

DEVELOPMENT OF A PFAS ACTION PLAN

SUR/FIN '21 TAC

SUR/FIN Technical Session 1

“PFAS - Here Today, Gone Tomorrow?”

Tuesday, November 2nd, 2021

9:00-9:30 am



The rationale, liabilities, & procedures related to a PFAS sampling program

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We often recommend that prior to initiating sampling activities at the site, our clients establish a

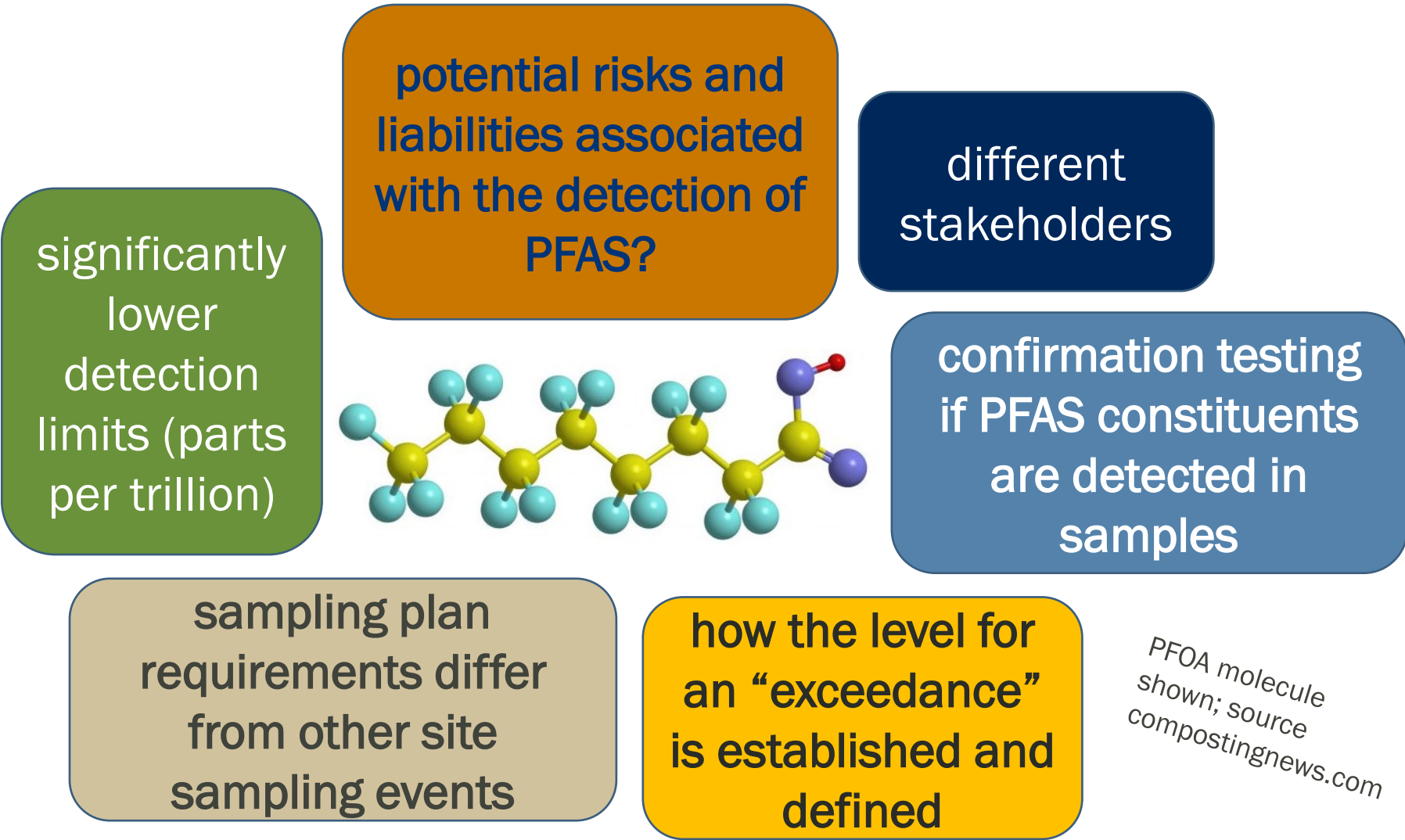
➤ PFAS Action Plan ◀



Action Plans vary site to site and require client input, yet contain similar elements.

This presentation will provide an overview of the components that are included in the preparation of a concise document as well as a roadmap for those who may soon be involved in responding to the requirement for PFAS sampling.

What Differentiates a PFAS Sampling Program?



PFOA molecule shown; source compostingnews.com

ILLUSTRATIONS OF A PART-PER-TRILLION

The PFAS issue is complicated by its ubiquitous nature and the extremely low detection limit of a part-per-trillion.

**one penny
out of ten
thousand
dollars**



**one drop in
500,000
55-gallon barrels**



**one second in
31,688 years**



**six inches out of
the 93 million-mile
distance from the
earth to the sun**

WHAT IS A PFAS ACTION PLAN?

The PFAS Action Plan includes:

- ✓ a summary of best management practices to be utilized
- ✓ a description of risk management activities for potential detections of PFAS
- ✓ a description of treatment options if PFAS is detected at concentrations above regulatory reporting levels

It takes into consideration:

- ✓ the potential risk and liabilities associated with PFAS sampling
- ✓ the possibilities of cross-contamination and false detection, stakeholder involvement
- ✓ public perception

THE PFAS ACTION PLAN ANSWERS THESE QUESTIONS:

WHY are you sampling for PFAS?

Evaluate the potential risk and liabilities prior to preparing the Scope of Work.

WHO will conduct the sampling?

Who meets the training requirements and procedures specific to PFAS best management practices.

WHAT specific PFAS constituents will you analyze for?

This is determined through short and long-range strategic planning.

WHERE on the Site will you collect samples?

What is the justification for each location you do/don't sample?

WHEN will you require confirmation sampling?

Evaluate the risk management for potential detections before you get on Site.

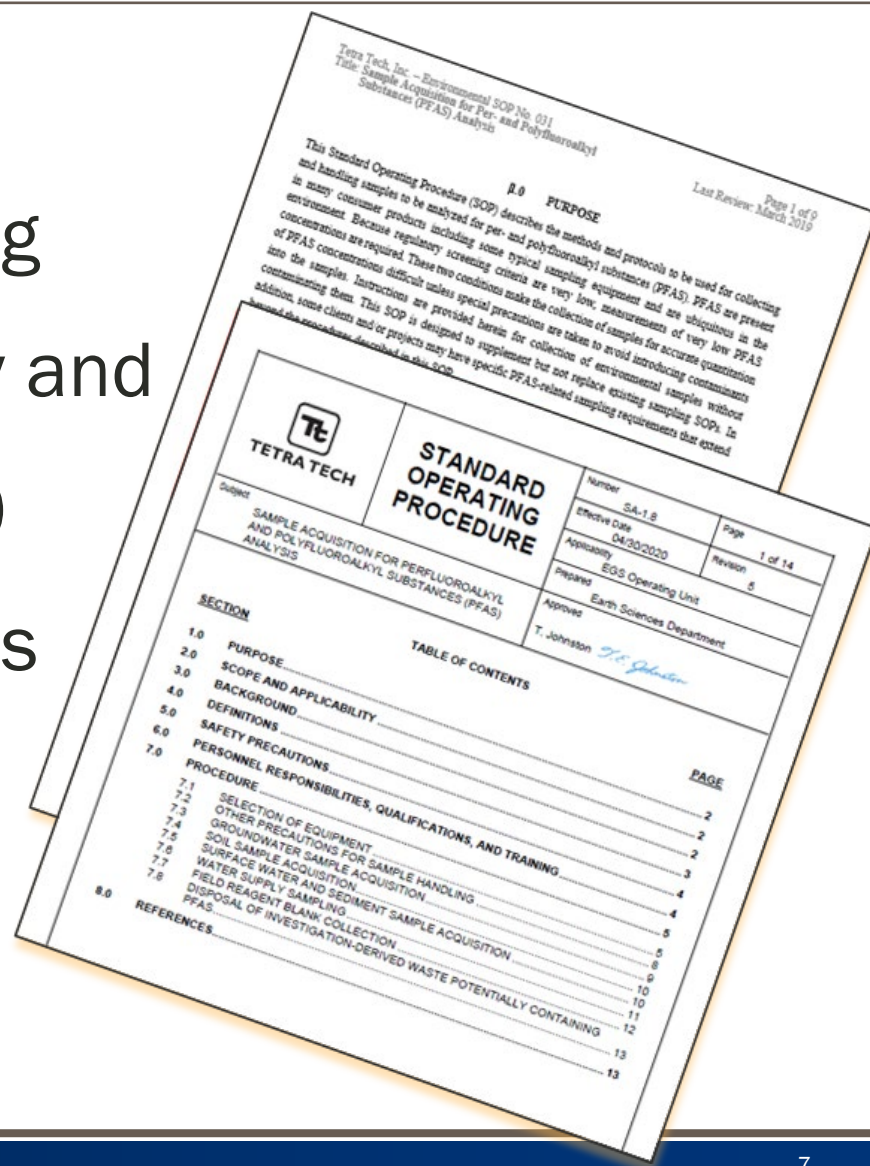
Establish background concentrations.

HOW will you respond if PFAS is detected?

Response may include regulatory and stakeholder involvement, as well as mitigation and treatment options.

SPECIFY STANDARD OPERATING PROCEDURES (SOPs)

- Company SOPs
- Industry sources including the Interstate Technology and Regulatory Council (ITRC)
- State Regulatory Agencies
- USEPA
- Project-specific SOPs
- Client-specific SOPs



ENSURE BEST MANAGEMENT PRACTICES

TRAINING

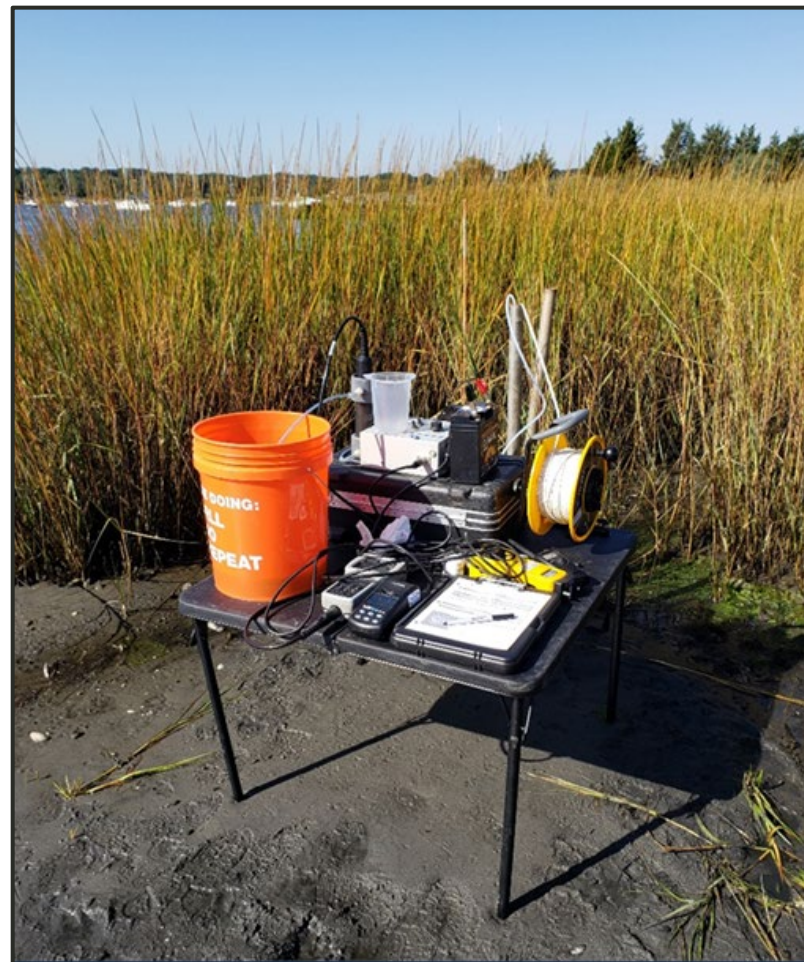
Training requirements are specified in the Action Plan

WASTE MANAGEMENT

Purge water and other investigation-derived waste will be contained until sample results are received, as appropriate

ANALYTES

The current requirements and/or recommendations for analytes will be evaluated to determine the specific constituents for each sampling location



EVALUATE POSSIBLE SOURCES OF FALSE DETECTS

- PFAS are present in a wide array of commercial products typically used in sampling equipment, materials, and supplies.
- Potential PFAS-containing items used are recorded in field logbooks (required health & safety gear, such as waterproof boots).
- Quality Assurance samples are collected and include field blanks, equipment blanks, and trip blanks.
- In the event of significant detections of PFAS (ie. >50% of regulatory criteria), geoforensic evaluations may be conducted as deemed appropriate (collecting and analyzing evidence of potential sources of false detects).



CONDUCT RISK MANAGEMENT STEPS

Data are validated and detections compared to regulatory criteria.

- If detections above regulatory criteria are identified, an evaluation of false positives is conducted based on the protocol and an on-going false positive list.
- If a value exceeds 50% of regulatory criteria, a forensic evaluation may be recommended.
- Due to its ubiquitous presence, we often conduct the collection of follow-up samples for confirmation of the presence of PFAS.
- If repeat samples continue to indicate a value over the regulatory criteria, an assessment of mitigation and treatment options is recommended.



Photo Source DLZ.com

If detections exceed regulatory criteria, further actions are evaluated and the Client is assisted in meetings with the regulatory agencies and stakeholders to negotiate the appropriate paths forward.

ASSESS THE NEED FOR ADDITIONAL SAMPLING

We often recommend a phased approach for our surface finishing clients.

If concentrations above the regulatory criteria are confirmed, a broader sampling program may be needed.

Based on the analytical results, future groundwater sampling may include the following:

- Inclusion of additional monitoring wells (potentially both upgradient and downgradient)
- Extraction wells (if applicable)
- Treatment system influent and effluent (if applicable)
- Private and municipal water supply wells in the area



INCORPORATE STRATEGIC PLANNING

To be determined based on site-specific and client-specific requirements

“If the results indicate detection of PFAS at ___% or higher of current regulatory levels, a full-scale PFAS Action Plan will be recommended, and will include a description of the regulatory framework, reporting, mitigation and treatment options, additional contingency planning, and recommendations regarding regulatory, stakeholder and community involvement and communication.”

Source: Tetra Tech PFAS Action Plan

Thank you for your
attention!

Any questions?

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