

Tripp Fischer, P.G.

Vice President, Chief Science Officer



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Areas of Specialization

- Regulatory compliance, strategy, and policy
- Best Management Practices and Standardized Document Development
- Development of Site Conceptual Models
- Contaminant fate and transport modeling
- Light Non-Aqueous Phase Liquid (LNAPL) assessment and remediation
- Litigation support
- Environmental Due Diligence and Property Transactions
- Risk Based Corrective Action Decision Making
- Emerging Contaminants Policy and Assessment

Overview of Professional Experience

- Over 25 years experience with RCRA, CERCLA, AST, UST, VCP, and Brownfield sites.
- International leader on the development of environmental standards and policy. Lead the development and publication of over twenty industry leading environmental corrective action standards on site assessment, remediation, sediment management, and NAPL.
- Developed twelve ASTM standards on sediment corrective action - Long Term Monitoring, Background Calculation, Field Assessment, Risk Assessment and NAPL Characterization.
- Developed numerous policy documents, memorandums, and best management practices on environmental corrective action. Helped develop regulations/policies on vapor intrusion assessments, underground injection control, UECA compliance, Aboveground Storage Tank containment and release corrective action, and other Risk Based Corrective action programs.
- Wide range of permitting experience including NPDES, Underground Injection Control, Stormwater, wastewater, landfill, air emissions, stream crossing, and Environmental Impact Studies.
- Leader in projects related to PFAS and other emerging contaminants including risk assessment, air emissions, air modeling, waste water systems, bio-solids, standards development.

Education

ME, Engineering Science (Environmental), Pennsylvania State University, 2002

BS, Geology, West Chester University of Pennsylvania, 1996

Yellowstone Bighorn Research Association Geologic Field Course, University of Pennsylvania, 1995

Registration/Certification

Delaware Registered Professional Geologist-S4-0001149

Pennsylvania Registered Professional Geologist PG004915

Affiliations

American Society for Testing and Materials (ASTM) - Board of Directors -Chair of the E50.04 Subcommittee on Environmental Corrective Action

Board of Advisors - College of Mathematics and Sciences, West Chester University, PA.

American Bar Association - Section of Environmental, Energy, and Resources.

Awards

2022- ASTM International, Award of Merit, ASTM Fellow

2019 International Robert J. Painter Award for Standards Development

2007 Recipient of a National Achievement Award from the USEPA Region III for exceeding cleanup goals and promoting new initiatives

1996 W.A. Tarr Award - Sigma Gamma Epsilon for meritorious work in the Earth Sciences



- Certified ASTM Instructor for environmental standards published through the American Society for Testing and Materials- (Non-aqueous phase liquid transmissivity, workshop on sediment corrective action).
- Participated in the development and review of numerous industry standards and guidance including the ASTM Phase I, Phase II, Transaction Screen and Activity and Use Limitation Standards.
- Advisory board member for the College of Mathematics and Sciences for West Chester University as well as for developing an Environmental Engineering program at the Delaware Technical and Community College. Guest lecturer at several universities including the University of Delaware, West Chester University, and The City College of New York.

Select Projects - CERCLA and RCRA

- **Former Macon Naval Ordnance Plant (2014-Current)** - Provide initial data analysis from historical data analyses and mapping. Forensic science. Support PRP group consultants on technical issues, geochemistry, and conceptual site model development. Review workplans, progress reports and overall strategy and budgets.
- **Armstrong World Industries OU-2 (2014-Current)** - Support PRP group consultants on technical issues, geochemistry, and conceptual site model development. Review workplans, progress reports and overall strategy and budgets. Assess risk from historic landfills using incremental sampling including flood plain analysis and assessing fish impacts.
- **Review of the groundwater monitoring network, flow, and recovery data at a New Jersey CERCLA Site (Chemical Leaman Tank Lines, Inc. 2014-Current)**- Developed spatial contaminant contouring of multiple aquifers within the 34-acre project. Optimized sampling strategies to evaluate effectiveness of pump and treat remediation system. Reported to USEPA. Responsible for quarterly sampling, remedy effectiveness for DNAPL recovery and wetlands monitoring.
- **Third Party Review of CERCLA Removal Actions and Risk Assessment (2018-2019)** - Hired by legal counsel to evaluate and comment on conditions and soundness of the HRS scoring for an NPL listed site in West Virginia. Included was a review of a multi decadal history of EPA removal actions and risk assessments at a riverine PCB remediation site. An evaluation of PCB and PCDD/PCDF data in multiple environmental media was performed in addition to a review of PCB biomarker data for legal counsel.
- **CERCLA Litigation - Sediment sampling support (2016)**- Provided sediment sampling support using watercraft to assess impacts to sediments from a CERCLA Site. Work was part of a forensic assessment analyzing depositional environments and chemical compound ratios to make claim to contaminant sources.

Select Projects - Litigation Support

- **Litigation Support for Due Diligence, Philadelphia PA (2020)** - Supported legal team in lawsuit claiming losses from large scale redevelopment and construction due to improper due diligence
- **Litigation and technical support—spray irrigation system (2014– 2018)** Measured soil and groundwater chemistry to evaluate effectiveness of treatment systems prior to applying effluent to spray field. Provided technical defense for claims of off site impacts. Evaluated hydrology and health of vegetation of spray field. Provided recommendations for improved treatment. Bucks County PA.



- **Litigation support for Mining Wastes (2017-2018)**– Provided analysis and regulatory opinion regarding mining process water containing asbestos containing material. Completed review of complex data including surface water and ambient air analysis and supported the mining reclamation plan implementation. Southeastern, PA.
- **Forensic Chlorinated Solvents Assessment, Washington D.C. (2016)**- Evaluated historic soil gas, sub slab gas, indoor air, soil and groundwater data to support litigation to support evacuating a building.

Select Projects - Fate and Transport Modeling

- **Groundwater Fate and Transport Modeling Tidally Influenced River (2013-2015)**. Completed a multiphase program for development and calibration of a large scale groundwater flow and contaminant transport model for a tidally influenced remediation site. After initial model development developed a plan for additional data collection to support additional calibration and validation requested by regulatory agency. Final modeling product fulfilled required work plan element and supported project closure.
- **Numerical Hydrogeologic and Hydrologic Modeling support to facilitate Redevelopment Projects in Wilmington, DE (2005-2007)**. Member of a multi-agency award winning team that was involved with redeveloping the Wilmington, DE waterfront. Reviewed several years' worth of hydrogeologic data including a large numerical modeling effort to assess the effects of historic petroleum and chemical releases on the Christina River. This included an area complicated by a large Combined Sewer Overflow.
- **Finite Difference Model to Measure Groundwater Contaminant Discharge to Surface Water (1999-2000)**– Developed a multilayer USGS MODFLOW Finite Difference Model with multiple sinks and steams to measure the potential discharge of MtBE and benzene to sensitive waterways. A groundwater reactive transport model (RT3D) was used for contaminant transport simulation
- **Numerical Modeling Well Head Protection Analyses, Delaware** Was a key figure in an integrated program for assessing potential contaminant sources for source water and well-head protection areas throughout the State of Delaware. Incorporated risk analysis and analytical/numerical modeling.

Select Projects—Metals and PCBs

- **PCB Remediation, Wilmington, DE** - Designed and conducted large scale PCB congener assessment and excavation in the City of Wilmington Delaware as part of a USEPA self implementing cleanup of hazardous waste.
- **Evaluation of PCB Impacts to Indoor Air and Building Materials, Philadelphia, PA (2020-Present)** Evaluated due diligence processes, sampling methodologies, and risk assessment for litigation. Performed site evaluation to evaluate air flow, sampling locations and risk analysis.
- **Regional PCB Pollution Minimization Plan Study (2012-2013)**- Co-Lead an effort to identify sources of PCBs within the service area of a county sanitary sewer network. This work was conducted as part of a Pollution Minimization Plan (PMP) associated with a municipal NPDES permit and produced a geodatabase to support further source trackback efforts.
- **Metals analysis and surface drainage at a municipal golf course (2011)**- Performed data analysis for metals in soils at a golf course planned for residential use. Analysis involved determining which metals were likely native to the soils versus which may be due to historic applications of chemicals by evaluating data patterns including topographic drainage patterns, and application procedures.



Select Projects—NAPL and Oil Assessment

- **NAPL Mobility Modeling for Surcharged Soil, Wilmington, DE. (2021-2022)**— Compiled decades worth of data and recent geotechnical analysis into a site conceptual model to evaluate NAPL mobility once several feet to soil was surcharged to the area for development purposes. Conducted NAPL bail-down tests, NAPL transmissivity analyses, product characteristic testing, and NAPL modeling to analyze the impacts to NAPL mobility once the soil was surcharged in the area. NAPL volume estimates, saturations profiles, and mobility analyses were conducted.
- **Forensic study on oil discharges originating from seeps discharging to pristine waterway (2008-2017)**- Analyzed fingerprint analyses and other forensic data on multiple petroleum based (hydraulic oil and heating oil) products to determine source locations of petroleum observed in natural seeps discharging along a pristine waterway. Performed toxicity studies on organisms for ecological risk. Developed and implemented remedy. Baltimore, MD.
- **Assessment and Remediation of Impacts to Navigable Waterways Under the Oil Pollution Act (2002)**– Project lead for two petroleum releases which impacted navigable waterways. One included a heating oil surface release to a creek. The second was assessing, measuring, and remediating dissolved phase contaminants discharging to the Indian River in Millsboro Delaware. Served as the project lead for a state-lead site and coordinated cleanup with oversight by the United States Coast Guard, USEPA, and state regulators.

Select Projects—Brownfield and Voluntary Cleanup

- **Human Health Risk Assessment for TPH in Soils (2020)** - Evaluated soil chemistry data, soil gas data, and groundwater data to assess human health risk for the reuse of soils on a large industrial redevelopment project.
- **Assessment and Remediation of a Former Auto Manufacturing Facility, Newark DE (2009-2015)** - Designed, installed and operated a large soil vapor extraction and air sparging system to remediate the former paint shop location to assist with the development of a large corporate headquarters.

Select Projects - Construction and Redevelopment

- **HUD Redevelopment—Newport News, VA (2020)**—Guided a developer client through the environmental requirements for assessing financial and environmental risk. Site characterization reporting, remedial action plan, comfort letter acquisition. Vapor intrusion, full site risk assessment through closure.
- **HUD Redevelopment—New Brunswick NJ (2020-Current)** —Environmental due diligence for HUD requirements, HUD financial and environmental reporting, NJ-SRP site characterization reporting.
- **Contaminated Soil Management—Washington, D.C. (2017-2020)**— Assessed soils and managed the segregation and disposal of 40,000 cubic yards (3,000 trucks) to multiple treatment locations for large mixed use development in Northeast Washington D.C.
- **Various Federally Funded Housing Redevelopment Projects (2015-Current)** - Pittsburgh, PA, Alexandria, VA, Arlington, VA, Washington DC, Landover Hills, MD, Sicklerville, NJ.



Select Projects - Emerging Contaminants

- **Assessment of Various Fire Fighting Training Facilities for PFAS—2021-Present**
- **Assessment of Bio-solids disposal sites and Wastewater treatment systems for PFAS (2022-Present)**
- **Analytical modeling of PFOS and PFOA for regulatory compliance on an industrial site in Philadelphia, PA**
- **Regulatory support on PFAS air emissions– Evaluating fluorinated compound discharge data to define PFAS, evaluate magnitude and treatment options.**
- **Participated in the development of ASTM PFAS Standards pertaining to managing investigation derived wastes and assessment.**

Select Peer Reviewed Publications

ASTM International. 2006. ASTM E2531 - 06e1 *Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Non-Aqueous Phase Liquids Released to the Subsurface*. West Conshohocken, PA.

Fischer, W.P. 2003. *An Evaluation of tertiary-Butyl Alcohol for the Development of a Drinking Water Action Level in Delaware*. Groundwater Monitoring and Remediation. National Ground Water Association. Volume 23. No. 2. Spring 2003

W.B. Barnes, D.C. Baum, R. Laljani, W. Fischer, and D. Ochs. *Integrated Approach to Remediate a Large MTBE Groundwater Plume*. Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Battelle 2002.

Fischer, W.P., and Ellis, P.M. 2001. *An Application of Delaware's Risk-Based Corrective Action Program: To a Site with MTBE Contamination. Soil and Sediment Contamination: An International Journal*. 10 (4) 405-421

