

# Tripp Fischer, P.G.

Vice President, Principal Hydrogeologist



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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
- Geographic Information Systems
- Light Non-Aqueous Phase Liquid (LNAPL) assessment and remediation
- Regulatory permitting
- Litigation support
- Bulk data analysis
- Risk Based Corrective Action Decision Making

## Qualifications

- Master's Degree in Environmental Engineering, Pennsylvania State University
- Bachelor's Degree in Geology/Earth Science from West Chester University of Pennsylvania
- Field research work through the University of Pennsylvania
- Team leader for the development of international standards (ASTM) on Sediment Risk, Assessment, and Corrective Action.
- Over ten years (1998-2009) of regulatory experience including environmental regulation and policy development in USEPA Region III
- Registered Professional Geologist in PA and DE

## Overview of Professional Experience

- Over 22 years experience with RCRA, CERCLA, AST, UST, VCP, and Brownfield sites. Nearly equal experience as a project management consultant and as an environmental regulator.
- International leader on the development of environmental standards and policy. Lead the development and publication of over fifteen industry leading standards and guidance documents on site assessment, remediation, sediment management and non-aqueous phase liquid assessment and remediation.

## 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)* - 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

2017 Appointed to ASTM's Committee  
on Standards (COS)-Ensures regulations  
are followed across all technical  
committees.

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

2006 Recipient of the Delaware  
Department of Natural Resources and  
Environmental Control's Outstanding  
Achiever Award

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



## Overview of Professional Experience (continued)

- Developed numerous policy documents, memorandums, and best management practices on environmental corrective action. Co-wrote regulations/policies on soil gas vapor assessment, underground injection control, environmental covenant compliance, Aboveground Storage Tank containment, release corrective action, and Underground Storage Tank Corrective action.
- Experience implementing regional scale projects including developing GIS based risk models for contaminant release vulnerability from tanks (USEPA Region III), PCB trackback studies (Delaware), and hazardous chemical release potential from storm surge.
- Member of a technical advisory committee for reviewing environmental implications for land development applications under the Land Use Planning Act (LUPA) in the State of Delaware.
- Instructor for environmental standards published through the American Society for Testing and Materials- (Non-aqueous phase liquid transmissivity, workshop on sediment corrective action).
- 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

- **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
- **Litigation and technical support—spray irrigation system (2014-current)** Measured soil and groundwater chemistry to evaluate effectiveness of treatment systems prior to applying effluent to spray field. Evaluated hydrology and health of vegetation of spray field. Provided recommendations for improved treatment. New Hope, PA.
- **Third Party Review of CERCLA Removal Actions and Risk Assessment (2018-present)**  
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.
- **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.
- **CERCLA - Former Macon Naval Ordnance Plant (2012)**-Represented a Potentially Responsible Party in critiquing and submitting comments on an NPL Listing. Evaluated sediment data from drainage channels, public wastewater treatment outfalls, and wetlands to develop a spatial model for source identification. The analysis detected errors in chemical background computations, and detected erroneously reported migration paths. Macon, Ga



## Select Projects (continued)

- **Former Macon Naval Ordnance Plant and Armstrong World Industries OU-2 Superfund sites (2014-Current) -** Representing a member of a PRP group on two neighboring Superfund sites in Macon, Ga. Provide initial data analysis from historical data analyses and mapping. Support PRP group consultants on technical issues, geochemistry, and conceptual site model development. Review workplans, progress reports and overall strategy and budgets.
- **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.
- **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.
- **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.
- **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. Delaware.
- **Numerical Hydrogeologic and Hydrologic Modeling support to facilitate Redevelopment Projects in Wilmington, DE. (2005-2006)** 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.
- **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.
- **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 streams to measure the potential discharge of MtBE and benzene to sensitive waterways. A groundwater reactive transport model (RT3D) was used for contaminant transport simulation.
- **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 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

## Select Presentations

- 5/2/17- **Using Consensus Based Environmental Standards for Assessment and Remediation** – City College of New York – Earth and Atmospheric Sciences
- 4/21/17 – **LNAPL Mobility Analysis and Management Strategies** – US Army Corp of Engineers
- 9/22/16 – **LNAPL Transmissivity and Single Well Conceptual Models** – USEAP Region III Conference
- 10/23/14 – **Avoiding and Handling Environmental Incidents** – Knovel Webinar Series.
- 10/21/14 – **Estimation of LNAPL Transmissivity Workshop** – AEHS Soils, Sediments, Water and Energy Conference, Amherst, MA.
- 6/17/14 – **Preventing Hazardous Catastrophes in a Changing World** – Cozen O'Connor Seminar – Energy, Environmental, & Public Utility Group, Philadelphia, PA.
- 3/25/14 – **Remedial Strategies for a Structurally Complex Industrial Facility** – Geologic Society of America Conference, Lancaster, PA.
- 9/29/11 - **LNAPL Transmissivity** - USEPA Region III Technical Workshop, Rehoboth Beach, DE.
- 9/10/09 - **New Tools for Managing Sites with LNAPL** - USEPA Region III Technical Conference, Elkins, WV
- 10/2/08 – **A New Approach to Managing Sites with LNAPL** - Groundwater and Environmental Services Technologies & Trends Conference, Sept. 30th-Oct. 2nd, Marriott Waterfront, Annapolis, MD
- 3/21/06 – **Risk Ranking Tool**. Presented a GIS based risk model that was created to prioritize Underground Storage Tank inspections based on risk from potential releases. UST/LUST National Conference, Memphis, TN.
- 9/28/05 – **Case Study: Aggressive remediation of a large dissolved-phase BTEX, MtBE and TBA plume**. GES Technologies and Trends Conference, Annapolis, MD.
- 3/7/01 – **Modeling in DERBCAP**. Presented two-dimensional analytical and three-dimensional modeling concepts at the DNREC 2001 Annual Storage Tank Conference 2001 “A Tank Odyssey”. New Castle, DE.
- 3/21/00 – **MtBE Numerical Modeling Case Study – Wyoming, DE**. Poster Session at the 12th Annual UST/LUST National Conference, Portland, Oregon. March 20-22, 2000.

