



PFAS New & Emerging Issues

An Evolving Compliance Landscape: Addressing Per- and Polyfluoroalkyl Substances in a New Decade

Presented by:

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Member | Troy, MI

March 29, 2022

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AGENDA

- INTRODUCTION
- USEPA'S PFAS STRATEGIC ROADMAP
- RESPONDING TO AN AGENCY REQUEST TO SAMPLE

USEPA'S PFAS STRATEGIC ROADMAP

EPA's Commitments to Action 2021–2024

ARIZONA CALIFORNIA FLORIDA ILLINOIS KENTUCKY MICHIGAN NEVADA OHIO TENNESSEE TEXAS WASHINGTON D.C. TORONTO

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Dw USEPA'S PFAS STRATEGIC ROADMAP

- EPA's approach is based on three pillars:
- **Research**
- **Restrict**
- **Remediate**

WHOLE OF EPA APPROACH

- Office of Chemical Safety and Pollution Prevention
- Office of Water
- Office of Land and Emergency Management
- Office of Air and Radiation
- Office of Research and Development

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

- EPA to develop a PFAS testing strategy under TSCA.
- PFAS must go through PMN process; LVE no longer allowed.
- EPA to revisit PFAS previously reviewed through the TSCA New Chemicals program.
- EPA also will update the list of PFAS subject to TRI; remove the *de minimis* exemption.
- Data collection on any PFAS manufactured since 2011, including articles; no *de minimis* exemption.

OFFICE OF WATER

- Fifth Unregulated Contaminant Monitoring Rule (“UCMR 5”)
- Establish a national primary drinking water regulation for PFOA and PFOS
- Effluent Limitations Guidelines program
- NPDES permitting program

OFFICE OF LAND AND EMERGENCY MANAGEMENT

- EPA is proposing to designate PFOA and PFOS as CERCLA hazardous substances.
- Hundreds of sites could become new Superfund sites.
- Look back at existing sites; possible re-openers at closed sites.
- New cost-recovery actions.
- Release reporting requirements.

OFFICE OF AIR AND RADIATION

- EPA to address PFAS in air emissions.
- EPA to conduct data gathering to inform future regulations.

RESPONDING TO AN AGENCY REQUEST TO SAMPLE

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INITIAL CONSIDERATIONS

- Causation
- Injury
- Damages
- Allocation of Liability

INITIAL ACTIONS PRIOR TO SAMPLING

- Assemble a team experienced in PFAS issues
- Legal Issues
- Fact Gathering
- Initial Technical Tasks

ACTIONS FOLLOWING A DETECTION OF PFAS

- Legal
- Remedial Investigation
- Source Identification
- Regulatory Enforcement
- Public Relations

MANAGING PFAS GOING FORWARD

- Remediation Issues
- Potential Future Liability Issues

CONCLUSIONS

- The pace of PFAS regulation by USEPA and state regulators is increasing exponentially.
- Companies should consider eliminating the use of PFAS, being careful not to substitute with more dangerous chemicals.
- States increasingly are developing their own PFAS regulatory programs so companies operating in multiple jurisdictions need to be aware of these different programs.
- Regulatory requests to sample for PFAS must be taken seriously.

How States Are Identifying PFAS Sources

31st Annual Business & Industry's Sustainability & Environmental Health & Safety Symposium

Sharonville Convention Center, Cincinnati, Ohio

March 29, 2022



John Cuthbertson – AECOM
North America Industrial PFAS Lead

Delivering a better world

Agenda

- ❖ Key Regulatory Drivers for Industry
- ❖ Regulation Snapshot
- ❖ Sampling Considerations

Key Regulatory Drivers for Industry

Key PFAS Drivers?

1. Industry / Facility Type Suspected of Using PFAS Chemicals

- Require adding PFAS analysis to existing monitoring well sampling program
- Some states requiring facility evaluation and work plan

2. Wastewater Effluent

- If PFAS is detected in effluent, may have to implement remedy
- Regulatory agency puts pressure on WWTP effluent to identify industrial sources
- WWTP can set their own discharge requirements, has more “power”

3. Stormwater Effluent

- Surface water quality criteria often driver (based on bioaccumulation)

Industry / Facility Type

Potential Industrial PFAS Sources



Airports



Landfills / Disposal Areas / Land Application



Chemical Manufacturing



Aqueous Film Forming Foam (AFF)



Metal Plating



Semiconductor



Pulp and Paper



Textiles

California - Phased Approach for PFAS – Starting 2018

1. Phase 1

- Airports
- Municipal Solid Waste Landfills

2. Phase 2

- Chrome Plating Facilities

3. Phase 3

- Wastewater Treatment Plants

4. Phase 4

- Refineries and Bulk Fuel Terminals



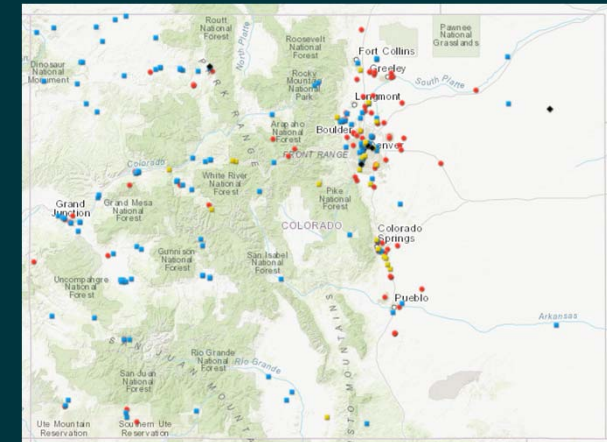
Colorado Permit PFAS Survey - 2020



COLORADO
Water Quality Control Division
Department of Public Health & Environment

CDPHE Survey Questions for Permittees

Please answer each question to the best of your ability. Note that your responses to the survey should reflect what your facility contact knows now. It should not require extensive research or investigation to answer these questions. If you are the facility contact for more than one permit in different categories, for example, a wastewater plant and MS4 permit, please fill out the official survey once for each permit category. Note that in the official survey, responses cannot be saved. This document will allow you to view what questions you will be asked on the survey before you fill it out. **This is not the official survey.** The official survey can be found [here](#).



- Pharmaceutical manufacturing
- Electric generating
- Rubber manufacturing
- Semiconductor manufacturing
- Worker-protection and medical textiles manufacturing
- Medical devices manufacturing
- Fluoropolymer manufacturing
- Electrical wire manufacturing
- Electronics manufacturing
- Paper and/or package manufacturing

Wastewater Effluent

Michigan – WWTP Regulations Require PFAS



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

December 3, 2019

IPP Contact Name
IPP Contact Mailing Address
IPP Contact City, State ZIP

Dear IPP Representative:

SUBJECT: IPP PFAS Initiative Status and Continued Efforts

This letter is written to provide participants in the Industrial Pretreatment Program (IPP) Per- and Polyfluoroalkyl Substances (PFAS) Initiative with information about what we have learned so far and how the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), plans to address PFAS on an ongoing basis.

Wisconsin – WWTP Sampling Request

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
P.O. Box 7921
Madison, WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone: (608) 266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711



July 22, 2019

Subject: PFAS Monitoring Request for Municipal Wastewater Treatment Facilities with Industrial Pretreatment Programs or Users Expected to be PFAS sources

Dear Permittee:

The Department of Natural Resources (hereafter department) is launching a statewide initiative to identify and quantify sources of perfluoroalkyl and polyfluoroalkyl substances (PFAS, formerly referred to as PFCs) with specific emphasis on perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). In order to accomplish this, the department is requesting that municipal wastewater treatment facilities with industrial pretreatment programs or contributing industries expected to be sources of PFAS to sample their influent and effluent for PFAS compounds.



Madison Metropolitan Sewerage District said it's willing to test its wastewater for PFAS chemicals once labs are certified.

Photo courtesy of Madison Metropolitan Sewerage District

DNR: Majority Of Wastewater Systems Decline To Test For PFAS

Only 2 Of 125 Treatment Plants Submitted Results As Part Of Voluntary Sampling

By Danielle Kaeding

Published: Wednesday, October 30, 2019, 6:05am

California – WWTP Sampling – Order without Reg. Driver

This Order requires completion of the following tasks:

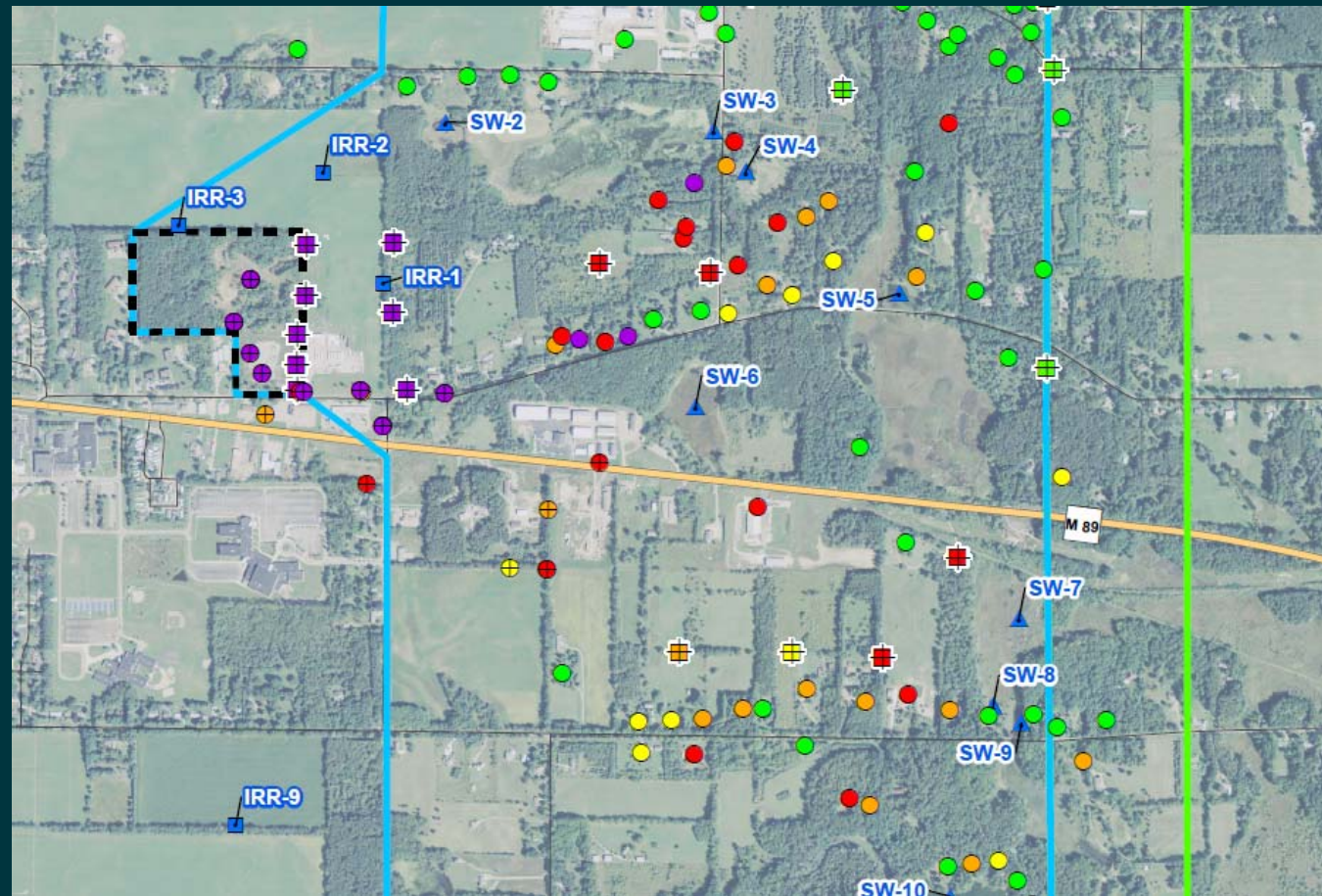
1. Conduct sampling and analysis for each POTW listed in **Attachment 2** and submit the results of the sampling according to the requirements found in **Attachment 3, Technical Sampling and Reporting Requirements**.
2. Complete the questionnaire in **Attachment 3 (Sections C.3 and D)** for each of the POTWs listed in **Attachment 2**. The information required by the questionnaire shall be submitted electronically.

2(b). If wastewaters are received from industrial sources, provide the types of industries that are contributing flow and the estimated percentage for the calendar year of 2019 in the following table. If the types of industries are not correlative to the data collected at your facility, please provide the industry types and correlative volume percentages in the blank lines provided.

Industry Types – Influent Flow	Continuous Flow? (Yes/No/)	Periodic Flow? (Yes/No)	Non-Routine Influent Flow? (Yes/No)	2019 - Estimated Industrial Total Volume by Percentage (>5% of the total volume)
Airports				
Agricultural				
Automatic Vehicle Washing				
Breweries and Wineries				
Electronic Manufacturing (e.g., electronic components, semiconductors, capacitors, batteries)				
Fabricated Metal Products (e.g. chrome plating, electroplating, plating, polishing, anodizing, and coloring)				
Fire Training Centers				
Food Industry (e.g. processing plants)				
Industrial Laundries				
Landfills				
Leather Tanning and Finishing				
Military				
Oil and Gas Production				
Textiles and Carpet Finishing				
Pulp and Paper Manufacturing				
Other Industries (please fill in):				

Case Study – Former Chrome Plating Facility

- Existing remediation system for chromium (65 gpm)
- 8,000 ppt PFOS in effluent during IPP sampling
- Fast-track GAC system for PFAS removal at existing groundwater remediation system (30 days)
- Onsite and offsite RI on-going



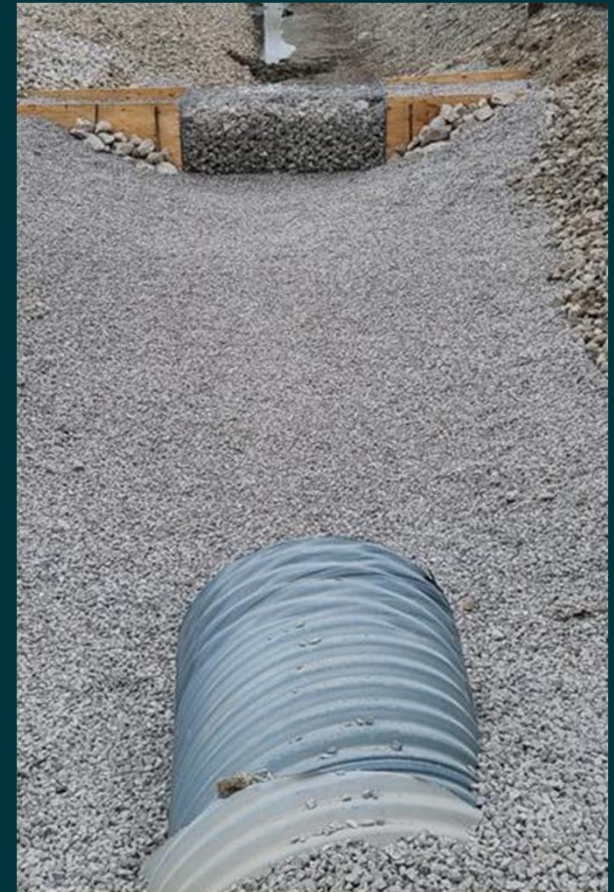
Stormwater

Stormwater Effluent Becoming a Regulatory Issue

- Regulatory agencies becoming concerned with PFAS discharge to surface water
- Stormwater can be an issue if there was a surficial release of PFAS raw materials to ground surface (i.e., aqueous film forming foam)
- Often stormwater does not go to WWTP and has direct discharge to surface water bodies
- New Jersey and Michigan have begun to require PFAS be added to analyte list for renewed NPDES permits
- California has added stormwater evaluation to recent PFAS orders
- Challenges remain with how to address PFAS impacted stormwater
 - Divert to wastewater stream
 - Reduce contact with impacted soil / sediment (Minimization efforts)
 - Treatment options are limited

Case Study - Passive Stormwater Challenges

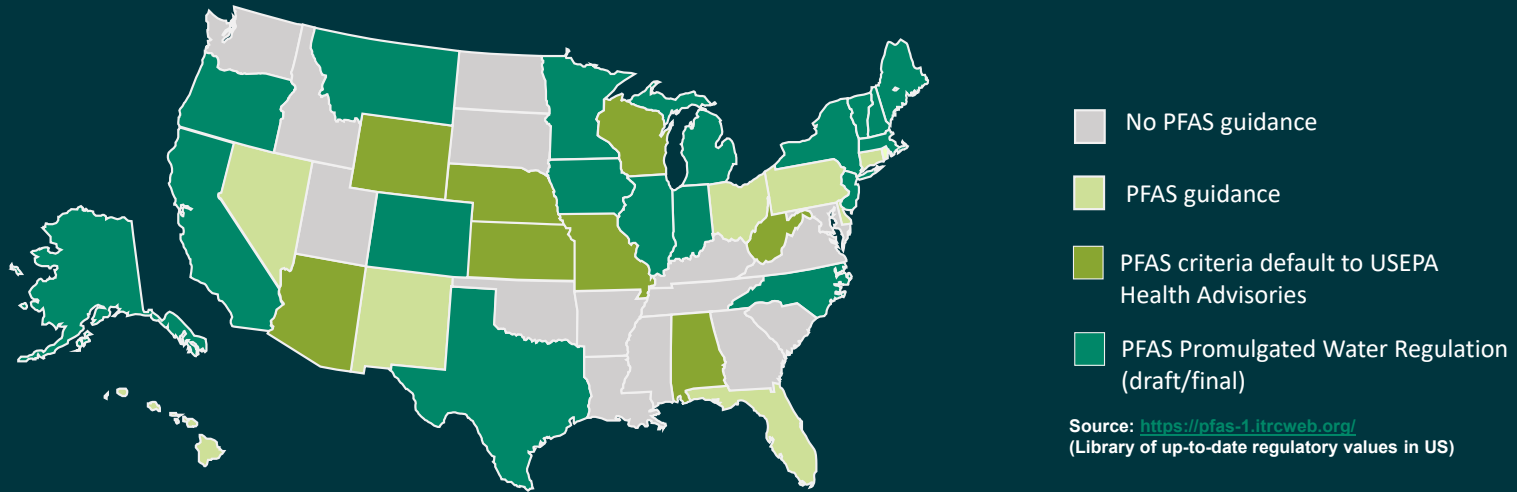
- Order to remove PFAS from stormwater discharge to a County Drain
- Forced to implement immediately
- Options limited:
 - Divert to wastewater
 - Reduce contact with impacted soil / sediment (Minimization efforts)
 - Treatment options are very limited



Regulatory Snapshot

PFAS Regulations: States All Over the Map

2022 States with Guidance



- 18 states have fully promulgated criteria for water
- 6 states have drinking water limits lower than USEPA Health Advisories
- 6 states have criteria for multiple PFAS compounds
- North Carolina, Hawaii, Ohio and Michigan are the only states to regulate GenX
- Texas Commission on Environmental Quality (TCEQ) has groundwater criteria for 16 PFAS

Ohio PFAS Action Plan for Drinking Water

Objectives:

1. Sample public water supplies
2. Assist water system owners responding to results
3. Establish action levels for drinking water
4. Assist communities to reduce PFAS concentrations
5. Public awareness
6. Continue to ensure Action Plan is adaptive to new scientific finding

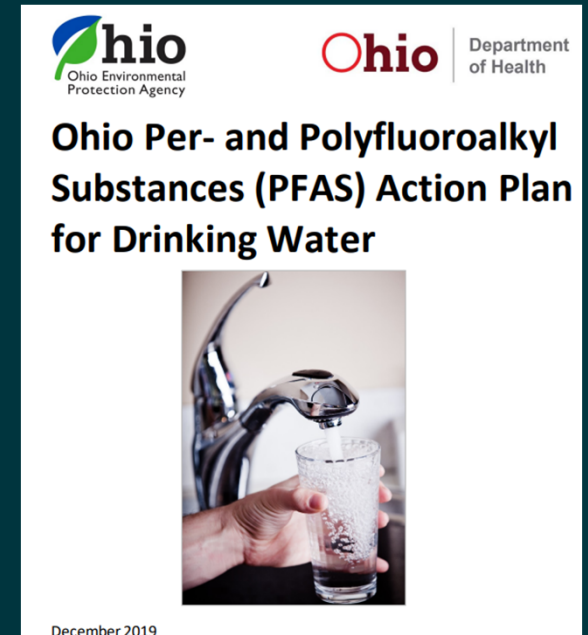
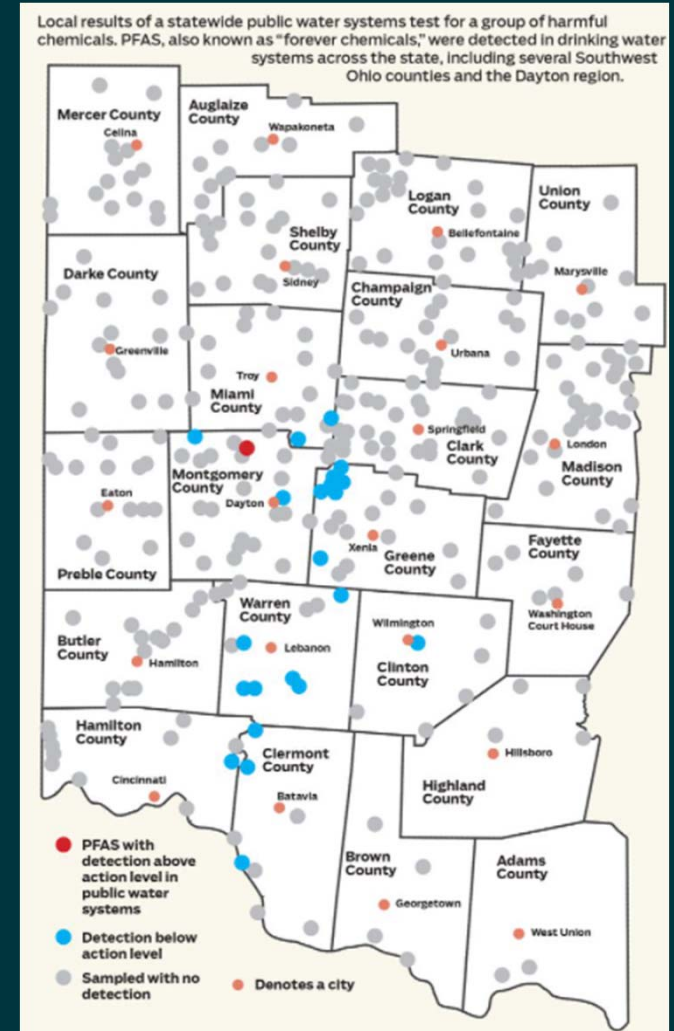


Table 1 — Ohio PFAS Action Levels

	PFAS Chemicals ¹					
	PFOA	PFOS	GenX	PFBS	PFHxS	PFNA
Action Level (ppt)	>70 single or combined with PFOS	>70 single or combined with PFOA	> 700	>140,000	> 140	> 21

Ohio Statewide Drinking Water Sampling

- Initiated statewide sampling of ~1,550 public drinking water systems.
- Samples analyzed for six compounds (PFOA, PFOS, PFHxS, PFBS, PFNA, and Gen X).
- Completed in 2020.
- Results showed that 6% (106 out of 1,550) of public water systems had some detectable level of PFAS these levels *less than* the federal EPA health advisory level of 70 Parts Per Trillion (ppt).
- Two water systems had elevated PFAS levels *greater than* 70 ppt.
- No traces of PFAS chemicals were found in the remaining 94% of systems.



Sampling Considerations

Considerations for PFAS Sampling



Cross-contamination is an issue with certain sampling equipment and supplies.



Uncertainty as to whether other items may represent a cross contamination threat.



Preplanning to avoid cross contamination is key. Evaluate everything that you are intend to use to collect your samples (and pretest items, if needed).



Collect QA/QC samples of equipment and field blanks to verify no PFAS cross contamination.

Thank you.

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Biographical Information

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AnnMarie Sanford is an attorney in the Troy office of Dickinson Wright PLLC. Ms. Sanford is primarily engaged in environmental remediation, regulatory issues and counseling clients regarding compliance with federal and state chemical regulations. Before attending law school, she earned a Bachelor of Science degree in chemical engineering. Since 1990, Ms. Sanford has represented clients at Superfund sites throughout the United States, and sites under other state cleanup programs. She also advises clients regarding environmental regulatory compliance. Throughout her career, she has integrated her scientific technical knowledge into her practice to achieve favorable outcomes for clients, including successfully challenging investigation methods and addressing unique issues posed by emerging contaminants such as PFAS. Regarding PFAS, Ms. Sanford has negotiated administrative consent orders regarding PFAS, has advised clients regarding PFAS liability and risk issues and successfully pushed back on agency efforts to require clients to sample for PFAS. Ms. Sanford has given numerous presentations on PFAS, including at the Great Lakes Environmental Remediation and Redevelopment Conference in Lansing, Michigan in October 2019, and a Bloomberg webinar on PFAS in October 2018. Ms. Sanford also has been a LEED accredited professional since 2009. Ms. Sanford can be reached at ASanford@dickinsonwright.com.

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Mr. Cuthbertson is an Associate Vice President with AECOM and serves as the North America Industrial PFAS Lead. He has over 30 years of environmental consulting experience supporting oil and gas, chemical, and industrial clients. His primary focus during the past seven years has been PFAS and during this time has supported hundreds of projects across North America involving various PFAS issues. Mr. Cuthbertson has worked seamlessly with client's management and legal executives to develop internal PFAS programs/policies and strategies, has led and directed client's national PFAS programs, and has assisted with addressing risk management issues as well as assisting with development of communications and messaging. He is well versed in PFAS regulations across the United States and has acted as the PFAS subject matter expert and managed dozens of projects involving PFAS constituents, successfully negotiated with regulatory agency's in multiple states, applying his depth of experience to the unique challenges associated with PFAS analytical testing and methodologies, environmental fate and transport, assessment and investigation, and remedial technologies. Mr. Cuthbertson is a frequent speaker on PFAS issues, including at the Great Lakes Environmental Remediation and Redevelopment Conference in Lansing, Michigan in October 2019, and a Bloomberg webinar on PFAS in October 2018. Mr. Cuthbertson can be reached at John.Cuthbertson@aecom.com.