prior to Sample Collection

Arcadis staff will coordinate a sample date and time with each well's contact person. Upon arrival, Arcadis will provide introductions and let the resident/property owner know the purpose is to collect a potable well sample for PFAS analysis in accordance with previous correspondence provided to them regarding the sampling. Arcadis will request information from the property owner regarding the water system at each property. Information that will be recorded includes presence of water softeners, sediment traps, filters, etc., and the location of these items.

Additional activities to be performed and procedures to be followed by the sampling team prior to potable well sample collection include:

- Put on a new set of nitrile gloves immediately prior to sampling.
- Do not use gloved hands to subsequently handle papers, pens, clothes, etc., before collecting samples.
- Use the 2-250 milliliter high-density polyethylene (HDPE) bottles that are supplied by the laboratory for each sample location.
- Sample bottle caps must remain on the bottle until immediately prior to sample collection, and the bottle must be sealed immediately after sample collection.

Additional COVID-related precautions may be implemented as appropriate based on Federal, State, or County guidance to protect homeowners and the sampling team. Those precautions may include but are not limited to:

- Sampling team personnel will practice established social distancing protocols when interacting with homeowners.
- Sampling team personnel will wear individual protective masks.
- Sampling team personnel will request verbal sampling permission from each of the homeowners and sign the homeowner acceptance, on behalf of the homeowner, of such verbal agreement on the electronic tablet.
- Sampling locations will be prioritized to outdoor spigots, instead of indoor locations, when possible, weather permitting.

4.2 During Sample Collection

Potable water outfalls and taps are likely to vary. If possible, the team will avoid sampling from any taps fitted with Teflon tape or other potential PFAS-containing materials. Stainless steel and polyvinyl chloride materials are acceptable. The sampling team will collect unfiltered samples from a tap or port, as follows:

- Initiate flow from the water source and allow the system to flush for at least three minutes.
- Collect the sample into the HDPE bottle until the sample bottle is full (leaving slight headspace in the bottle is acceptable).

Tightly screw on the polypropylene or HDPE cap.

4.3 After Sample Collection

Upon collection, the sample bottles will be placed in a sealed Ziploc® or similar bag. Sample collection information will be recorded including the sample identification (ID) and time of sampling on the sample bottle label, in the field notes, and on the chain-of-custody (COC) form. The COC form will be marked for analysis with a standard turnaround time (approximately two weeks). Samples will be placed in coolers, with enough ice to keep the sample temperature between 0 and 4°C until delivered to the laboratory. Only "wet" ice will be used, with no use of "blue ice" or similar cold storage packets. PFAS sample coolers will be shipped via Federal Express Priority Overnight delivery to:

Sample Receiving
Eurofins TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, California 95605-1500

Samples will be analyzed for the 36 PFAS compounds reportable using Method 537 Modified.

All disposable sampling materials will be treated as single use and disposed appropriately after sampling at each location. Samples from each residence will be kept in their own dedicated cooler with the appropriate quality assurance samples.

4.4 Quality Assurance/Quality Control

Avoiding cross-contamination from PFAS-containing materials during this sampling will be of utmost importance given the very low detection limits for the analyses that will be conducted for these compounds. As such, materials with the potential to contain PFAS will not be used during the sampling (including polytetrafluoroethylene [PTFE] pipe tape, pipe thread pastes that contain PTFE, PTFE sample tubing, food wrappers, water resistant/proof clothing, waterproof field books, etc.)

Sample information, including sample ID and date/time collected, will be recorded on the provided bottle labels and attached to the sample bottles immediately after sealing the bottles. This information also will be recorded on the COC form provided by the laboratory, in a Potable Water Supply Sample Log, and in the sampling team's field notes. A signed copy of the COC form will be provided to the laboratory whenever a sample cooler is delivered to the laboratory. A copy of each COC form will be kept with the field notes and sample logs.

After receipt from the laboratory, Arcadis will conduct a preliminary data quality review (Level 2 data validation). The sample results will be communicated to well owners/users after completion of the preliminary data quality review, as outlined in the "Project Communication" section below. After completion of the preliminary data quality review, Arcadis will conduct a more comprehensive validation of the data (Level 4 data validation). The timeframe for the Level 4 validation may vary based on the amount of time required for the laboratory to send additional Quality Assurance/Quality Control information to Arcadis, and the number of samples under review. The anticipated timeframe for completion of Level 4 validation is approximately four weeks after receipt of the complete Level 4 data package from the laboratory. If any changes to the reported sampling results become necessary after completion of the Level 4 validation, the well owners/users and WDNR will be notified of those changes.

5 Project Communication

Results letters will be provided to the applicable well owners/users and WDNR within 10 business days of Arcadis receiving results from the laboratory. If the PFAS concentrations from a well are above the concentrations set forth on **Table 3** for the first time, a phone call will be placed to the well owner/user within two days of completing the preliminary data quality review for the laboratory results to inform the owner or tenant of their results and confirm their bottled water status or offer bottled water as appropriate.

Tyco will provide WDNR copies of the letters provided to well owners/users within 10 business days of Arcadis receiving results from the laboratory. Validated results will be included in regular database submissions.

Tyco will submit an Annual Summary Report to document the results of the potable well and POET programs for the previous year. The next Annual Summary Report summarizing the drinking water results from April 1, 2023 through March 31, 2024 will be submitted by July 31, 2024.

6 Closing

This sampling plan presents the approach for bottled water service, sampling and maintenance of POET systems, and sampling of existing potable wells. Tyco has eliminated the primary potential exposure pathway for PFAS and will continue to work with the DNR and affected property owners.

www.arcadis.com

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7 References

Arcadis 2018a. Response to Comments on the March 2018 Long-Term Potable Well Sampling Plan. Tyco Fire Technology Center, Marinette, WI. BRRTS Activity #: 02-38-580694. April 20, 2018.

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Arcadis 2020b. Revised Long-Term Potable Well Sampling Plan. Tyco Fire Technology Center, 2700 Industrial Parkway, Marinette, Wisconsin 54143. BRRTS# 02-38-580694. Revision 2. April 1, 2020

Arcadis 2020c. Potable Well Sampling Program Summary Report. Tyco Fire Technology Center, 2700 Industrial Parkway South, Marinette, Wisconsin 54143. BRRTS# 02-38-580694. June 1, 2020.

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Arcadis 2021e. Revised Long-Term Potable Well Sampling Plan. Tyco Fire Technology Center, 2700 Industrial Parkway South, Marinette, Wisconsin 54143. BRRTS# 02-38-580694. Revision 4. October 1, 2021

Arcadis 2021f. Updates to Point of Entry Treatment System Sampling. Tyco FTC PFAS, 2700 Industrial Parkway South, Marinette, WI. BRRTS# 02-38-580694. November 22, 2021.

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Tables



Table 1
Potable Well Program
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

Well ID	# of Quarterly Samples Collected ⁽³⁾	Category	Sampling Frequency	Next Sampling Event	Comments
WS-001	10	RL <t3< td=""><td>Biennially</td><td>Spring 2025</td><td></td></t3<>	Biennially	Spring 2025	
WS-002	2	ND	N/A	Well no longer in use	
WS-004	1	ND	N/A	Well no longer in use	
WS-005	12	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-005B	2	MDL <rl< td=""><td>N/A</td><td>Not a drinking water well</td><td></td></rl<>	N/A	Not a drinking water well	
WS-006	4	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-007B ⁽¹⁾	2	>T3	Annually	Fall 2023	Accepted deep well
WS-010	7	RL <t3< td=""><td>Biennially</td><td>Spring 2024</td><td>,,</td></t3<>	Biennially	Spring 2024	,,
WS-011	8	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-012	8	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-014	11	MDL <rl< td=""><td>Biennially</td><td>Winter 2024</td><td></td></rl<>	Biennially	Winter 2024	
WS-015	5	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-016	7	MDL <rl< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></rl<>	Biennially	Summer 2025	Accepted deep well
WS-020	9	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-021	3	RL <t3< td=""><td>Biennially</td><td>Spring 2025</td><td>Accepted deep well</td></t3<>	Biennially	Spring 2025	Accepted deep well
WS-022	8	ND	Biennially	Fall 2023	Accepted deep well
WS-026	10	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>7 toocpica acop well</td></rl<>	Biennially	Winter 2025	7 toocpica acop well
WS-027	6	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td></td></rl<>	Biennially	Fall 2023	
WS-027	5	RL <t3< td=""><td>Biennially</td><td>Winter 2024</td><td></td></t3<>	Biennially	Winter 2024	
WS-020	9	RL <t3< td=""><td>Biennially</td><td>Spring 2025</td><td>Accepted deep well</td></t3<>	Biennially	Spring 2025	Accepted deep well
WS-029	11	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-031	11	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-034	10	MDL <rl< td=""><td>N/A</td><td>Well abandoned</td><td>Deep well installed</td></rl<>	N/A	Well abandoned	Deep well installed
WS-035	7	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Deep well illistatied</td></t3<>	Biennially	Winter 2025	Deep well illistatied
WS-039	9	ND ND	Biennially	Spring 2025	
WS-039	8	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-040	7	ND ND	Biennially	Fall 2023	Accepted door well
WS-043	10	RL <t3< td=""><td>-</td><td>Summer 2025</td><td>Accepted deep well</td></t3<>	-	Summer 2025	Accepted deep well
			Biennially		
WS-045	11	ND DL 773	Biennially	Winter 2025	A t -
WS-046	5	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></t3<>	Biennially	Summer 2025	Accepted deep well
WS-047	2	ND To	Biennially	Fall 2023	Accepted deep well
WS-048 ⁽¹⁾	10	>T3	Annually	Fall 2023	A (. 1 1 II
WS-050	11	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-051	10	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>A</td></t3<>	Biennially	Fall 2023	A
WS-055	8	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-056	5	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td></td></rl<>	Biennially	Fall 2023	
WS-059	6	RL <t3< td=""><td>Biennially</td><td>Summer 2024</td><td></td></t3<>	Biennially	Summer 2024	
WS-061A	3	ND ND	Biennially	Fall 2023	
WS-063	10	MDL <rl< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></rl<>	Biennially	Summer 2025	Accepted deep well
WS-064	8	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></t3<>	Biennially	Summer 2025	Accepted deep well
WS-065	10	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-066	9	RL <t3< td=""><td>Biennially</td><td>Winter 2024</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2024	Accepted deep well
WS-069A	9	RL <t3< td=""><td>Biennially</td><td>Spring 2024</td><td></td></t3<>	Biennially	Spring 2024	
WS-069B ⁽¹⁾	9	>T3	Annually	Fall 2023	
WS-070 ⁽¹⁾	1	>T3	Annually	Fall 2023	
WS-071	8	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-072	10	ND	N/A	Well abandoned	Deep well installed

Notes on Page 3.



Table 1
Potable Well Program
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

	# of Quarterly				
Well ID	Samples	Category	Sampling	Next Sampling Event	Comments
Woll ID	Collected ⁽³⁾	Guiogory	Frequency	Heat Gamping Event	Comments
WS-073	11	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-074	2	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-074	11	ND	Biennially	Winter 2025	Accepted deep well
WS-075	3	ND	Biennially	Fall 2023	Accepted deep well
WS-077	7	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></t3<>	Biennially	Winter 2025	Accepted deep well
WS-077	12	ND	Biennially	Fall 2024	Accepted deep well
WS-078	12	RL <t3< td=""><td>Biennially</td><td>Fall 2024</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2024	Accepted deep well
WS-079	4	MDL <rl< td=""><td>Biennially</td><td>Fall 2024</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2024	Accepted deep well
WS-080	3	MDL <rl< td=""><td>Biennially</td><td></td><td>Accepted deep well</td></rl<>	Biennially		Accepted deep well
WS-081	3	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
			-	Fall 2023	
WS-082B	2	>T3	N/A	Not a drinking water well	
WS-082C	2	>T3	N/A	Not a drinking water well	
WS-082D ⁽¹⁾	3	>T3	N/A	Not a drinking water well	
WS-083	7	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-084	12	ND	Biennially	Summer 2024	
WS-085	9	MDL <rl< td=""><td>Biennially</td><td>Spring 2025</td><td></td></rl<>	Biennially	Spring 2025	
WS-086	7	RL <t3< td=""><td>Biennially</td><td>Winter 2024</td><td></td></t3<>	Biennially	Winter 2024	
WS-087	11	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-088	9	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-089	5	ND	Biennially	Winter 2024	
WS-091	4	ND	Biennially	Fall 2023	Accepted deep well
WS-093	7	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td></td></t3<>	Biennially	Winter 2025	
WS-094 ⁽¹⁾	7	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-095	3	ND	Biennially	Fall 2023	Accepted deep well
WS-098	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-101 ⁽²⁾	3	>T3	Annually	Fall 2023	
WS-102	9	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></t3<>	Biennially	Summer 2025	Accepted deep well
WS-103	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-104	10	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-105	2	ND	Biennially	Fall 2023	
WS-107	7	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td></td></t3<>	Biennially	Summer 2025	
WS-108	10	RL <t3< td=""><td>Biennially</td><td>Spring 2025</td><td>Accepted deep well</td></t3<>	Biennially	Spring 2025	Accepted deep well
WS-110A	11	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td></td></rl<>	Biennially	Winter 2025	
WS-112	10	MDL <rl< td=""><td>N/A</td><td>Well abandonment pending</td><td>Deep well installed</td></rl<>	N/A	Well abandonment pending	Deep well installed
WS-113	11	ND	Biennially	Winter 2025	Accepted deep well
WS-114	6	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-116	8	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-117	9	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-118A	6	ND	Biennially	Summer 2025	· · · · · · · · · · · · · · · · · · ·
WS-118B	5	ND	Biennially	Summer 2025	
WS-119	11	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-120	7	RL <t3< td=""><td>N/A</td><td>Well abandoned</td><td>Deep well installed</td></t3<>	N/A	Well abandoned	Deep well installed
WS-122	11	MDL <rl< td=""><td>N/A</td><td>Well abandonment pending</td><td>Deep well installed</td></rl<>	N/A	Well abandonment pending	Deep well installed
WS-123	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-124 ⁽¹⁾	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-125	9	MDL <rl< td=""><td>Biennially</td><td>Winter 2025</td><td>Accepted deep well</td></rl<>	Biennially	Winter 2025	Accepted deep well
WS-127	4	RL <t3< td=""><td>Biennially</td><td>Spring 2024</td><td>Accepted deep well</td></t3<>	Biennially	Spring 2024	Accepted deep well

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Table 1 Potable Well Program Revised Long-Term Potable Well Sampling Plan Marinette, Wisconsin

Well ID	# of Quarterly Samples Collected ⁽³⁾	Category	Sampling Frequency	Next Sampling Event	Comments
WS-128	4	ND	Biennially	Fall 2023	Accepted deep well
WS-130	11	MDL <rl< td=""><td>Biennially</td><td>Spring 2024</td><td></td></rl<>	Biennially	Spring 2024	
WS-131	7	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-132	9	RL <t3< td=""><td>N/A</td><td>Well abandoned</td><td>Deep well installed</td></t3<>	N/A	Well abandoned	Deep well installed
WS-134	6	MDL <rl< td=""><td>Biennially</td><td>Spring 2024</td><td>Accepted deep well</td></rl<>	Biennially	Spring 2024	Accepted deep well
WS-135	4	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-136	7	RL <t3< td=""><td>Biennially</td><td>Winter 2025</td><td></td></t3<>	Biennially	Winter 2025	
WS-137	8	RL <t3< td=""><td>Biennially</td><td>Spring 2024</td><td>Accepted deep well</td></t3<>	Biennially	Spring 2024	Accepted deep well
WS-138	9	ND	Biennially	Winter 2025	
WS-139	8	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-140	5	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-141	8	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-142	4	RL <t3< td=""><td>N/A</td><td>Well abandoned</td><td>Deep well installed</td></t3<>	N/A	Well abandoned	Deep well installed
WS-143	6	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td>Accepted deep well</td></t3<>	Biennially	Summer 2025	Accepted deep well
WS-144	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-145	5	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td></td></t3<>	Biennially	Summer 2025	
WS-146B	4	>T3	N/A	Not a drinking water well	
WS-147 ⁽²⁾	3	>T3	Annually	Fall 2023	Accepted deep well
WS-148	2	ND	N/A	Abandoned by owner	
WS-149	3	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-150	3	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-151	5	RL <t3< td=""><td>Biennially</td><td>Summer 2025</td><td></td></t3<>	Biennially	Summer 2025	
WS-153	7	ND	Biennially	Summer 2025	Accepted deep well
WS-154	5	ND	Biennially	Summer 2025	Accepted deep well
WS-155	3	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td></td></rl<>	Biennially	Fall 2023	
WS-156	7	ND	Biennially	Summer 2025	
WS-157	6	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td></td></t3<>	Biennially	Fall 2023	
WS-158	3	>T3	Annually	Fall 2023	Accepted deep well
WS-159 ⁽¹⁾	4	>T3	Annually	Fall 2023	Accepted deep well
WS-160	4	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></rl<>	Biennially	Fall 2023	Accepted deep well
WS-161	4	RL <t3< td=""><td>Biennially</td><td>Spring 2024</td><td></td></t3<>	Biennially	Spring 2024	
WS-162	2	RL <t3< td=""><td>Biennially</td><td>Fall 2023</td><td>Accepted deep well</td></t3<>	Biennially	Fall 2023	Accepted deep well
WS-164	1	MDL <rl< td=""><td>Biennially</td><td>Fall 2023</td><td></td></rl<>	Biennially	Fall 2023	

Notes:

ID = Identification

ND = not detected above the laboratory MDL

MDL = method detection limit

RL = reporting limit

T3 = Table 3 values

N/A = not applicable

All scheduled sampling events are only applicable if the well is not replaced by a private deep well prior to the next scheduled event Wells abandonded due to deep well replacement are removed from this sampling program

^{(1) =} POET offer extended

^{(2) =} POET offer declined

 $^{^{(3)}}$ = Number of quarterly samples collected through Spring 2023 sampling event



Table 2
Potable Wells in POET OM&M Program
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

Warinette, W						Date POET System	
ID	POET ID	Category	GAC Change Frequency	Residency Status	Next Maintenance or Sampling Event ⁽¹⁾	Removed From Home	Comments
WS-007A	POET-43	> T3	12 months		Maintenance, October 2023		Accepted deep well
WS-008	POET-7	> T3	2-3 months		Maintenance, October 2023		Accepted deep well
WS-009	POET-26	RL < T3	12 months		Maintenance, November 2023		
WS-013	POET-10	RL < T3	12 months	Occasionally winterized	Maintenance, December 2023		Accepted deep well
WS-017	POET-40	RL < T3	12 months		Maintenance, November 2023		
WS-018	POET-29	> T3	12 months		Maintenance, November 2023		
WS-019	POET-5	> T3	N/A		Well abandonment pending	Pending	Deep well installed
WS-023	POET-14	RL < T3	12 months		Maintenance, December 2023		
WS-024	POET-11	> T3	TBD	Winterized 4 months each year	Maintenance, December 2023		
WS-025	POET-28	> T3	12 months		Maintenance, December 2023		
WS-030	POET-31	> T3	12 months		Maintenance, October 2023		Accepted deep well
WS-032	POET-25	MDL < RL	12 months		Maintenance, November 2023		
WS-036	POET-3	> T3	6 months		Maintenance, October 2023		
WS-037	POET-32	> T3	N/A		Well abandoned	1/30/2023	Deep well installed
WS-038	POET-19	> T3	2-3 months		Maintenance, October 2023		Accepted deep well
WS-041	POET-46	RL < T3	12 months		Maintenance, October 2023		
WS-042	POET-45	RL < T3	12 months		Maintenance, October 2023		
WS-049	POET-35	RL < T3	12 months		Maintenance, October 2023		
WS-052	POET-2	> T3	9 months		Maintenance, October 2023		Accepted deep well
WS-053	POET-21	RL < T3	N/A		Well abandoned	6/1/2023	Deep well installed
WS-054	POET-30	> T3	N/A		Well abandoned	5/10/2023	Deep well installed
WS-057	POET-34	> T3	12 months		Maintenance, November 2023		Accepted deep well
WS-058	POET-1	> T3	9 months		Maintenance, October 2023		Accepted deep well
WS-060	POET-47	> T3	12 months		Maintenance, November 2023		
WS-061B	POET-27	> T3	12 months		Maintenance, October 2023		
WS-062	POET-44	> T3	N/A		Well abandonment pending	Pending	Deep well installed
WS-067	POET-39	RL < T3	12 months		Maintenance, December 2023		
WS-068	POET-12	> T3	N/A		Well abandonment pending	Pending	Deep well installed
WS-090	POET-4	> T3	N/A		Well abandonment pending	Pending	Deep well installed
WS-092	POET-22	RL < T3	12 months	Occasionally winterized	Maintenance, October 2023		Accepted deep well
WS-096	POET-6	> T3	Observed breakthrough		Maintenance and Sampling, October 2023		
WS-097	POET-13	RL < T3	12 months		Maintenance, October 2023		Accepted deep well
WS-099	POET-15	RL < T3	12 months		Maintenance, December 2023		Accepted deep well
WS-100	POET-24	RL < T3	12 months		Maintenance, November 2023		Accepted deep well
WS-106R	POET-37	> T3	Observed breakthrough		Maintenance and Sampling, October 2023		Accepted deep well
WS-109	POET-17	> T3	6 months		Maintenance, October 2023		

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Table 2
Potable Wells in POET OM&M Program
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

Well Sample ID	POET ID	Category	GAC Change Frequency	Residency Status	Next Maintenance or Sampling Event ⁽¹⁾	Date POET System Removed From Home	Comments
WS-111	POET-18	RL < T3	12 months		Maintenance, October 2023		Accepted deep well
WS-115	POET-20	MDL < RL	12 months		Maintenance, October 2023		
WS-121A	POET-16	> T3	12 months		Maintenance, October 2023		Accepted deep well
WS-121B	POET-36	RL < T3	12 months	Occasionally winterized	Maintenance, October 2023		Accepted deep well
WS-126	POET-23	MDL < RL	N/A		Well abandoned	Pending	Deep well installed
WS-129	POET-38	RL < T3	12 months		Maintenance, October 2023		Accepted deep well
WS-133	POET-33	RL < T3	N/A		Well abandoned	2/6/2023	Deep well installed
WS-146AR	POET-8	> T3	Observed breakthrough		Maintenance and Sampling, November 2023		Accepted deep well
WS-152	POET-42	RL < T3	12 months		Maintenance, October 2023		
WS-163	POET-41	> T3	12 months		Maintenance, October 2023		

Notes:

Effluent from POETs not sampled for 12 months are still eligible for quarterly sampling until 12 months of data has been collected

GAC = Granular Activated Carbon

ID = Identification

OM&M = Operations, Maintenance and Monitoring

POET = Point of Entry Treatment

TBD = To be determined based on additional sampling

All scheduled sampling and maintenance events are only applicable if the well is not replaced by a private deep well prior to the next scheduled event

Wells abandonded due to deep well replacement are removed from this sampling program

^{(1) =} This program is operated independent of the private drinking water well sampling program and deep well program



Table 3
List of Compounds
Revised Long-Term Potable Well Sampling Plan
Marinette, Wisconsin

Analyte	June 2019 WDHS (Not Adopted by WDNR Board) ⁽¹⁾	November 2020 WDHS (Not Yet Proposed for Rulemaking by WDNR) ⁽²⁾	1/10th of WDHS Recommended Values	Units
PFBA		10,000	1,000	ng/L
PFPeA				ng/L
PFHxA		150,000	15,000	ng/L
PFHpA				ng/L
PFOA	20		2	ng/L
PFNA		30	3	ng/L
PFDA		300	30	ng/L
PFUnA		3,000	300	ng/L
PFDoA		500	50	ng/L
PFTriA				ng/L
PFTeA		10,000	1,000	ng/L
PFHxDA				ng/L
PFODA		400,000	40,000	ng/L
PFBS		450,000	45,000	ng/L
PFPeS				ng/L
PFHxS		40	4	ng/L
PFHpS				ng/L
PFOS	20		2	ng/L
PFNS				ng/L
PFDS				ng/L
PFDOS				ng/L
4:2 FTS				ng/L
6:2 FTS				ng/L
8:2 FTS				ng/L
10:2 FTS				ng/L
FOSA		20	2	ng/L
NMeFOSA				ng/L
NEtFOSA		20	2	ng/L
NMeFOSAA				ng/L
NEtFOSAA		20	2	ng/L
NMeFOSE				ng/L
NEtFOSE		20	2	ng/L
GenX		300	30	ng/L
DONA		3,000	300	ng/L
F-53 Major				ng/L
F-53B Minor				ng/L

Notes:

(2) = In November 2020 the Wisconsin DHS recommended a combined groundwater standard of 20 ng/L for: FOSA, NEtFOSE, NEtFOSA, PFBS, PFHxS, PFNA, PFDA, PFDA, PFDA, PFDA, PFDA, PFDA, PFDA, PFDA, PFDA, DONA, and GenX. In June 2021, the Wisconsin Natural Resources Board approved a Statement of Scope to initiate a rulemaking for this recommendation. The WDNR has not yet proposed rules to initiate the rulemaking process to implement this recommendation; the agency's authority to do so under the Statement of Scope will expire in September 2023. In September 2022, the Governor approved a Statement of Scope to establish groundwater standards for PFOA, PFOS, PFBS and GenX (referred to as the "Four PFAS"). The Statement of Scope was approved by the Natural Resources Board in December 2022. The WDNR has not yet proposed rules to initiate the rulemaking process to implement the Statement of Scope; the agency's authority under the Statement of Scope will expire in March 2025.

^{-- =} No standard

ng/L = nanograms per liter

^{(1) =} In June 2019, WDHS recommended individual groundwater standards of 20 ng/L for PFOA and PFOS. The WDNR proposed those standards through the state rulemaking process. In February 2022, the Wisconsin Natural Resource Board did not approve the proposed rulemaking for groundwater. In August 2022, WDNR promulgated a drinking water standard of 70 ng/L for PFOA and PFOS, individually and combined, for public water systems. This standard does not apply to private drinking water wells.



Table 3 List of Compounds Revised Long-Term Potable Well Sampling Plan Marinette, Wisconsin

Chemical Abbreviations:

Perfluorobutanoic acid (PFBA)

Perfluoropentanoic acid (PFPeA)

Perfluorohexanoic acid (PFHxA)

Perfluoroheptanoic acid (PFHpA)

Perfluorooctanoic acid (PFOA)

Perfluorononanoic acid (PFNA)

Perfluorodecanoic acid (PFDA)

Perfluoroundecanoic acid (PFUnA)

Perfluorododecanoic acid (PFDoA)

Perfluorotridecanoic acid (PFTriA)

Perfluorotetradecanoic acid (PFTeA)

Perfluorohexadecanoic acid (PFHxDA)

Perfluorooctadecanoic acid (PFODA)

Perfluorobutane sulfonic acid (PFBS)

Perfluoropentane sulfonic acid (PFPeS)

Perfluorohexane sulfonic acid (PFHxS)

Perfluoroheptane sulfonic acid (PFHpS)

Perfluorooctane sulfonic acid (PFOS)

Perfluorononane sulfonic acid (PFNS)

Perfluorodecane sulfonic acid (PFDS)

Perfluorododecane sulfonic acid (PFDOS)

4:2 Fluorotelomer sulfonate (4:2 FTS)

6:2 Fluorotelomer sulfonate (6:2 FTS)

8:2 Fluorotelomer sulfonate (8:2 FTS)

10:2 Fluorotelomer sulfonate (10:2 FT)

Perfluorooctane sulfonamide (FOSA)

 $N\text{-}methylperfluorooctane sulfonamide (NMeFOSA)}\\$

N-ethylperfluorooctanesulfonamidee (NEtFOSA)

N-methylperfluorooctanesulfonamidoacetic acid (MeFOSAA)

N-methylperfluorooctanesulfonamidoethanol (NEtFOSAA)

 $N-methyl perfluoro octane sulfonamido ethanol\ (NMeFOSE)$

N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)

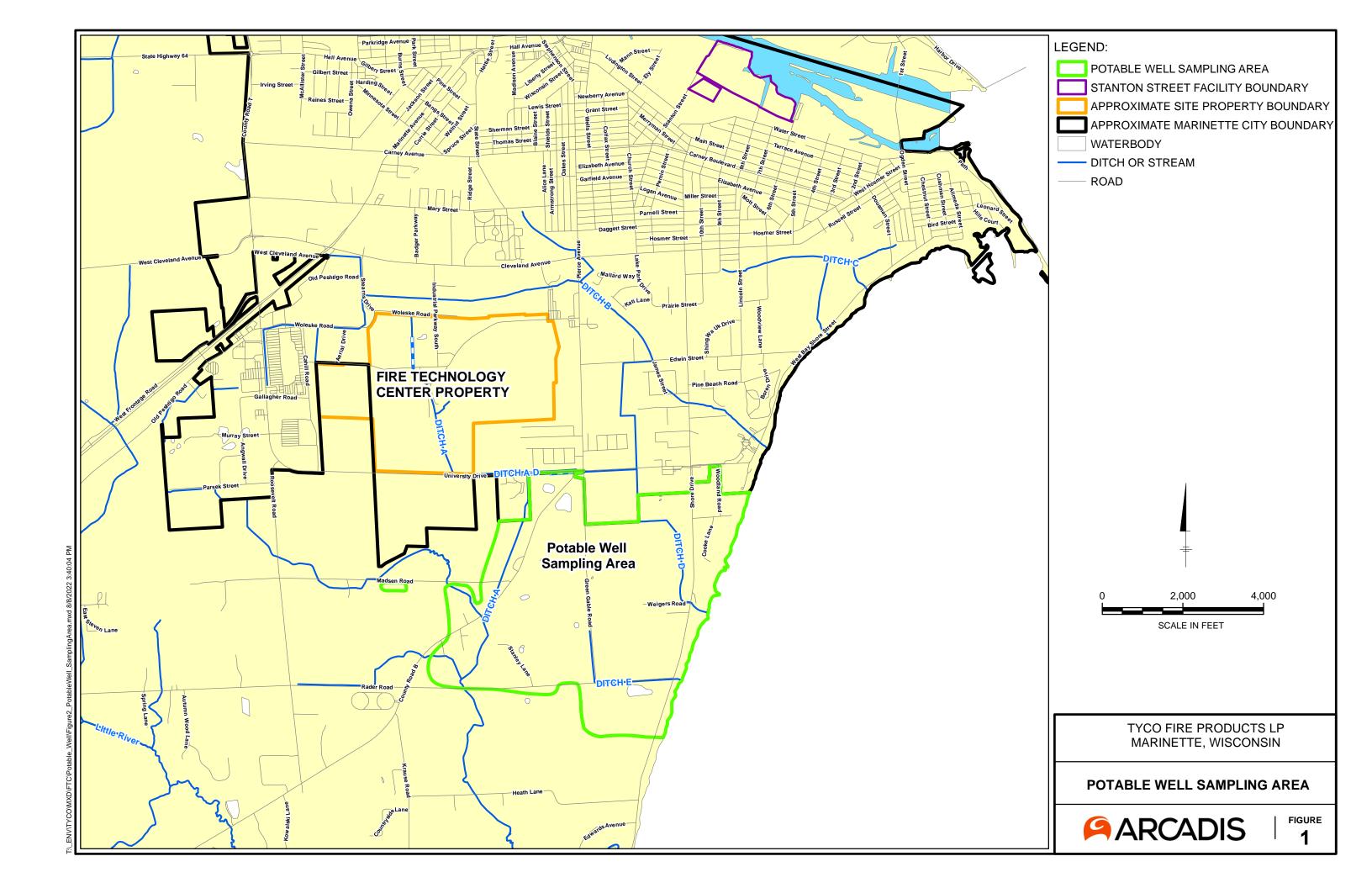
 $Hexafluoropropylene\ oxide\ dimer\ acid\ (GenX)$

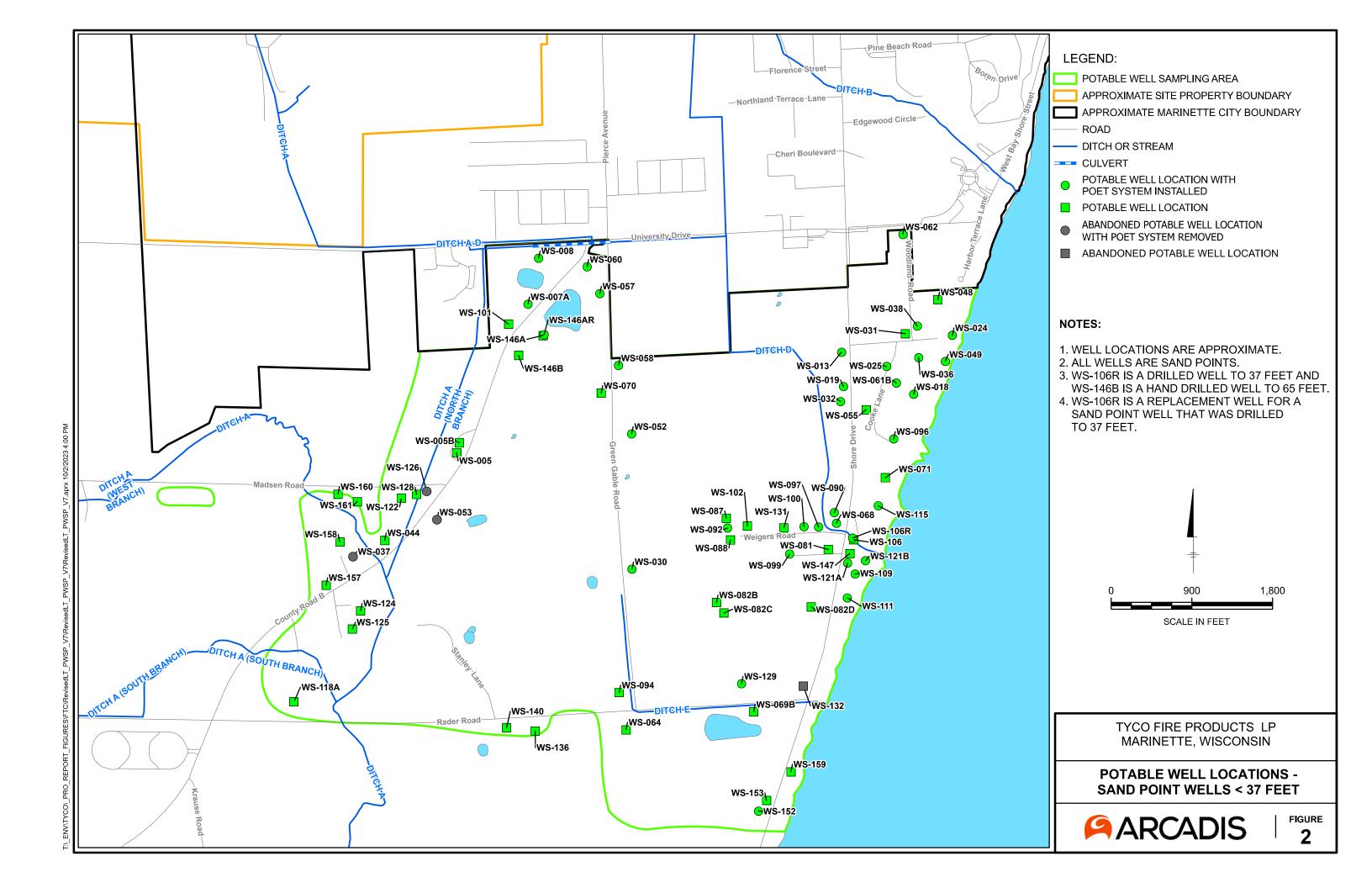
4,8-Dioxa-3H-perfluorononanoic acid (DONA)

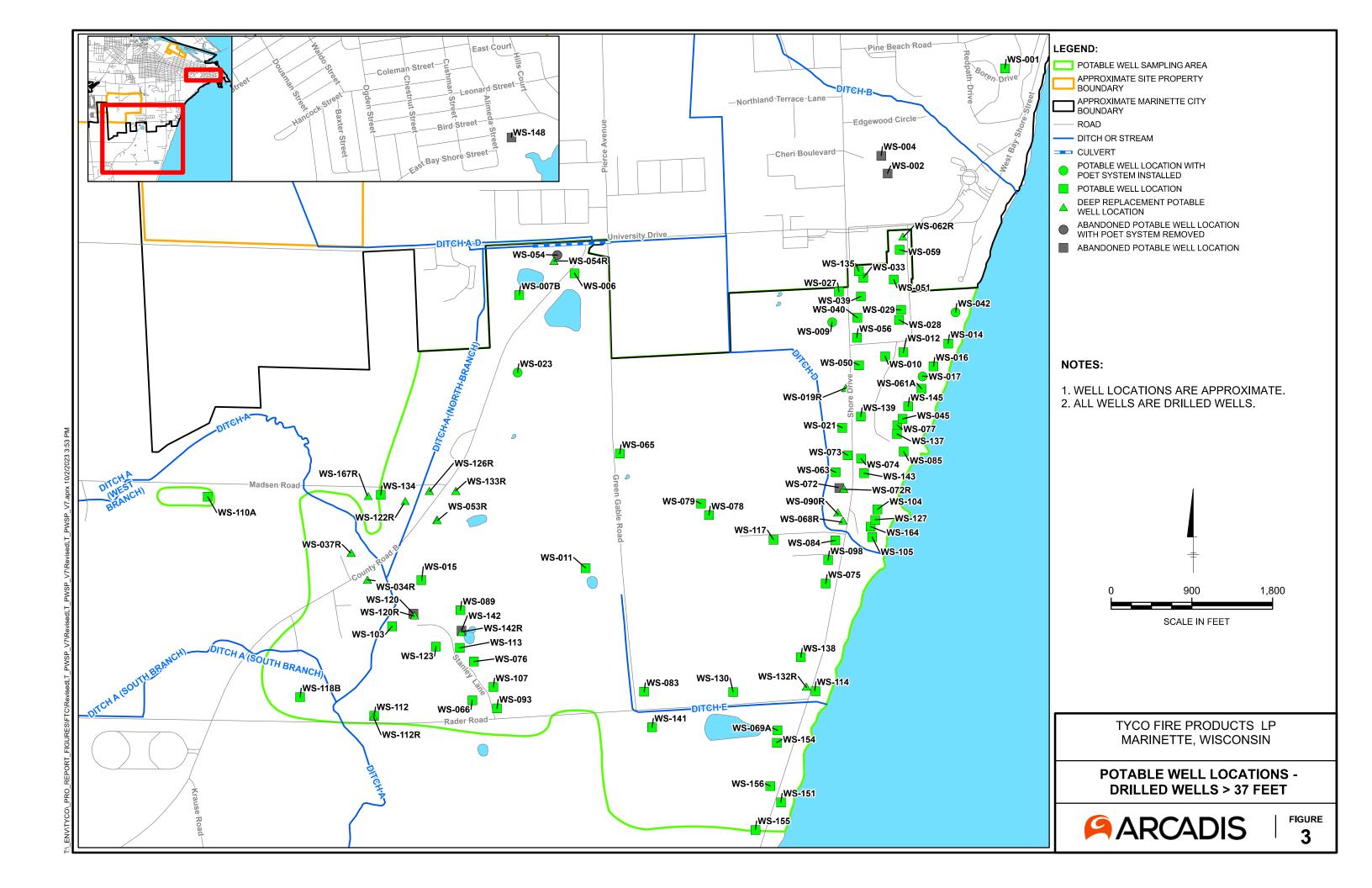
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (F-53 Major)

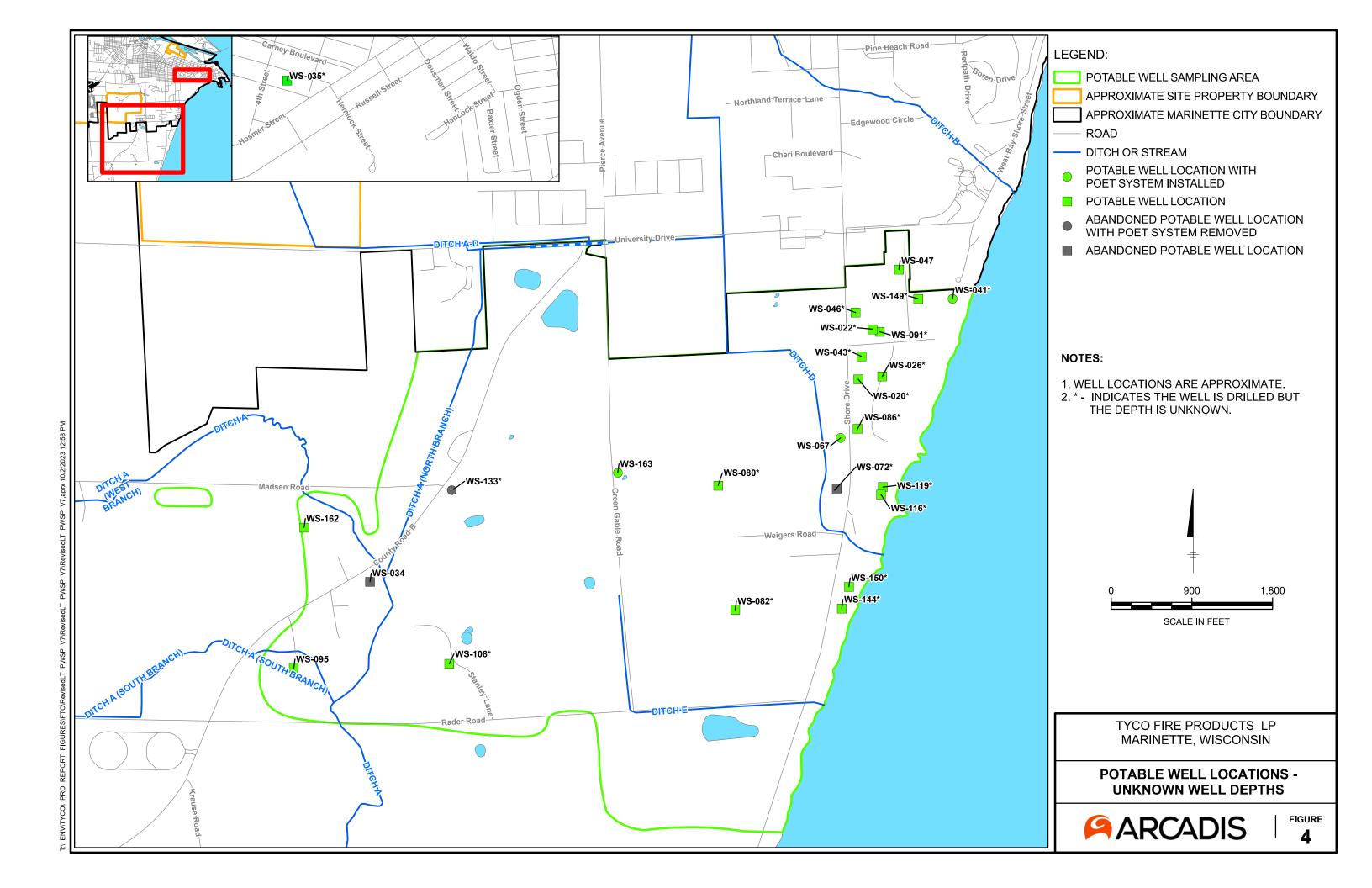
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (F-53B Minor)

Figures









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