ROUX

Professional Profile

Andrew Baris

Vice President / Principal Hydrogeologist

Technical Specialties:
Hydrogeologic investigations. Groundwater and soil contamination investigation and remediation. Preparation and implementation of site assessment and remedial action work plans for industrial facilities. Petroleum hydrocarbons, risk-based corrective action. Integration of site remediation and redevelopment activities at Brownfields sites. USEPA Superfund and RCRA programs.

Experience Summary:
Over twenty-five years of experience: Vice President, Headquarters Office Manager, Principal, Senior and Project Hydrogeologist with Roux Associates; Hydrogeologist for USEPA Office of Groundwater Quality Management.

Credentials:
M.E.S. Groundwater Quality Management, 1986, University of Oklahoma
B.A. Geology, 1985, Geneseo College of Arts and Science, State University of New York
Licensed Environmental Professional, State of Connecticut

Publications:
Assessment and Remediation of Off-Spec Asphalt Disposal Areas, Contaminated Soils, Volume 3, Amherst Scientific Publishers, 1998.
Use of a Subsurface Flow Constructed Wetlands for Collection and Removal of Water Containing BTEX, Proceedings of the 2000 Petroleum Hydrocarbons and Organic Chemicals in Groundwater Conference, National Ground Water Association.

Professional Affiliations:
National Groundwater Association
Association of Groundwater Scientists and Engineers

Key Projects:

- Retained as an expert witness for a confidential petroleum hydrocarbon case in New York City. The case involves a former oil terminal that was condemned and taken by the City of New York for purposes of constructing a municipal wastewater treatment facility. The site environmental conditions as of the taking date were evaluated to develop opinions with respect to environmental remediation costs that would have been incurred for various redevelopment scenarios being considered prior to the City's taking of the property.

- Retained as an expert witness on behalf of petroleum product delivery company alleged to have caused contamination at a service station due to tank overfill incidents. The work involved review of the site assessment and remediation activities at the Site to differentiate the contamination and associated remediation costs attributable to the tank overfills from the contamination caused by leaking tanks and other sources.

- Retained as a consulting expert on behalf of one of the defendants in a multi-million dollar class action suit against multiple industrial property owners and operators in Nassau County. The complaint alleges personal injury and property diminution due to groundwater contamination and impact to the water supply aquifer. Primary contaminants of concern are chlorinated solvents.

- Principal-In-Charge for the comprehensive investigation and remediation of an 850-acre former refinery, and active petroleum storage and pipeline transfer facility in Providence, Rhode Island. Areas of concern include former refinery process areas; active and former tank farms; active and abandoned oil/water separators; and drum, refinery sludge, acid waste and tank bottom disposal areas. Technical aspects include design and implementation of a 600-gpm groundwater extraction and treatment system to prevent off-site migration, geophysical surveys, groundwater and separate phase product modeling, human health and ecological risk assessments, wetland delineation and restoration, product recovery system design and implementation, phytoremediation, and large-scale excavation and disposal projects.

- Principal-In-Charge of an RI/FS, building decon and demolition activities and site remediation at a former manufacturing facility in Bridgeport, Connecticut. The initial environmental investigations were performed to support divestment negotiations and to provide the data necessary to evaluate future redevelopment scenarios for this shorefront property. To meet the transaction deadline within a two month time period, Roux Associates accomplished Phase I audits of all facility buildings, a sewer investigation, a soil boring and sampling program, monitoring well installation program (including indoor wells on the manufacturing floor), a groundwater investigation, a tidal influence evaluation and an asbestos containing material assessment; presentation of findings to our client and representing counsel during the field program on a daily basis; preparation of an investigation summary report; and identification of all potential environmental liabilities and development of a feasibility study (FS) report including estimated costs for the remediation of the entire site.

- Principal-In-Charge for the assessment and remediation of a petroleum bulk storage terminal at JFK National Airport in New York City. The project included assessment of site conditions to delineate the extent of free product, impacted soil, and dissolved-phase groundwater impacts. Upon discovery of free product, recovery efforts were initiated using automated pumps. A risk-based analysis was performed to develop alternative cleanup criteria for soil and groundwater. As a result, only localized excavations were required to address soil contamination, and no remediation was required for groundwater. The risk-based analysis and corrective action plan were accepted without any revisions required by the NYSDEC. The remediation has since been completed and approved by NYSDEC.

- Project Manager for the off-site investigation and remediation of a multi-million gallon release of petroleum hydrocarbon product from a former refinery and petroleum storage terminal in New York City. The project involved numerous consent order and consent decree deadlines for investigation activities, reports, and design submittals, with significant penalty stipulations if work was not performed on schedule and according to specifications. Technical and management responsibilities included oversight of field investigations, remediation system design and construction, data analysis, report preparation, and permitting negotiations with NYSDEC, NYCDEP, NYCDOB, NYCDOT, and the NYC Fire Department. Technical aspects included detailed spill volume modeling, aquifer testing, numerical groundwater modeling, and evaluation of remedial alternatives. Remediation design and construction included a 21-well dual-phase (product and water) extraction system, force mains through NYC streets, two 500-gpm groundwater treatment plants, discharge facilities, and product storage facilities.

- Principal-In-Charge of the investigation and remediation of a former aerospace manufacturing facility in Bantam, Connecticut. The subsurface was impacted in multiple areas of concern due historical uses of degreasing solvents, land disposal of metal plating wastes, and releases from USTs, septic system leachfields, and drum storage areas. Included in the site assessment were overburden and bedrock groundwater investigations, aquifer pumping tests, geophysical surveys, and evaluation of potential impacts to the adjacent river. The area around the Site was also

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impacted to due a regional groundwater quality problem. As a result, it was demonstrated that cleanup to achieve drinking water standards was technically impracticable.

- Project Manager for the RI/FS and Site remediation at a chromium (Cr) impacted Superfund site in Queens, New York. Identified and delineated source area and developed risk-based soil cleanup criteria to prevent future migration hexavalent Cr to groundwater. Performed an off-site investigation in NYC residential neighborhood to delineate the extent of impacted groundwater. Negotiated the approval of natural attenuation for the remediation of the off-site Cr plume in groundwater. A groundwater extraction system was designed and installed onsite to capture the hexavalent Cr migrating from the Site. Responsible for permitting negotiations with NYSDEC and NYCDEP which enabled attainment of a permit to discharge to extracted groundwater to the NYC sewer without treatment. The remediation has been completed and the State issued a declaration of No Further Action for the Site.

- Principal-In-Charge of the investigation and remediation of a former lube plant and active petroleum terminal in Albany, New York. The 75 acre site has multiple areas of separate phase product, impacted soil and groundwater, and an area of separate-phase product seepage to the Hudson River. Work performed to date includes sitewide assessment of soil and groundwater quality, delineation of separate phase product, and installation and operation of a separate-phase product removal system.

- Principal-In-Charge of the investigation and remediation of the largest petroleum terminal in New York State. The 450-acre facility is located on Staten Island in New York City. The project was performed to satisfy both Consent Order requirements imposed by NSYDEC and the extremely aggressive schedule associated with the divestiture and redevelopment plan for the property. Unique technical challenges free product recovery in low permeability settings, assessment and remediation of storm water drainage canals and large tracts of associated wetlands, and negotiating alternative cleanup levels for soil and groundwater. Remedial measures have been implemented in for several areas of concern, with the highest priority areas being those that are on the critical path schedule for completing the site redevelopment. Technologies either utilized or evaluated for site applications include in-situ and ex-situ bioremediation, dig and haul, and thermal desorption. A remediation by natural attenuation demonstration program is being implemented to satisfy regulatory requirements for groundwater.

- Principal-in-Charge of an evaluation of environmental conditions and a focused groundwater investigation at a former aerospace manufacturing facility in Wallingford, Connecticut to verify that remediation has been performed at certain release areas in accordance with the RSRs adopted by the CTDEP. The evaluation of environmental conditions and focused groundwater investigation was performed under the LEP Program. Former operations at the facility were primarily related to the manufacturing and testing of flow meters. Based on the results of the focused groundwater investigation, LEP verification was provided to the CTDEP that the former release areas at the site have been remediated in accordance with the RSRs adopted by the CTDEP.

- Principal-In-Charge for the feasibility study to identify the most cost-effective and expeditious alternative to recover a 400,000 gallon benzene LNAPL plume in Brazil. The FS concluded that the goal of site remediation in three years could be achieved by a vapor extraction system coupled with vacuum-enhanced recovery of benzene in the liquid phase. Roux Associates completed the design of the remediation system and subsequently coordinated with the Brazilian plant personnel during the equipment procurement and construction phase of the project. Following construction, onsite startup and pilot testing services were provided. The results indicate that the system is meeting all design expectations.

- Principal-In-Charge of the Site investigation of a major electrical substation and gas turbine generating station in Brooklyn, New York. The work was triggered by the discovery of free product seepage from the facility bulkhead. The subsequent investigation delineated the area of free product. A more comprehensive evaluation was subsequently conducted to prepare the Site for divestiture. Areas impacted by PCBs were identified and quantified so as not to impact the divestiture process.

- Principal-In-Charge for the comprehensive investigation and remediation of a 90-acre former refinery, and active petroleum storage terminal in Buffalo, New York. A comprehensive historical evaluation was conducted to identify potential areas of concern that may have resulted from refinery operations conducted from the 1880s to the 1980s. Areas of concern include former refinery process areas; active and former tank farms; active and abandoned oil/water separators; and tank bottom disposal areas. Offsite migration has impacted neighboring residential property as well as the Buffalo River. Priority actions included rehabilitation and upgrade of a well point system and treatment system that are required to operate to prevent discharge of free product to the river. In addition, a storm sewer investigation was given high priority due to the facility's non-compliance with storm water discharge permit requirements.

- Project Manager and Principal-In-Charge for the investigation and remediation at approximately 400 service stations in the New York City metropolitan area. Retained by the client to manage all aspects of work plan preparation, investigation, remediation, service station reconstruction, and regulatory negotiations. Established an office at the client's headquarters for the duration of the project to maintain strict project control. The work was performed under a consent order issued by USEPA. All aspects of the project were completed within required timeframes. The project involved cleanup of the grossly contaminated material, delineation of residual soil and groundwater impacts, and performing necessary remediation. A waste management system was established to enable real-time "cradle to grave" tracking of the large volume of wastes generated during the project.

- Integrated database management system (DMS) for the Roux Associates, Inc., New York Office. Project involved review of software applications, selection of software for use in the Roux Associates DMS, coordination with key environmental laboratories to develop file transfer protocols, establishing the database structure, and overseeing the conversion of existing databases into the new DMS.