ROUX

PROFESSIONAL PROFILE

Thomas R. Buggey, P.G., LRS, LSRP

Vice President/Principal Hydrogeologist

TECHNICAL SPECIALTIES

Remedial investigations and feasibility studies at hazardous waste sites; groundwater fate and transport; regulatory agency negotiations and compliance strategies relative to RCRA compliance and corrective action; New Jersey ISRA Compliance; voluntary site cleanup; remediation; hydrogeologic studies; CERCLA projects; due diligence/compliance audits; Expert Witness and Litigation Support.

EXPERIENCE SUMMARY

37 years of experience: Vice President/Principal Hydrogeologist for Roux Associates, Principal Geologist at Dames & Moore/URS, and Senior Geologist/Co-Owner at EEC, Inc.

CREDENTIALS

M.A. Geology Temple University, 1985

B.A. Geology, Temple University, 1981

Graduate studies in Panama and the Catskill Mountains

Registered Professional Geologist, Pennsylvania No. 1252
Licensed Remediation Specialist, West Virginia No. 108
Licensed Site Remediation Professional, New Jersey No. 580659

PUBLICATIONS

1997, "Case Study: In Situ Methods for the Recovery of Dissolved and Free-Phase TCE," American Society of Civil Engineers Conference, Minneapolis, Minnesota.

KEY PROJECTS

- The expert witness in an environmental remediation liability case. The objective was to evaluate the nature of the environmental release. The environmental release included soil and ground water impacts from fuel oil and gasoline. Mr. Buggey provided an expert opinion regarding the environmental impacts attributable to the release of fuel oil and those related to gasoline. The project involved reviewing land use maps, aerial photographs, environmental reports, leases and technical information regarding the composition of fuel oil and gasoline. Mr. Buggey prepared the expert report for settlement negotiations.

- The expert witness for an insurance carrier in a litigation suit involving insurance coverage. The expert for the plaintiff testified in mediation that lead in the soil (the bulk of the environmental impact) was a third-party damage due to the presence of lead in the groundwater. Mr. Buggy's expert testimony demonstrated that the lead was a background condition. The former judge mediating the case used Mr. Buggey's testimony to negotiate a settlement satisfactory to both parties. Tan environmental remediation liability case. The objective was to evaluate the nature of the environmental release.

- Litigation team member for the testifying expert on behalf of Tronox in the Tronox vs. Kerr McGee/Anadarko bankruptcy suit.

  Tronox alleged that Kerr McGee/Anadarko underestimated the environmental liabilities assigned to Tronox when it was spun off Kerr/McGee/Anadarko. As the testifying expert for Tronox, Roux Associates prepared an 8,000-page expert report that detailed several billion dollars in potential environmental liabilities. Mr. Buggey was responsible for managing the assessment of environmental liabilities for wood treating facilities, abandoned uranium and precious metals mines and perchlorate manufacturing sites. On the basis of Roux Associates report and testimony, the court awarded Tronox damages between 5.2 and 14.2 billion dollars.

- Retained as a technical expert and reviewed the technical basis for an insurance litigation case regarding environmental impacts along a natural gas pipeline. The project involved reviewing the technical claim report prepared by the consultant to the insured, evaluating the data relative to the provisions of the policy and assessing the technical merits and viability of the claim. The result of the project was an estimated cost reduction in the claim of approximately 75 percent. Mr. Buggey prepared portions of the testifying expert's trial presentation.

- Technical expert for an insurance litigation case at a site in Vineland, New Jersey. On behalf of an insurance company, Mr. Buggey was deposed by the plaintiff with regard to his opinion on the remediation strategy posed by the consultant to the Plaintiff. Based in part on Mr. Buggey's testimony, the parties settled the suit.

- Retained as a technical expert and reviewed the technical basis of an insurance claim for remediation at a former gasoline service station in southern New Jersey. The case involved reviewing the technical soundness of the proposed remedy and estimated future costs. In his expert report, Mr. Buggey developed a more cost-effective remedial approach that was accepted as a viable approach by both parties during settlement negotiations.

- Technical expert for environmental impacts alleged to result from the explosion of an underground storage tank during the retrofitting of the tank. The UST owner claimed that the explosion caused the catastrophic loss of gasoline in an adjacent tank. The project involved reviewing the technical reports, tank inventory records, regulatory files and

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deposed testimony of the tank removal contractor and the owner's consultant. The review concluded that the tanks at the site had a history of releases and that the cause of any environmental impairment at the site could not be solely attributed to the explosion.

- Factual witness for the defendant for a suit that alleged damages by contaminated groundwater from a dry cleaner. In court, Mr. Buggey testified as to the facts surrounding the remediation of the dry cleaner and identified other sources of the groundwater contamination at the plaintiff's site (including their own site). The court ruled in favor of the defendant.
- For several cases involving landfills, managed and completed review of technical data in support of the testifying expert. Mr. Buggey managed the compilation, review and interpretation of technical data, completed file reviews at regulatory agencies, prepared exhibits, interpreted operational history of the landfills, assessed the potential for off-site sources and evaluated costs of remediation.
- LSRP for a research and development facility in central New Jersey. During installation of a storm barrier following Hurricane Sandy, the client encountered an abandoned waste pipeline. The soil surrounding the pipeline had a solvent odor. Roux performed a site investigation for this Spill Act discharge. Roux delineated the solvent-contaminated soil, but a waste classification sample detected PCBs. Roux conducted a subsequent investigation and delineated the PCBs in soil. Further, the soil at the site was a clay aquitard. Roux petitioned the New Jersey Department of Environmental Protection and received a determination that the groundwater at the site was Class 3A – not suitable for potable use. Modeling showed that the groundwater contamination would not migrate to potable groundwater. As a result, the groundwater did not require remediation nor an institutional control. Roux implemented a soil excavation remedy and the compliance attainment using the Theissen polygon method, achieved residential direct contact soil standards and issued an unrestricted Response Action Outcome (RAO) for the site.
- LSRP for an ISRA case and UST Spill Act case on the same site. The site was leased to two entities. The ISRA case involved solvent-contaminated soil and heating oil release. The Spill Act case involved a discharge of solvent from aboveground storage tanks (ASTs). The site is located in Newark, NJ and is underlain by an organic-rich meadow mat. The heating oil and solvent were located within the meadow mat. The previous consultant used air sparging, vacuum extraction and chemical oxidation to remediate the site. After more than 20 years, the area of the heating oil discharge was largely unchanged. Roux examined the data and concluded the meadow mat was acting as a chemical "sink," decomposing the chemical oxidants before the oxidants had a chance to remediate the heating oil. Roux proposed in situ biological degradation. After two years, the heating oil footprint was reduced by over 85%. In the solvent AST area, the contamination area has decreased by 25% and the concentrations in the groundwater have generally decreased by more than an order of magnitude from the 10,000's ppb to 100's to 1,000's ppb.
- LSRP on a PCB-contaminated soil along an active rail line in central New Jersey. Amtrak planned to replace electrical signal wire with fiber optic cable along a section of rail on the Northeast Corridor. Roux was retained to characterize the soil that would be disturbed during the installation process. The initial soil sampling identified PCBs in soil at concentrations above the TSCA and New Jersey soil standards. As the project fit within the definition of a linear construction project, the complete delineation and remediation of the PCB-impacted soil was not required. Therefore, Roux devised a soil excavation and management program for the cable installation. During the field activities, Roux was retained to monitor respirable dust and to observe and document the soil excavation and management.
- Third party LSRP on a chemical plant in southern New Jersey. The facility used perfluoro alkylated substances (PFAS). The PFAS have been detected in the groundwater, which is used as a potable water supply, and the Delaware River. The responsible party retained Roux Associates to oversee the technical investigation and remediation of the site.
- LSRP on a uniform manufacturing site located in southern New Jersey. The site has soil and groundwater contamination from chlorinated solvent releases from a dry- cleaning machine. The site is located in a densely developed center of a town resulting in a complicated vapor intrusion assessment of surrounding properties, coordinating access for well installation and soil sampling. The remediation was designed to remove the source of groundwater contamination and mitigate vapors in the building as soon as possible. The soil beneath the former dry-cleaning machine will be excavated and disposed off-site. The remaining soil and groundwater will be remediated with air sparging/soil vacuum extraction and monitored

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natural attenuation for the downgradient groundwater.

- LSRP on a dry cleaner site located in northern New Jersey. The site has soil and groundwater contamination from chlorinated solvents. The site is located in a densely developed center of a town resulting in a complicated vapor intrusion assessment of surrounding properties, coordinating access for well installation and soil sampling. The remediation was designed to remove the source of groundwater contamination and mitigate vapors in the building as soon as possible. The soil will be excavated and disposed off-site and the groundwater will be monitored for natural attenuation.
- LSRP on an ISRA project in East Rutherford, New Jersey at a former compressed gas manufacturing plant. The site consists of historic fill contaminated with metals and polynuclear aromatic hydrocarbons. The groundwater impacted with chlorinated solvents. As the site is located in the Meadowlands, Roux Associates was successful in negotiating with the NJDEP to reclassify the groundwater as Class 3B – non potable.
- LSRP for a chemical manufacturer with facilities in Kearny and South Plainfield, New Jersey. These sites were in the was able to work with the existing consultant to develop a remedial action program and closed the Plainfield site under an unrestricted use Response Action outcome (RAO). The Kearny site will be closed with a limited restricted use RAO for groundwater and historic fill.
- LSRP for a plastic container manufacturer with facilities in Bordentown, Edison and Belvidere, New Jersey. Remedial Action Outcomes (RAOs) were issued for the Bordentown and Belvidere facilities. The Edison facility is in the remedial action phase of the project.
- LSRP on a dry cleaner site located in a strip center in central New Jersey. The site has soil and groundwater contamination from chlorinated solvents. The remediation was designed to remove free-phase PCE (DNAPL), the source of groundwater contamination and indoor vapors in the building. The DNAPL and soil will be treated using electrical resistance heating (ERH) with vapor recovery. The groundwater will be monitored for natural attenuation.
- LSRP for a southern New Jersey local municipality. The township has two sites with arsenic at concentrations above the soil remediation standards. The previous consultant determined the source of the arsenic was former agricultural use of the properties. The consultant estimated a cost of over $1.5MM to excavate and dispose of the soil off-site. Roux Associates re-evaluated the data and concluded that the soil could be remediated by soil blending, consistent with the New Jersey Department of Environmental Protection guidelines for contamination from agricultural sources. Roux Associates is currently conducting pilot studies to evaluate the effectiveness of the soil blending to achieve the soil remediation goals. If the pilot program is successful, the soil blending remedy could save the township over $1MM.
- Project Principal for the completion of removal actions at a PCB site in Alabama. The projects have included capping of soils in place, excavation and off-site treatment at a TSCA- regulated facility, construction of ball fields, parking lots and tennis courts as engineering controls and culverting a drainage ditch.
- Third party Licensed Remediation Specialist (LRS) for a lamp manufacturer in Fairmont, West Virginia. Reviewed work plans and reports and monitored the technical implementation of a remedial investigation and removal action.
- LRS for a site in central West Virginia that was a former zinc smelter. The site is a candidate for the NPL. Roux successfully negotiated to conduct the investigation and remediation under the West Virginia Voluntary Remediation and Recovery Act (VRRA) thereby saving the client several thousands of dollars and expediting the remediation process. At this time, the final remedy for the site will likely be institutional controls, capping in process areas and monitored natural attenuation (MNA) of groundwater.
- Project Principal for a Brownfield redevelopment in Delaware. The site was a 167-acre steel mill. A developer purchased the property and entered the Delaware Brownfields Program. Roux performed the investigation in accordance with the Delaware Hazardous Substances Cleanup Act (HSCA). Through statistics and risk assessment, the remediation of the site will involve institutional controls for groundwater and in areas where the risk to residential and recreator receptors was unacceptable and hot spot excavation of small areas to eliminate the need for institutional controls in some areas. The estimated cost of the investigation and remediation is less than <$10MM. the site will be developed for residential, commercial, and light industrial use and relocation a of a light rail station.
- Project Principal of a RCRA Facility Investigation (RFI) and Corrective Action for an electronic

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controls manufacturer in southeastern Pennsylvania. Worked in tandem with legal counsel in negotiating a consent order with USEPA. Reviewed work plans and reports, directed design of interim measures and field investigations, performed overall technical quality assurance and quality control.

- Project Principal on a RFI for a specialty steel manufacturer located in Reading, Pennsylvania. Reviewed and directed preparation of the implementation of the work plan to remediate chlorinated solvents in the soil and groundwater and chromium in soil. Provided support to the client in dealing with the regulatory agencies and negotiating the scope of work for the RFI. Final outcome was no further action regarding hexavalent chromium in landfill based on potential risk (a savings of over $2,000,000) and containment of the chlorinated groundwater onsite through pumping to the onsite wastewater treatment facility.
- Project Manager and Principal Investigator for a remedial investigation at a chemical plant in Monaca, Pennsylvania. The project involved soil and groundwater characterization and design of groundwater remediation systems. The scope included drilling soil borings; installing monitoring wells, performing pumping tests and vacuum extraction pilot tests.
- Project Principal of a RFI for an explosives manufacturer located in south central Pennsylvania. Designed the second phase of the RFI, prepared the work plan, and report. Field activities included an ecological survey, well installation, and soil sampling and risk assessment. The results indicated low concentrations of compounds used in the manufacture of explosives in groundwater and soil. The ecological assessment indicated no impact to environmental receptors. The risk assessment did not indicate an unacceptable risk to potential human receptors. The report is under review by the EPA.
- Project Principal of a RFI for an agricultural pesticide manufacturer located in northern Delaware. Designed the second phase of the RFI, prepared the work plan, and report. Field activities included an ecological survey, well installation, and soil sampling and risk assessment. The project also included remedial actions at solid waste management units in connection with building demolition.
- Project Principal for an investigation and closure of wastewater treatment lagoons at a starch manufacturing plant in Meredosia, Illinois. The site is located adjacent to a major river. The project included characterization of the hydrologic flow regime, groundwater quality analysis, and waste disposal alternatives for the sludge in the lagoons. The project is currently focused on identifying closure options.
- National client manager for a major truck leasing company. Mr. Buggey is responsible for execution of UST remediation at facilities in Iowa, Illinois, New York and Pennsylvania. The projects typically involve oversight of the UST removal, characterization of the soil and groundwater, design and implementation of a cost-effective remediation, operation and maintenance of the remedial system and submittal of support documentation for claims under various state UST indemnification programs.
- Project Principal on numerous UST projects in Pennsylvania and New Jersey. Investigations typically involve tank removal, soil sampling and well installation. Remediation systems typically involved pump and treat with vacuum extraction.
- Project Principal for an ISRA project at a former stainless steel tube-manufacturing site in Union, New Jersey. Trichloroethene free-phase product (DNAPL) was discovered in the soil and groundwater. The plume extends vertically for 150 feet into bedrock. The horizontal extent has not been delineated beyond 1,000 feet downgradient. Groundwater concentrations off-site are approximately 10,000 ug/l. Studies included packer testing to delineate vertical migration of DNAPL, modeling studies with world-renowned academic experts in DNAPL recovery and migration, treatability studies. The remediation system is designed to pump and treat 200 gpm of groundwater to depress the water table. Vacuum extraction and pumping is used to remove the DNAPL. The system recovers approximately 15 to 25 gpd of DNAPL. To date, over 30,000 gallons of DNAPL have been recovered. Negotiations are ongoing with the NJDEP regarding the technical impracticability of off-site capture and remediation.
- Project Principal for a lagoon closure in Illinois. The facility operated a wastewater treatment system for over 50 years. The sludges from the treatment system were disposed in lagoons located on the site. Roux Associates was retained to assess the sludge and develop cost effective remediation alternatives relative to the Illinois voluntary cleanup program, landfill regulations and land disposal regulations. Currently Roux Associates is in the process of characterizing the sludge materials.
- Project Principal of an ISRA case located in Chester, New Jersey. The site was formerly used as a precision instrument manufacturer. Several sources of chlorinated volatile organic compounds in the soil and groundwater were identified. The site is

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situated adjacent to a trout stream and extensive wetlands. Investigations included the installation of soil borings and wells, soil, surface water and groundwater sampling, pumping tests and soil gas surveys. To assess the concentrations of contaminants discharging to the stream from the groundwater, Roux Associates used permeable membrane sample bags. The remedial action includes excavation and on-site treatment using soil vapor extraction and operation of a groundwater pump and treat system to control groundwater. The groundwater characterization continues at the present time.

- Principal Investigator of a hazardous waste landfill at an active petroleum refinery in Marcus Hook, Pennsylvania. The site is a solid waste management unit under the facility's RCRA permit. The client decided to close the landfill under Pennsylvania's voluntary program (Act 2) rather than close the unit under the RCRA permit. The investigation involved drilling over 50 soil borings, collecting soil samples, installing 35 wells and groundwater sampling, an ecological assessment, human health baseline assessment, fate and transport modeling, regulatory negotiations on a final remedy. The investigation indicated that the compounds of concern were bound in the filter clay within the landfill and were not impacting groundwater or a threat to human health due to engineering controls. The PADEP approved a no further action remedy for soil and groundwater based on risk assessment. The EPA Region III office concurred with the remedy.

- Project Principal for an ISRA remedial action at a copper bearing manufacturer in southern New Jersey. The project involved characterizing site soil, negotiating the scope of the cleanup with the New Jersey Department of Environmental Protection, executing the cleanup and submitting the final report. The remedy involved the excavation of soil impacted with copper.

- Project Principal for closure under of ISRA of a former fatty acids plant. The facility was closed in 1996 and subsequently sold to the adjoining sewer authority in 1999. The investigation included soil and groundwater characterization and surface water discharge modeling. The investigation results indicated the presence of heavy metals and petroleum hydrocarbons in the soil throughout the site and attributable to historic fill. Groundwater contained ammonia at concentrations above the groundwater quality criteria. Roux presented to the NJDEP that the ammonia is present as ammonium based on groundwater chemistry and thus not regulated under the groundwater quality criteria; only ammonia is regulated. The new owner of the property has agreed to a deed restriction limiting future site use to industrial purposes only (the owner intends to construct sludge drying beds on the site). Currently, the final remedy is being negotiated with the NJDEP to include deed restriction of the soil and no further action for the groundwater.

- Project Principal for the investigation and remediation of a dry cleaning establishment in West Norriton, Pennsylvania. The investigations included soil and groundwater characterization. High concentrations of tetrachloroethene were detected in the soil beneath the floor of the building and in the bedrock aquifer. The soil remedy involved vacuum extraction to remove the volatiles from the soil. Groundwater in the area is not used for potable purposes and several other sources to groundwater contamination were identified. The probable groundwater remedy will involve enhanced natural remediation. Groundwater characterization and remedial design activities continue at the site.

- Project Principal of a site investigation of a former lead smelter in Louisiana pursuant to the LDEQ Risk Evaluation/Corrective Action Program (RECAP). The investigation involved drilling 400 soil borings and collecting 1,600 soil samples over a 90-acre site. The soil samples were screened with an XRF to delineate soil impacts. A stream study was performed to characterize off-site impacts. A remedial action plan was developed and submitted to the LDEQ. The concept was to remove soil containing lead at concentrations exceeding the 95% UCL and re-grading the site. The work plan is before the agency for review.

- Project Principal for a site remediation in LaPorte, Texas. The site was a former compressed gas manufacturing facility. During divestiture of the property, chlorinated solvents were detected in groundwater. Roux Associates negotiated a Municipal Setting Designation (MSD) for the site thereby eliminating the need for remediation (an MSD is an aquifer designation as a non-use/non-potable water supply). The net result was a savings of at least $500,000 to the client.

- Project Principal/Regional Manager for 11investigations and remedial actions for a major automotive manufacturer. Provided technical and strategic guidance on regulatory regulations for cleanups at auto dealerships in Pennsylvania, New York, New Jersey and Massachusetts. The Pennsylvania dealerships were remediated under the Land Recycling Program (PA Act 2), the state's voluntary cleanup program.

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- Project Principal of a former dry cleaning establishment in Pennsylvania. The investigations included soil gas surveys, soil sampling, well installation, hydrologic testing and fate and transport modeling. Groundwater contained tetrachloroethene at concentrations up to 3,000 ug/l. Plume was approximately 1/4-mile long. Negotiated with the PADEP a no further action remedy based on risk assessment.
- Project Principal for the investigation and remediation of a dry cleaning establishment in Jeffersonville, Pennsylvania. The investigations included soil and groundwater characterization. In the absence of groundwater contamination, the client elected to remediate the soil through excavation and off-site disposal. The case received a no further action determination and covenant not to sue from the PADEP.
- Project Principal for the investigation and remediation of a railcar equipment manufacturer. The manufacturing process includes chrome plating of the parts. Breaches in the integrity of the vapor control equipment resulted in a release of hexavalent chromium to the soil and groundwater. The investigations included soil and groundwater characterization. High concentrations of hexavalent chromium were detected in the soil beneath the floor of the building; moderate concentrations were detected in the groundwater at the location of the release. Groundwater quality at the property boundary, the point of compliance under Act 2, met the PADEP cleanup standards. The remedy selected for this site included engineering and institutional controls for soil and no further action for groundwater. The site was closed in 2006 under the Pennsylvania Land Recycling Program.
- Project Principal for the Recticon/Allied Steel CERCLA remedial investigation. Work included review of historical data; preparation and implementation of site work plans; active participation in meetings and negotiations with state and federal regulatory agencies; collection of field data including soil sediment, surface, and groundwater samples; evaluation of hydrogeological data including borehole geophysics and aquifer pumping tests. In 2015, Roux Associates demonstrated attainment of the remedial goals. The USEPA officially issued a no further action in 2016.
- Principal Hydrogeologist for the Maywood Chemical Superfund Site in Maywood, New Jersey. Mr. Buggey managed the preparation of the groundwater feasibility study, specifically identifying and developing the technical justification for monitored natural and enhanced natural attenuation of chlorinated compounds in bedrock groundwater.
- Project Principal on a CERCLA removal action at a former railyard in New Jersey. The property was formerly operated as a vermiculite manufacturing facility from the late 1950 until the early 1970s. The vermiculite was brought from a mine in Libby, Montana to the site in railcars. The vermiculite ore, however, contained asbestos minerals. The USEPA collected soil samples and detected asbestos in the soil. Roux Associates was retained by a major rail company, the responsible party identified by the USEPA, to investigate the property and develop a remedial approach. The USEPA position was that the soil must be excavated to prevent human exposure to the asbestos. However, the USEPA did not quantify the potential exposure; therefore, the need for excavation of the soil was not substantiated. The Roux investigation was designed to characterize the soil through soil sampling and collecting air samples to assess the potential for airborne exposure. If no airborne exposure is identified then other alternatives will be examined, such as capping in place. The investigation is ongoing.
- Project Manager and Principal Investigator of the Woodland Sites in the Pine Barrens of south central New Jersey. His responsibilities included supervision of field programs, work plan development and preparation, project personnel management and scheduling, direction and coordination of investigative and engineering activities, report preparation and attendance at PRP steering committee and regulatory agency meetings, regular contact with the regulatory agencies, attendance at public meetings, and public relations support.
- The project included characterization and design studies to augment the RI/FS and implementation of a multi-faceted remedial action that included removal of 100,000 cubic yards of landfilled waste and conceptual design of a groundwater treatment system. These activities included a monitoring well installation program, subsurface soil characterization study, groundwater modeling, and conceptual design of a groundwater treatment system. The sites required special considerations because of their location in the Pine Barrens and close proximity to extensive wetlands.
- Project Manager for a RI/FS and Remedial Action at a solvent recovery site in southeastern Florida. Designed and coordinated implementation of characterization and design studies, prepared work plans and design reports, supervised design of groundwater remediation system and groundwater modeling, contact with local and federal agencies and

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potentially responsible party (PRP) steering committee.

- Project Geologist on the Renora Drum Site in Edison, New Jersey. Designed and implemented the characterization studies including geophysical surveys, soil borings, well installation and stream studies. Prepared work plans and reports supported the engineering staff during the FS. Provided technical support to the PRP committee in meetings with EPA Region II.
- Principal and manager for the due diligence of 101 propane sites in 11 states. The assessments included identifying environmental liabilities and associated costs. All 101 assessments were completed, and the reports delivered within five weeks of authorization.
- Principal and manager for the divestiture of 300 retail service stations in the Midatlantic region. All assessments were performed in accordance with ASTM E1527-05. The assessments included identifying environmental liabilities and developing Phase II scopes of work. All assessments were completed, and the reports delivered within three months of authorization.
- Principal and manager of a multi-national fiber optic system due diligence project. The business transaction involved the purchase of an international fiber optic communications system by the largest telecommunications company in India. The project involved reviewing corporate files, performing site inspections at facilities on both coasts of the United States, England, Spain, Portugal, Holland and Japan, and developing cost projections for potential environmental liabilities. Mr. Buggey personally inspected sites in New Jersey, California, England, Holland and Japan.
- Principal and manager of an adhesives manufacturing division of a multi-national chemical company. Representing the seller, Mr. Buggey directed the due diligence activities for disclosure to prospective buyers of the division, which included reviewing corporate files, performing site inspections, completing investigative activities (video-taping sewer lines, collecting soil samples) and developing cost projections for potential environmental liabilities. The sites were located in the Midwest and Southeast United States, Canada, England, and Holland. Mr. Buggey personally completed the inspections and investigations of the sites in England and Holland.
- Principal and manager for the due diligence of 38 chemical sites in North and South America as part of an international acquisition project involving over 100 sites worldwide. Twenty-three of the sites in the United States, 5 sites in Canada, 5 sites in Mexico, and 5 sites in Brazil. Served as the project coordinator interacting with the lead office in Manchester, England and technical QA/QC of the final reports. The audits included environmental, safety and industrial hygiene compliance and liabilities and associated costs.
- Principal Investigator for the due diligence of 85 rubber manufacturing facilities around the world. The project involved a review of the environmental files for the sites to create a conceptual model of the different types of sites (e.g., heavy manufacturing, warehousing) and identify potential environmental concerns. Following the file review, 16 sites were visited to confirm the conceptual model. Once the conceptual model was finalized, potential environmental liabilities were estimated for the portfolio of properties including a cash flow projection for the next 10 years. This investigation allowed the client to prepare a bid for the company and project their rate of return based on the cash flow projections.
- Project Principal for a project involving five shipyards in California. The investigation involved reviewing environmental reports, compliance data and permits, inspecting the facilities and developing remedial strategies, estimating remediation costs and projecting cash outlay over 5 years for strategic planning.

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