

Tony Finding, CHMM

Vice President, Remediation Practice Leader



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Areas of Specialization

- Risk management for contaminated sites
- Environmental permitting and compliance
- Environmental chemistry and field analysis
- PFAS and emerging contaminants Practice Leader
- Remedial life-cycle costs analysis and planning
- Remedial investigation, technology evaluation, and feasibility studies
- Remediation system design, implementation, and operation
- Remediation system troubleshooting, rehabilitation, and optimization of underperforming systems
- Design and implementation of enhanced in-situ bioremediation (EISB) programs
- Design and implementation in-situ chemical oxidation (ISCO) and in-situ chemical reduction (ISCR) programs
- Industrial wastewater process performance evaluations, optimization, and upgrades

Overview of Professional Experience

- Over 25 years of experience in the environmental field.
- Program manager for the sampling and monitoring of public drinking water outlets including the root cause analysis and remediation of affected outlets.
- Directly responsible for the management and implementation of over 300 remedial projects throughout the Mid-Atlantic Region.
- Completed numerous remedial investigations and feasibility studies coupled with life-cycle cost analysis to determine the most appropriate remedial alternative given site circumstances and closure goals.
- Directed the rehabilitation, modification and/or troubleshooting of existing remedial systems that were designed, installed and operated by others. The rehabilitation of the existing systems facilitated operational efficiency from both compliance and cost perspectives.
- Experienced with conventional and innovative remedial technologies including: air sparging, soil venting, dual-phase extraction, NAPL recovery systems, groundwater treatment systems, advanced oxidation systems and thermal remediation.

Education

BS, Environmental Science with Biology Minor, **Slippery Rock University**, 1997

Registration/Certification

Certified Hazardous Materials Manager (CHMM)

NJDEP certified Industrial Wastewater Treatment System Operator (Class – N2)

Maryland certified Industrial Wastewater Works Operator (Class 1)

OSHA certified Hazardous Waste Operations and Emergency Response (HAZWOPER per 29 CFR 1910.120)

OSHA certified Confined Space Entry & Rescue Training (per 29 CFR 1910.146)

Affiliations

Interstate Technology and Regulatory Council (ITRC) – Remediation Management of Complex Sites

American Gas Association

Chester County Commercial Industrial Investment Council

PA Chamber of Business and Industry

Institute of Hazardous Materials Managers



Overview of Professional Experience (continued)

- Skilled in decommissioning, demolition and recycling at remediation sites.
- Managed and implemented numerous groundwater monitoring programs under Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2).
- Managed and implemented numerous groundwater and surface water monitoring programs under EPA Regions II and III oversight.
- Experienced in National Pollution Discharge Elimination System (NPDES) permitting and compliance monitoring.
- Experienced in air permitting and compliance monitoring.
- Knowledgeable in the collection and identification of freshwater macro-invertebrates.
- Experienced in bench and field water chemistry instruments and analyzers to determine appropriate treatment technologies.
- Completed numerous bench-scale treatability studies for in-situ and ex-situ treatment technologies.

Select Projects - Energy / Utility

- **Public Utility Portfolio Manager, DE, NJ, MD, D.C.** - Portfolio manager for numerous environmental projects in multiple states. Services under this contract consist of general compliance, site investigation and remediation, avian studies, air/water/waste consulting, permitting, and compliance auditing.
- **Philadelphia Gas Works Portfolio Manager, Philadelphia, PA** - Portfolio manager for an environmental consulting services contract within the PGW operating service area. Services under this contract consist of developing and implementing remedial investigations, remedial action workplans, and remediation strategies under Pennsylvania's Land Recycling Program.
- **Linear Construction Using Trenchless Technologies, Petroleum Pipeline Installation Support, PA** - Responsible for managing a team of Pennsylvania-licensed Professional Geologists and field technicians to oversee each horizontal directional drill location to ensure adherence to approved drilling techniques, specifications and materials for the installation of a pipeline across hundreds of miles through Pennsylvania.
- **NAPL Remediation, Electric Generating Facility, Millsboro, DE** - Project Manager / Principal Operator of a large-scale, multi-technology remediation system addressing a 500K gallon NAPL plume. Remedial technologies included: NAPL recovery enhanced with groundwater depression, total phase extraction, in-situ chemical oxidation, and biofouling controls.
- **NAPL Remediation, Electric Generating Facility, Ocean City, NJ** - Performed feasibility studies to address residual NAPL. Studies resulted in the design and implementation of a dual phase extraction system to successfully achieve site closure.

Select Projects - Municipal Government

- **Lead Consultant for Local Municipality, East Whiteland Township, PA** - Environmental consultant of record to represent the Township's interests in the remediation and redevelopment of a blighted property under Pennsylvania's Hazardous Site Cleanup Act.



Select Projects - PFAS

- **PFAS in Air Consulting Support, State Agency** - Supported a state agency with an air permitting regarding a new source of PFAS emissions. Assisted in creating a PFAS definition to be used for permitting purposes going forward. Provided document review of literature pertaining to currently applied TLVs for PFAS and approaches which could be used to estimate TLVs for compounds which no TLV exists, and evaluated various modeling practices along with air treatment efficiencies.
- **PFAS in Wastewater, State Agency** - Supported a state agency with a study of PFAS in biosolids and wastewater. Samples collected included soil, groundwater, surface water, biosolids, and treatment plant influent and effluent samples.
- **PFAS Investigation, Fire Training Facilities** - Under attorney client privilege, designed and implemented soil and groundwater PFAS investigations at multiple fire training facilities to support legal action.
- **PFAS Impacted Stormwater Recovery and Treatment, Orange County, NY** - Project Director for an ongoing effort to recover and treat impacted stormwater/surface water associated with an AFFF release, specifically PFAS compounds. Directed the team in the design of an automated recovery system to capture impacted water and subsequently treat the water to non-detect levels for PFAS prior to being discharged to a local POTW.
- **Water Supply Sampling for PFAS, Martinsburg, WV** - Coordinated efforts to sample numerous water supply sources throughout Martinsburg, WV for the presence of PFAS compounds. Developed specific sampling protocols to minimize cross contamination during sample collection and ensure representative and defensible samples.

Select Projects - Water Supply

- **Safe Drinking Water Program, School District of Philadelphia, PA** - Developed and implemented a water testing management program to sample and monitor for lead in drinking water from over 5,000 outlets within the School District.
- **Safe Drinking Water, Drinking Water Supply Compliance, NJ/PA** - Assembled a team to collect hundreds of grab, first-draw and follow up flush samples on an emergency basis for lead and copper analysis to ensure compliance with Federal and State regulations.
- **TBA Reduction in Drinking Water using Advanced Oxidation, Northeast, MD** - Successfully completed a treatability study to address TBA impacts in a drinking water source using advanced oxidation techniques. Results provided the parameters for a full-scale treatment system.

Select Projects - Wastewater

- **TSS/BOD Removal from Wastewater, Mushroom Growing and Processing Facility, Kennett Square, PA** - Evaluated circumstances that caused repeated discharge permit non-compliance for TSS and BOD from a wastewater system. The evaluation of mechanical and chemical processes identified certain design parameters that required an upgrade to reestablish compliance.
- **Industrial Pretreatment, Truck Washing Facility, Bridgeport, NJ** - Designed an industrial pretreatment system to reduce chemical truck wash water to acceptable levels for disposal. Treatment techniques included oil/water separation followed by pH adjustment.

Select Projects - Remediation

- **Benzene Remediation using AS/SVE, Manufactured Gas Processing Plant, Philadelphia, PA -** Managed the installation and operation of a 39-point air sparge system and 9-point soil vapor extraction system to prevent offsite migration of vapor, adsorbed and dissolved-phase benzene impacts.
- **Chlorinated Solvent Remediation using AS/SVE, Dry Cleaner, Hockessin, DE -** Designed an interim remedial measure to reduce chlorinated solvent source impacts to groundwater. Highlights included innovative SVE extraction point design to capture sparge gases.
- **Chemical Leaman Tank Lines Superfund Site, EPA Region II, Bridgeport, NJ -** Responsible for Record of Decision implementation for three operable units at the site. Activities included wetland monitoring, sediment and surface water sampling, low-flow purging and sampling, start-up and optimization of a groundwater pump and treat system, and implementation of a thermal remediation remedy for source reduction.
- **Malvern TCE Superfund Site EISB of Chlorinated Solvents, EPA Region III, Malvern, PA -** Optimized and operated an enhanced in-situ bioremediation system to reduce dissolved chlorinated solvents in fractured bedrock.
- **1,4-Dioxane Treatment using Advanced Oxidation, Chemical Manufacturing Facility, Cincinnati, OH -** Managed the permitting and implementation of an ex-situ advanced oxidation groundwater treatment system to address 1,4-dioxane.
- **BCEE Treatment using Advanced Oxidation, Chemical Manufacturing Facility, Hoboken, NJ.** Conducted a long-term ozone/hydrogen peroxide injection feasibility study to address groundwater impacts of fuel oils, chlorinated solvents and bis (2-chloroethyl) ether. Pilot testing results indicated successful reduction of chemicals of concern.
- **Petroleum/Chlorinated Solvents Remediation, Former Automotive Manufacturing Facility, Newark, DE -** Designed and implemented a large-scale remediation project to address residual soil and groundwater impacts from former paint mixing operations. Chemicals of concern included petroleum compounds, chlorinated solvents and xylenes. The system consisted of 32 vertical soil vapor extraction points, 16 horizontal soil vapor extraction points and 32 air injection points. Also performed bench-scale treatability studies for in-situ chemical oxidation techniques.
- **Bulk Fuel Storage Facility Remediation, Boothwyn, PA -** Redesigned an under-performing remediation system to achieve site closure. Prior remediation equipment was repurposed on-site to minimize cost to closure.
- **Petroleum Remediation using AS/SVE, Former Retail Petroleum Station, Clarksville, DE -** Designed and implemented a multi-phase extraction system to remove over 28,000 pounds of contaminants.
- **Treatment of 1,2-DCA in Fractured Rock using Advanced Oxidation, Chemical Manufacturing Facility, Ambler, PA -** Performed bench-scale treatability studies, designed, and implemented an ex-situ advanced oxidation groundwater treatment system utilizing a combination of ozone and hydrogen peroxide to address elevated concentrations of 1,2-DCA in fractured bedrock.

Guidance and Research Committees

- Member of Interstate Technology Regulatory Council (ITRC) PFAS Team to produce a technical-regulatory guidance document and internet-based training course.
- Member of the ITRC Remediation Management of Complex Sites Team to produce a technical-regulatory guidance document and internet-based training course.
- Assisted the Pennsylvania Department of Environmental Protection in a bio-essay study to monitor the reclamation of streams contaminated from acid mine drainage.

Select Publications

- Interstate Technology & Regulatory Council (ITRC). 2018. *PFAS Fact Sheets PFAS-1*. <https://pfas-1.itrcweb.org/fact-sheets>
- Interstate Technology & Regulatory Council (ITRC). 2017. *Remediation Management of Complex Sites RMCS-1*. <https://rmcs-1.itrcweb.org/>
- Finding T., *Twelve Best Practices to Avoid Pipeline Construction Environmental Shutdowns and Fines, Trenchless for Gas Infrastructure*, 24-28, 2020