

# 2023 ITRC Environmental Teams

**Registration for 2023 Environmental Teams opens December 1, 2022!**

## **Tire Chemicals of Emerging Concern: Use and Fate of Tire Anti-Degradants** **Jan 2023 – Dec 2024**

**NEW!**

**Team Leaders: Tanya Williams (WA ECY) & Kelly Grant (CA DTSC)**

Tire anti-degradants are used to extend the life of tires by preventing the cracking and breakdown of rubber as it reacts with ozone over time. 6 p-Phenylenediamine (6PPD) is currently the most prevalent chemical used for this purpose and is known to produce 6PPD-quinone (6PPD-q) through interaction with ozone. 6PPD and 6PPD-q enter the environment via tire fragments and particles on the road that eventually enter larger waterways and aquatic environments through runoff. In December 2020, researchers identified 6PPD-quinone (6PPD-q) as the second most toxic aquatic contaminant currently known. This team will serve as a central location for shared information and coordination among states as well as consolidate the limited available knowledge in this area, informing the public as to the science behind this problem, and efforts taken to minimize harm to aquatic life through the development of fact sheets and trainings.

## **Reuse of Solid Mining Waste**

**Jan 2023 – Dec 2024**

**NEW!**

**Team Leaders: David Cates (OK DEQ) & Mark Rudolph (CDPHE)**

There are more than 500,000 abandoned mine sites nationwide, all containing various volumes of solid mining waste (tailings, chat, waste rock). Many materials considered waste when initially processed may still contain recoverable mineral concentrations, including rare earth elements, given today's advancements in mineral extraction methods and technologies. However, these remaining metal concentrations are often high enough that risks may be present for human health and the environment. Reuse of mining waste reduces the volume of residual materials at the mining site, decreasing potential exposures. However, depending on the reuse method, risks and exposures may not be decreased, just transferred to another site. In addition, there are also technical and regulatory barriers to reusing solid mining waste. Little information is available to regulators and mine site operators on reusing solid mine waste, making the technical and regulatory barriers appear more significant. This team will examine the possibilities and best management practices for environmentally safe reprocessing and reuse of chat, tailings, waste rock, and other solid mining wastes.

## **Passive Sampling Technology Update**

**Jan 2023 – Jun 2024**

**NEW!**

**Team Leaders: Crystal Pirozek (NJ DEP) & Michael Penzone (DNREC)**

After 20 years, it's time to review the four ITRC Guidance Documents developed on [Diffusion/Passive Samplers](#). These documents were originally developed to encourage the appropriate use of passive sampler technologies in groundwater monitoring programs and as a replacement for existing volume purge sampling systems. This team will review and update the four existing ITRC documents with an emphasis on new technologies for passive sampling, media differences, sampling devices, and device limitations/advantages. Case studies will be included to help transition to passive sampling appropriately, bring confidence to the science and enable more sustainable management and monitoring of sites.

## Pump & Treat Optimization

Jul 2021 – Jun 2023

**Team Leaders: Janet Waldron (MADEP) & Michael Sexton (VADEQ)**

Pump-and-treat (P&T) systems have been one of the most used methods for hydraulic containment and treatment of contaminated groundwater at sites with large groundwater plumes. Optimization of pump-and-treat remedies is important for maintaining contaminant removal effectiveness throughout the remedy operation lifetime and managing the system toward an exit strategy. This team is completing the Online Guidance Document and developing training, summarizing existing information and best practices to develop a systemic and adaptive optimization framework specifically for P&T well-network design and management.

## Ethylene Oxide Emissions (EtO)

Jan 2022 – Jun 2023

**Team Leaders: Keisha Long (SCDHEC) & April Lazzarro (MIEGLE)**

Environmental Ethylene Oxide (EtO) is a result of several potential emissions. To better manage and effectively communicate risk to communities living near EtO-generating facilities, it is key to differentiate between point and nonpoint source emissions and to establish a consensus on how to measure and analyze EtO in the environment. This team is working on developing fact sheets exploring the background of Ethylene Oxide (EtO), appropriate measurement methods, risk communication, interagency regulatory authority, and reduction technologies, as well as providing a useful framework for characterizing risk in communities living near EtO-generating facilities.

## Sediment Cap Guidance Update

Jan 2022 – Sept 2023

**Team Leaders: Wesley Thomas (ORDEQ) & Richard Doucette (VADEQ)**

Dredging alone is often costly, unsustainable, and insufficient at achieving remediation action objectives for contaminated sediments. As a result, the use of engineered caps is a widespread approach to achieve the remediation objectives either in conjunction with removal or as a standalone solution. For sediment caps to remain effective long-term, there needs to be a clear guidance on the key aspects and activities of design. The team is working on developing a new Online Guidance Document and associated online training course that will supplement the [2014 ITRC Contaminated Sediments Remediation Guidance](#), integrating recent advancements, new information, and details on key design considerations of capping design and monitoring, including the examination of caps impacted from extreme weather events. The final products will facilitate greater consistency and efficiency in completing effective and sustainable sediment cap designs and monitoring plans.

## Managed Aquifer Recharge (MAR)

Jan 2022 – Dec 2023

**Team Leaders: Kelsey Bufford (OKDEQ) & Kris McCandless (VADEQ)**

In the United States, groundwater is a major resource, accounting for 41% of the population's drinking water, which supplies freshwater for irrigation, domestic use, public use, industrial, and mining (NGWA, 2020). Aquifer recharge is a growing practice in response to water scarcity concerns and remedial driven withdrawals, however, there is a lack of consistency in how these practices are described, implemented, and managed. The MAR Team is producing an Online Guidance Document and training that will evaluate the potential uses of MAR, the factors for the safe and successful implementation and innovative characterization, and modeling tools to appropriately place MAR infrastructure. The MAR team will also establish reference sites where technologies and tools for monitoring managed aquifer recharge systems, groundwater quality, characterizing sub-surface geology and modeling/visualization software could be assessed for Project Management teams and Stakeholders.

## PFAS Update

Jan 2022 – Dec 2023

**Team Leaders: Sandra Goodrow (NJDEP), Kristi Herzer (VT DEQ), & Kate Emma Schlosser (NHDES)**

The state of the science and understanding of PFAS is constantly evolving. The goal of the PFAS continuation team is to produce comprehensive guidance updates and new resources to help regulators and other stakeholders improve their understanding of the current science regarding per- and polyfluoroalkyl substances (PFAS). The team will also develop training resources, establish a new subgroup dedicated to collecting data, information, and scientific knowledge to support states in their work on surface water, and perform classroom trainings based on ITRC's published technical resources.

## Framework for Contaminants of Emerging Concern (CEC)

Jan 2022 – Dec 2023

**Team Leaders: Paula Panzino (AZDEQ) & Vivek Mathrani (CADTSC)**

Contaminants of emerging concern (CECs) are an issue that often demands an immediate response by state regulatory agencies and requires a clear procedure on how to identify, evaluate, and manage CECs. Once an emerging contaminant is identified, public concern and interest may become elevated, requiring States to rapidly respond. Regulatory agencies and the regulated community need to more effectively address exposure to emerging contaminants while meeting the expectations of concerned or interested public stakeholders. This team is creating a framework for anticipating and responding to emerging contaminants, developing a series of fact sheets that 1) address how states can track and identify contaminants of emerging concern to better manage them, 2) address the properties and traits that lead to identification, and 3) provide guidance for evaluating these properties.

## Microplastics Outreach Toolkit

Jan 2021 – Jun 2024

**Team Leaders: Valerie Hanley (CADTSC) & Grace Ann Martin (SC DHEC)**

Although microplastics are small — plastic debris less than five millimeters long — they pose one of the largest emerging threats to the global environmental community today. Because of their small size and pervasiveness in the environment, microplastics, along with any other contaminants which are adhered to the microplastics, are consumed by humans and other organisms. The Team is publishing a guidance document in February 2023, geared toward an audience with reasonable scientific understanding, but not microplastic-specific knowledge. The guidance will provide information on microplastics and the state of the applied science without diving deep into scientific literature. Online training will be offered starting in March 2023. Additionally, the Team will continue working to develop a toolkit to provide resources for environmental professionals to use in communicating microplastic issues to members of the public. New work on the Microplastics Outreach Toolkit starts in January 2023.