

Multi-media sampling of PFAS: Lessons learned from evolving methods and regulatory developments

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14 offices

in the U.S. and Canada

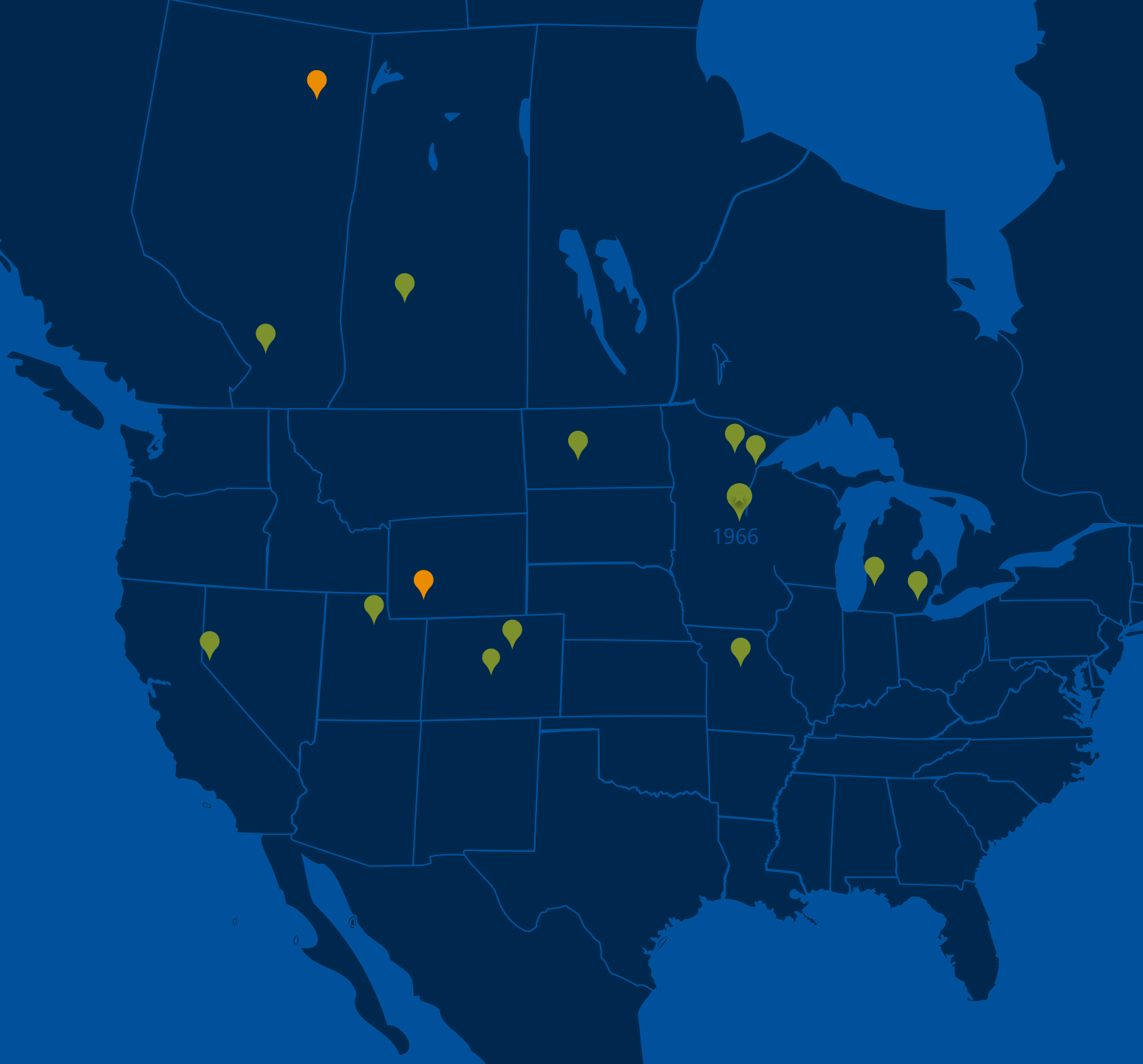
1,000+

employee-owners

Over 50 years

creating collaborative,
client-centric solutions

 Company office  Satellite office

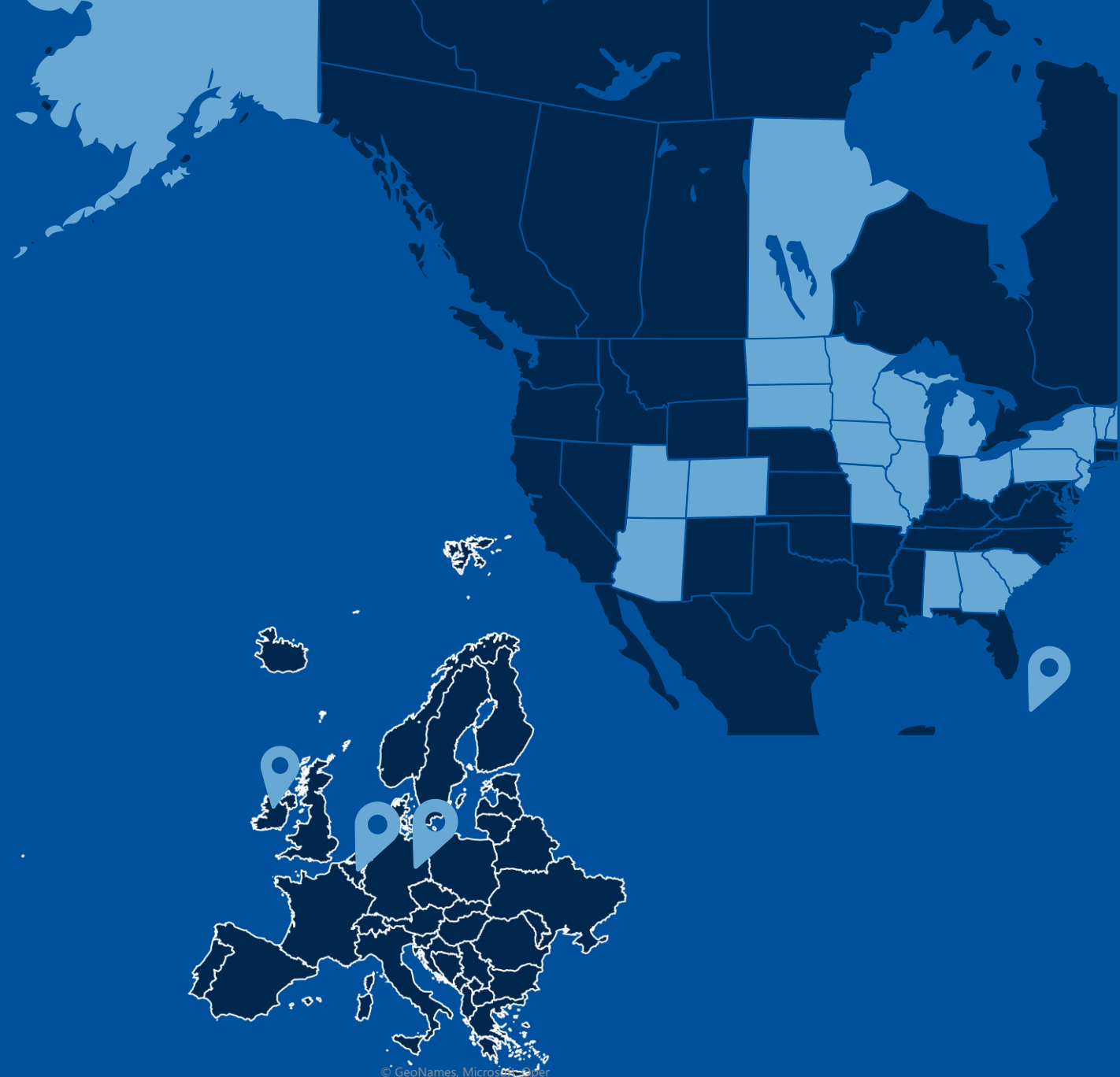


PFAS-related project sites
where Barr has consulted
since 2003

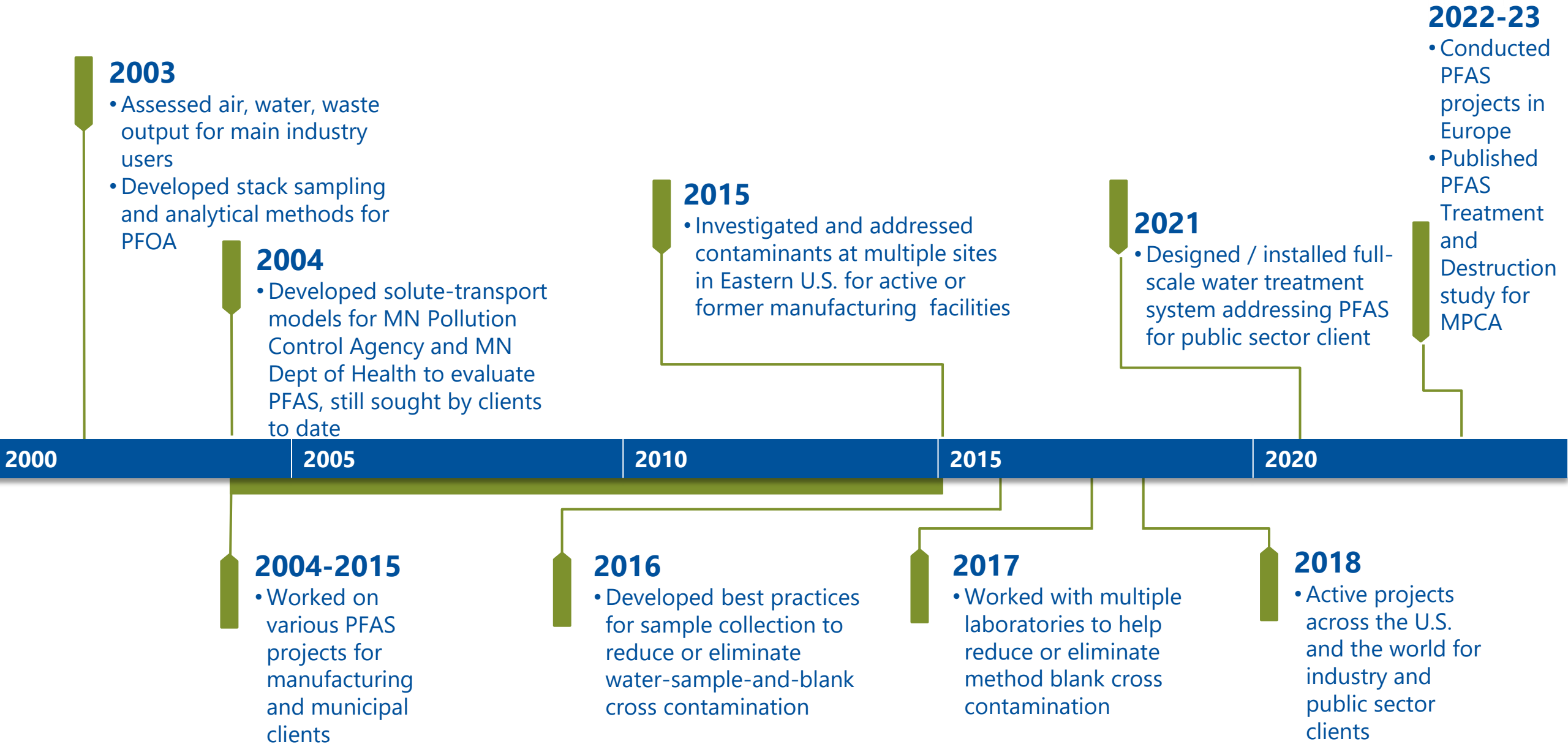
**20+ States, Canada,
Europe, and USVI**

Over 700 staff
working on PFAS projects

Over 125 staff
with more than 500 hours on
PFAS projects in the last year



Two decades of PFAS experience

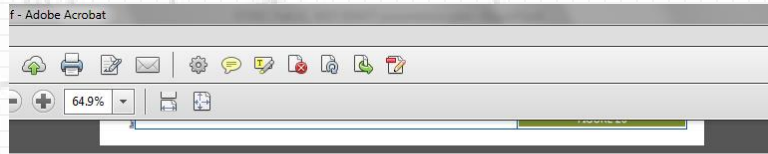




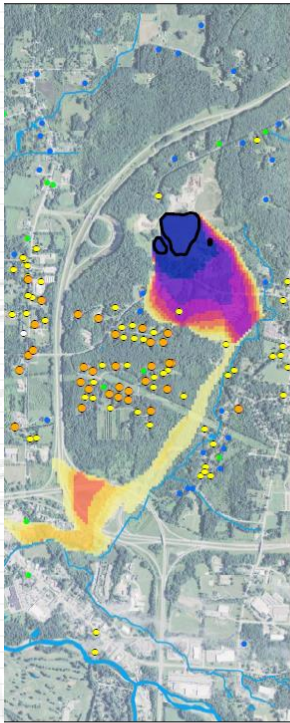
Multi-site PFAS remedial investigation and remediation

services provided:

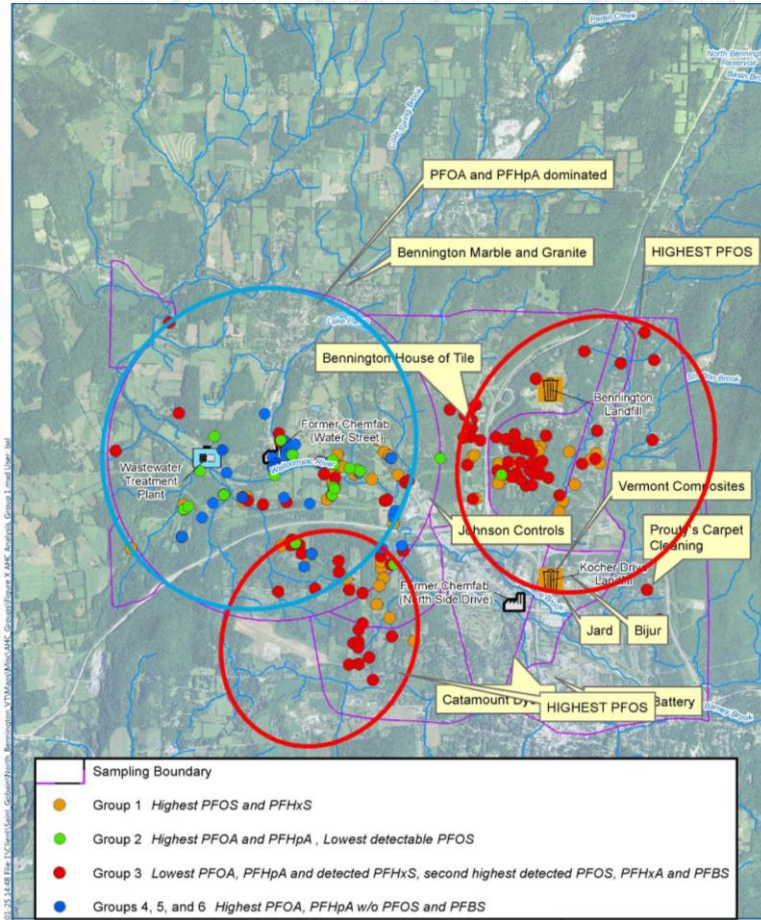
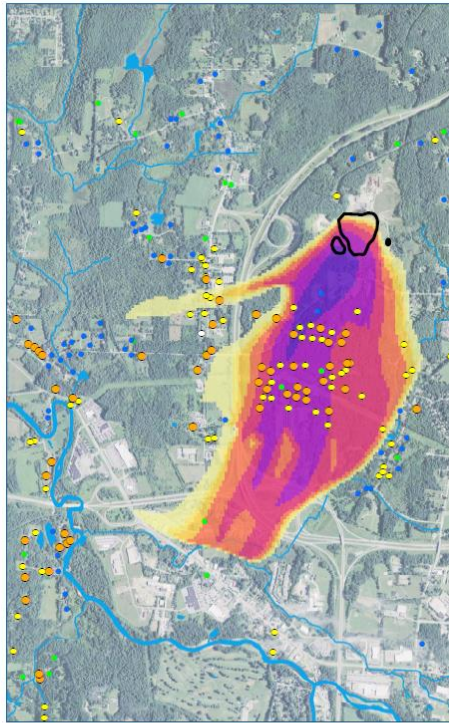
- groundwater and air dispersion modeling
- geological investigation
- hydrogeological investigation
- development of site conceptual model
- interim remedial action
- remedial investigation/feasibility study (RI/FS)
- water treatment options evaluation
- air emissions testing
- data management and database development
- geographic information system (GIS) services



I, Unconsolidated Sediments



Model Layer 2, Bedrock



PFAS Multi-media fate-and-transport modeling

services provided:

- groundwater and air-dispersion modeling
- development of site conceptual model



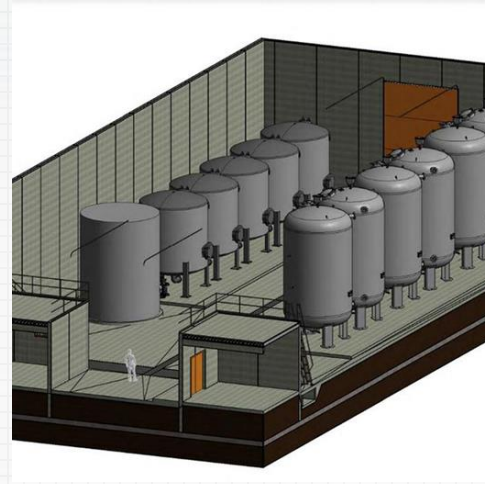
PFAS treatment during power plant decommissioning

services provided:

- water quality sampling and evaluation
- PFAS water treatment bench- and pilot-testing
- PFAS water treatment system design
- water treatment system implementation and management
- power plant decommissioning



GOVERNMENT AND POLITICS
'A success story for our community': Bemidji officials take Gov. Walz on tour of water treatment plant
Written By: Matthew J. Liedke | Oct 30th 2020 - Tam.



PFAS-impacted drinking water response and treatment plant design

services provided:

- water quality evaluation
- water supply distribution planning
- groundwater modeling
- alternative water supply evaluation
- water treatment technologies evaluation
- well siting study execution
- facilitation of water treatment bench and pilot testing
- water treatment plant design, bidding, and construction services





Evaluation of Current Alternatives and Estimated Cost Curves for PFAS Removal and Destruction from Municipal Wastewater, Biosolids, Landfill Leachate, and Compost Contact Water

Prepared for
Minnesota Pollution Control Agency



May 2023

Prepared by:
Barr Engineering Co., Hazen and Sawyer

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Groundbreaking study on PFAS Removal and Destruction

services provided:

- evaluation of over 50 individual separation and destruction technologies
- focus on water resource recovery facility (WRRF) effluent, WRRF biosolids, mixed municipal solid waste landfill leachate, and compost contact water (waste streams)
- cost estimates were prepared using standard industry practices

<https://www.pca.state.mn.us/sites/default/files/c-pfc1-26.pdf>

PFAS source determination process

History and use


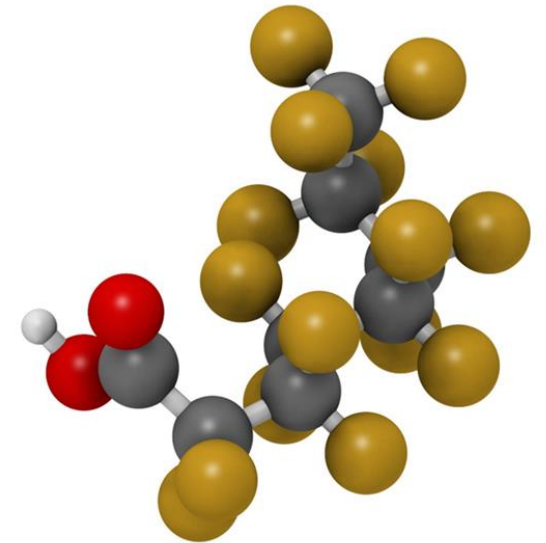
Data
collection

Formulation
chemistry

Conceptual
model

Statistical
evaluation

Fate and
transport





www.barr.com/PFAS