

TECHNICAL SPECIALTIES

Preliminary assessment; site assessment; health & safety coordination and management; remedial investigations; New Jersey Industrial Site Recovery Act (ISRA) compliance; project management; project scope development and costing; due diligence; fate and transport modeling; file reviews; construction management and field oversight; soil and groundwater investigation program design and execution. Data processing and analysis capabilities including: MATLAB, Microsoft Access, Aqtesolv, LogPlot, Surfer, and Voxler.

EXPERIENCE SUMMARY

Senior Hydrogeologist – Roux Associates, Inc. (2015 – Present)

CREDENTIALS

M.S. Geology, Temple University, 2015

B.S. Earth and Environmental Sciences, Lehigh University, 2013

REGISTRATIONS

OSHA 40-Hour/HAZWOPER Health and Safety Training

Loss Prevention System Training

Person-In-Charge Training

PUBLICATIONS

“Using Fracture Flow Modeling to Understand the Effectiveness of Pump and Treat Remediation in Dual Permeability Media,” 2015.

“Paleo-stream competency as a test of distributary fluvial system model: Upper Devonian Catskill Formation, Central Pennsylvania,” Geological Society of America Northeastern Meeting, Bretton Woods, New Hampshire, 2015.

“Importance of Matrix Diffusion in Remediation Pumping: Sensitivity Analysis of Fracture Geometry and Matrix Parameters,” Geological Society of America Annual Meeting, Vancouver, British Columbia, 2014.

KEY PROJECTS

Redevelopment

- Implemented and managed the pre-design investigation (PDI) of a former steel tube manufacturer, including bedrock well installation, downhole geophysical investigation, site-wide groundwater sampling, soil investigation, and delineation for volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs). Developed 3D conceptual site model (CSM) for complex geological framework at the Site. Implemented remediation of in situ chemical reduction of VOC-impacted groundwater in fractured bedrock by pneumatically enhancing the fractured bedrock and injecting 400,000 pounds of carbon and zero-valent

iron (ZVI) substrate as deep as 130 feet below ground surface (bgs). PDI and remedial activities were implemented within a strict one-year timeline to meet the proposed future redevelopment of the property.

- Project manager of due diligence activities and ecological risk assessment (ERA) for property consisting of six impoundments containing cyanide-impacted sludge material, which were used for over thirty (30) years. ERA included the sampling of sediment, surface water, and pore water in wetlands, creeks and a river via boat within a limited time frame, along with conducting food chain modeling for calculated risk for Environmentally Sensitive Natural Resources (ESNRs) at the Site. Additional activities included completion of a Phase I Environmental Site Assessment/Preliminary Assessment and estimate of order of magnitude (OOM) costs for closure of Site.
- Project manager for Immediate Environmental Concern (IEC) of commercial property in residential area for elevated mercury vapors. Followed appropriate, strict New Jersey Department of Environmental Protection (NJDEP) regulations for reporting aspects of the IEC. Communicated with current property owner, property owner’s legal counsel, property owner’s insurance, and insurance party’s environmental consultant for fluid project progress. Investigated the source and extent of mercury vapors in the building’s crawl space. Implemented the excavation of the source soils in the crawl space in NJDEP’s source removal time frame of one year, including the structural supporting of the building with the expertise of a licensed structural engineer.
- Project manager for the remedial investigation on a former steel mill site in Northern Delaware with seven different operable units. Managed field teams and coordinated work. The Site has heavy metals, polycyclic aromatic hydrocarbons (PAHs), PCBs and pesticide soil contamination from historic facility operations. The Site was located adjacent to a major body of water, resulting in several ecological concerns from local governments. The investigation was designed to characterize multi-media contamination. In addition to researching, obtaining, and organizing all historic documentation to the Site, major task management activities included client communication and management; subcontractor coordination; DNREC communication and coordination; work authorization and execution; laboratory coordination; soil sampling field activities; monitoring well field activities; groundwater sampling field activities; field staff coordination; health and safety design plan; data evaluation; and future remedial strategy preparation. Data evaluation included calculating 95%

concentrations using the ProUCL Model provided by the United States Environmental Protection Agency (USEPA). Completion of the remediation investigation for all seven operable units was granted by the regulatory agency. Human risk was negated through use of Risk Assessment Information System (RAIS) modeling of current and future site scenarios for exposure to contaminants of concern.

Industry Experience

- Portfolio manager of seven (7) petroleum facilities in New Jersey. Management includes client communication, emergency response services, light non-aqueous phase liquid (LNAPL) recovery, remedial investigation, and remedial action implementation and reporting in accordance with NJDEP regulations and health and safety requirements set forth by the client. Reporting tasks extend from historical document request and review, data processing, and synthesis and articulation of data and associated findings.
- Field team manager for LA County Exide project as part of a successful execution of the rapid assessment for lead at 500 residential parcels over a two-week period in the communities of Commerce, Maywood, and East Los Angeles. Responsibilities included soil assessment field team oversight, preparation of field documentation, onsite health and safety management, soil sample preparation, XRF analysis of soil samples, and sample collection.
- Project manager for industrial site in northern New Jersey requiring monitored natural attenuation biannual recertification as the remedial approach in accordance with NJDEP regulations. Responsibilities included coordination with laboratory and equipment companies, collection of groundwater samples, and management of other field personnel. The Site was granted a Remedial Action Outcome with unrestricted use.

Litigation/Insurance Support

- Project Manager and lead investigator on multiple claim review projects for a major insurance company. Projects involved reviewing the scope of investigations and remediation, and the reasonableness and appropriateness of the costs relative to the terms of the insurance policies. On a periodic basis, Roux reviewed claim documentation and evaluated the validity of the claimed costs.
- Project Manager and lead investigator on a Site under multiple major insurance companies. The project involved reviewing the scope of investigation and remediation, and the reasonableness and appropriateness of the costs relative to the terms of the insurance policies. On a periodic basis, Roux reviewed claim documentation and evaluated the validity of the claimed costs. Other responsibilities

included management of the remedial investigation at the multi-tenant property including management of field teams, and overseeing and implementing soil and groundwater samples.

- Provided litigation support on two separate cases. Created site background and developed site history for understanding and implementation for expert reports. Determined the reasonableness and appropriateness of the costs relative to the terms of the insurance policies. On a periodic basis, Roux reviewed claim documentation and evaluated the validity of the claimed costs.

Phase I/II Environmental Site Assessments

- Project Manager for a due diligence project in accordance with ASTM E1527-13 for the purchase of over forty (40) sites, consisting of commercial properties, industrial properties, undeveloped land, etc., in approximately ten (10) states throughout the United States. Project responsibilities included Phase I proposal preparation; database search coordination and review; Phase I Site visit and field documentation; Phase I report preparation; logistics coordination and various communications with client, designated Site contacts, property owner's designated Site contacts, and health and safety divisions; budget tracking; and associated travel arrangement preparation, property owner training requirement completion, and general project management.
- Conducted eight (8) Phase II environmental site assessments (ESAs) in five (5) states throughout the United States. Project responsibilities included Phase II proposal preparation; applicable state/regulatory soil sampling protocols/regulatory requirements; coordination and management of laboratory and equipment; management of subcontractor pre-access coordination and documentation; execution of Phase II fieldwork; Phase II report preparation; logistics coordination and various communications with client, designated site contacts, property owner's designated site contacts, and health and safety divisions; budget tracking; and associated travel arrangements preparation, property owner training requirement completion, and general project management.
- Project Manager for due diligence project in accordance with ASTM E1527-13 for the purchase of one (1) site in New Jersey with a two-week turnaround time. Project responsibilities included Phase I proposal preparation; database search coordination and review; Phase I Site visit and field documentation; Phase I report preparation; logistics coordination and various communications with client, designated site contacts, property owner's designated site contacts, review of historical data from 1980s, and health and safety divisions; budget tracking; and associated travel

arrangements preparation, property owner training requirement completion, and general project management. Developed order of magnitude future costs associated with remediation of the Site, including costs for Natural Resources Damage (NRD).

- For three (3) New Jersey commercial Sites, was the Project Manager for multiple Phase I/Preliminary Assessment (PA) and Phase II/Site Investigation (SI) projects in accordance with ASTM E1527-13. Project responsibilities included Phase I/PA proposal preparation; database search coordination and review; NJDEP regulatory review; Phase I site visit and field documentation; Phase I/PA report preparation; Phase II proposal preparation; NJDEP soil sampling protocols/regulatory requirements; coordination and management of laboratory and equipment; management of subcontractor pre-access coordination and documentation; execution of Phase II/SI fieldwork; Phase II/SI report preparation; logistics coordination and various communications with client, designated site contacts, property owner's designated site contacts, and H&S divisions; budget tracking; and associated travel arrangements preparation, property owner training requirement completion, and general project management.