

Appendix F

Curriculum Vitae for Project Personnel

DAVID P. TRAINOR, P.E., P.G.
Associate

EXPERIENCE SUMMARY

Mr. Trainor has over 23 years experience in numerous environmental projects and investigations, which include feasibility/plan of operation landfill siting studies, RI/FS programs, groundwater assessments, remedial design, and construction management. He has represented industrial and government clients in technical negotiations and presentations involving state and Federal regulatory agencies.

NewFields currently has 13 offices in Georgia, Alabama, Tennessee, Texas, New Jersey, Colorado, Maryland, Massachusetts, and Wisconsin and an International Division with projects in over 70 countries. The firm was established to focus on resolution of high profile environmental liabilities. Prior to joining NewFields, Mr. Trainor was employed by URS Corporation (formerly Dames & Moore) for 16 years where he held several positions, most recently as managing principal of the Madison, Wisconsin office.

REGISTRATIONS AND PROFESSIONAL AFFILIATIONS

Professional Engineer, Wisconsin, Michigan, Pennsylvania, California, Idaho, Iowa
Professional Geologist, Wisconsin
American Society of Civil Engineers
International Society for Soil Mechanics and Foundation Engineering
American Institute of Professional Geologists, Certified Professional Geologist, AIPG

EDUCATION AND TRAINING

B.S., Geology, Ohio State University, 1975,
B.S., Civil Engineering, Ohio State University, 1978
M.S. Civil and Environmental Engineering, University of Wisconsin, Madison, 1983
OSHA 40-hour Hazardous

PROFESSIONAL HISTORY

NewFields, Associate, 2003 to present
URS Corporation (previously Dames & Moore), Principal-in-Charge/Senior Engineer, 1987 to 2003
RMT, Inc., Geotechnical Project Engineer, 1983 to 1984; 1985 to 1987
Northern Engineering and Testing, Geotechnical Project Engineer, 1984 to 1985
Terratech, Inc., Staff Engineer, 1978 to 1981

REPRESENTATIVE PROJECT EXPERIENCE (Following listing is not exhaustive)

- Oversaw investigation, developed remedial options and directed remedial design and construction for interim coal tar removal system from a confined aquifer; coordinates completion of RI/FS for recently listed NPL site, former manufactured gas plant and wood treatment site; Ashland, Wisconsin.
- Coordinated investigation and developed remedial options for a former manufactured gas plant site currently used as a bulk propane distribution facility. Marshfield, Wisconsin.
- Performed research and provided expert testimony about the fate and transport of gasoline contaminants released from underground storage tanks allegedly contaminating a private residence.
- Coordinated and implemented environmental due diligence in preparation for acquisition for poultry processing operations at 90+ facilities.

- Provided expert testimony at an arbitration hearing on the validity of long-term remedial costs for a landfill (Superfund site) in southeastern Wisconsin.
- Developed remedial options for several manufactured gas plant sites; New York and Pennsylvania.
- Developed remedial options to expedite closure at a plating facility site contaminating groundwater with chromium.
- Evaluated applicability of past and future costs to validate insurance claims for remedial action at several landfill sites.
- Provided research and expert testimony at deposition for a named party at a Superfund site identifying other PRPs from individual waste stream analyses.
- Directed ROD implemented remedy including a gas extraction system upgrade and point-of-entry water filter installations for private homes, municipal sanitary landfill; Hudson, Wisconsin. Included expert testimony at trial.
- Provided expert testimony at deposition for a machine parts manufacturer evaluating the identification of manufactured gas plant waste disposed on their property; Milwaukee, Wisconsin.
- Provided expert testimony at trial for a paper company providing alternative water supplies for private residences affected by groundwater contamination from an industrial landfill; Eau Claire, Wisconsin.
- Developed strategy for investigating and providing cleanup options for dry-cleaning sites; Stevens Point, Wisconsin.
- Provided Agency negotiation, consultant review and oversight of an investigation and remedial options analysis for an abandoned sanitary landfill; Rice Lake, Wisconsin.
- Directed remedial design and remedial action oversight including final cover and landfill gas control, for an abandoned municipal waste landfill; Wausau, Wisconsin.
- Directed remedial design activities, including final cover and landfill gas control, for an abandoned municipal waste landfill; Rhinelander, Wisconsin.
- Performed a groundwater assessment, negotiated Agency approval for a selected remedial option, and directed construction management of a leachate extraction system for a paper waste landfill; Eau Claire, Wisconsin.
- Directed preparation of design plans and specifications, and construction management for remediation of 200,000 cubic yards of mining wastes under the Wisconsin Environmental Repair Program; Mineral Point, Wisconsin.
- Directed work plan development, negotiated USEPA approval, and directed the investigation for an abandoned landfill (NPL site); Tomah, Wisconsin.
- Oversaw design and construction of a landfill gas extraction system for an abandoned sanitary landfill; Tomah, Wisconsin.
- Directed investigation and remedial design activities for groundwater contamination from a former truck-trailer manufacturing operation; Edgerton, Wisconsin.
- Provided expert testimony at trial for food processing company siting a solid waste disposal facility.
- Provided expert testimony at deposition for a defendant for insurance claims at a foundry waste site (contaminated with lead); Milwaukee, Wisconsin.
- Prepared and implemented USEPA-approved RCRA facility investigation work plan for a hazardous waste incinerator (CWM Chemical Services); Chicago, Illinois.
- Directed preparation of Plan of Operation for a 3.5 million cubic yard sanitary landfill, including expert testimony before the Waste Facility Siting Board; Madison, Wisconsin.

- Directed preparation of plans and specifications for landfill cover restoration, state Superfund site; Madison, Wisconsin.
- Directed a remedial investigation and feasibility study for groundwater remediation options for an abandoned landfill; Dane County, Wisconsin.
- Directed remedial investigation for a former wood treatment (creosote) facility; Reed City, Michigan.
- Negotiated language for a voluntary consent order and directed investigation for a landfill remedial investigation (PRP group); Madison, Wisconsin.
- Coordinated design and construction of a landfill gas extraction system; Madison, Wisconsin.
- Directed preparation of a Feasibility Study and hydrogeologic assessment for a 1.5 million cubic yard industrial landfill; Wisconsin.
- Coordinated investigations and developed remediation options for several abandoned city sanitary landfills; Madison, Wisconsin.
- Developed a Feasibility Study for a 4 million cubic yard sanitary landfill, and provided expert testimony at a contested-case hearing; Madison, Wisconsin.
- Supervised subsurface investigations and prepared recommendations for remediation of two chlorinated hydrocarbon spill sites; Wisconsin manufacturing facilities.
- Supervised subsurface investigations and prepared hydrogeologic reports for several closed municipal landfill sites; Madison, Wisconsin.
- Prepared RCRA facility investigation work plan for a large military defense contractor (Hamilton Standards); Windsor Locks, Connecticut.
- Supervised investigations and developed remedial designs for several tank release sites; Wisconsin and Michigan.
- Developed remediation options for PCB-contaminated soils at an aluminum manufacturing plant; Kentucky.
- Coordinated investigation and developed design for a large demolition waste landfill facility; Portage County, Wisconsin.
- Developed an environmental and economic assessment for a county siting a hazardous waste facility; Minnesota.
- Prepared closure verification report for hazardous waste handling facilities in Wisconsin (APV Crepaco) and Illinois (Chemical Waste Management).
- Prepared feasibility/plan of operation report for a PCB transformer salvage facility; Juneau, Wisconsin.
- Designed a vacuum extraction system for remediation of an underground gasoline spill at a service station; Madison, Wisconsin.
- Designed and supervised construction of clay-lined earthen impoundments with dewatering facilities for foundry process sludge for a large industrial foundry facility; Defiance, Ohio.
- Devised geotechnical testing programs of various waste materials generated from paper manufacturing processes.
- Provided geotechnical analysis and recommendations for repair of a failure in a clay liner sidewall for a sanitary landfill; Minneapolis.
- Designed and implemented a modified multi-unit triaxial device to study the effects of leachate permeants on clay soils.
- Designed and provided construction documentation, kiln dust disposal facility; Alpena, Michigan.

- Designed and provided construction documentation, sanitary landfill; Minneapolis.
- Designed and provided construction documentation, foundry waste landfill; Milwaukee.
- Performed hydrogeological assessment of a solvent spill for an underground storage tank; South Bend, Indiana.
- Determined stability and projected settlements of embankments for bridge foundation; Idaho.
- Designed foundation and retaining structure recommendations for various commercial, industrial and transportation facilities; Idaho, Oregon and Washington.
- Designed foundation systems for residential, commercial and industrial buildings constructed on problem soils; San Francisco Bay area.
- Developed recommendations for the repair of residential structures damaged by soil expansion and settlement; San Francisco Bay area.
- Analyzed static and dynamic seacliff erosion and provided setback recommendations for a coastal development; Aptos, California.

PUBLICATIONS AND PRESENTATIONS

Author, "Characterization and Remedial Action at a Former MGP Adjacent to a Former Wood Treatment Operation," Gas Technology Institute Site Remediation Technologies Conference, 2000.

Co-author, "Isotopic Identification of the source of Methane in Subsurface Sediments of an Area Surrounded by Waste Disposal Facilities," in Applied Geochemistry, USGS, 1998.

Co-author, "Groundwater Remediation at a DeInk Landfill," TAPPI Environmental Conference, 1994.

Author, "Isotope Aging to Determine Methane Gas Sources, Geological Society of America, National Conference, 1992.

Author, "Current Status of Environmental Assessments," Government Institutes Seminar, Madison, 1992.

Author, "RCRA Corrective Action – 1990," paper presented to the Minnesota State Bar Association, Minneapolis, 1990.

Author, "Investigation and Remediation of a Printing Solvent Release," paper presented at the short course Detection and Corrective Action for Leaking Underground Storage Tanks, Department of Engineering-Professional Development, University of Wisconsin, Madison, 1989.

Co-author, "Case Studies in Constructive Use of Foundry Wastes for Landfill Construction," paper presented at the American Foundrymen's Society Casting Conference, 1987.

Author, "Moisture and Saturation Effects on Hydraulic Conductivity Testing," paper presented at the ninth annual Madison Waste Conference, 1986.

Co-author, "Use of Foundry Quenched Slag - Drainage Medium," presented at the 1986 Madison Waste Conference.

AREAS OF EXPERTISE

- Contaminated Sediment Transport and Fate
- Ecological Risk Assessments
- Natural Resource Damage Assessment

EDUCATION

Ph.D. Concentration in Marine Ecology, 1976, Oregon State University

Master of Science in Zoology, 1969, University of New Hampshire

Bachelor of Arts in Zoology, 1964, University of New Hampshire

REGISTRATION

Professional Biologist, British Columbia, # 1230

PROFESSIONAL HISTORY

URS Corporation (formerly Dames & Moore), Senior Consultant, 1994-present.

Balsam Environmental Consultants, President and Senior Consultant, 1986-1994.

Normandeau Associates, Inc., President, Executive Vice President, Vice President of Operations, and Project

REPRESENTATIVE EXPERIENCE

Dr. Bosworth is a Senior Scientist with URS. He has over 30 years of consulting experience in evaluating environmental impact and working with clients to develop strategies for site remediation. This work has included studies for the siting and operation of major facilities as well as fate and transport studies for a variety of contaminants in aquatic and marine environments. Dr. Bosworth also conducts ecological risk assessments and Natural Resource Damages Assessments and develops and negotiates site-specific environmental cleanup criteria for contaminated sites. He has been involved in a number of large projects dealing with the management or remediation of contaminated sediments or dredge materials.

Dr. Bosworth has negotiated numerous scopes of work for environmental studies with state and federal regulatory agencies and has provided expert testimony on environmental impact at over a dozen regulatory hearings at state and federal levels as well as for cost recovery litigation. He has also made project presentations and moderated panels at various public meetings.

Dr. Bosworth was a member of and past Chair of the Scientific Advisory Committee of the U.S. EPA's Hazardous Substances Research Center South/Southwest, a consortium of universities led by Louisiana State University which conducts exploratory research in issues dealing with contaminated sediments and dredge materials.

Before joining URS, Dr. Bosworth was one of the founders of and President of Balsam Environmental Consultants, Inc., an environmental consulting company specializing in hazardous waste site investigations, environmental impact evaluations and wetlands restoration.

PROJECT RESPONSIBILITIES

- Principal Scientist and Ecological Risk Assessor to Xcel Energy for the Ashland/NSP Site in Ashland, WI. Sediment in area offshore from historical MGP plant is contaminated with elevated levels of PAHs. Responsibilities include supporting project team in evaluation of EPA contractor's ecological risk assessment and providing direction in issues dealing contaminated sediment fate and transport. Currently part of a multiple stakeholder team developing a Baseline Problem Formulation for future remedial investigation work. Participated in presentation to EPA National Contaminated Sediments Technical Advisory Group.
- Principal Scientist and Risk Assessor to ConocoPhillips for sites in Weymouth, MA. Risk assessment being conducted

Manager, 1972-1985.

AFFILIATIONS

Past Chair and Member,
Scientific Advisory
Committee of the Hazardous
Substance Research
Center/South and Southwest,
1992-2002.

Member, Society of
Environmental Toxicology
and Chemistry
1998-Present.

Member, Marine Studies
Curriculum Advisory
Committee, Southern Maine
Vocational Technical
Institute, 1979-1980.

Invited member to NOAA
North and Mid-Atlantic
Region Conference on
Marine Pollution Studies,
1980.

Executive Board Member,
New England Estuarine
Research Society, 1976-1980.

Participated in OCEANLAB
(undersea laboratory)
workshop sponsored by New
England Marine Advisory
Service, 1976.

under Massachusetts Contingency Plan. As part of evaluation of sediment quality in Weymouth Neck Region, conducted PAH forensic analysis. Results indicated predominantly low temperature pyrogenic sources of PAHs in the nearshore sediments.

- Principal Scientist and Project Manager to Union Carbide for site in Ponce, Puerto Rico. Work involved developing work plan for sampling PAH-impacted sediments in former discharge. A management-level ecological risk assessment was also conducted to develop alternative action levels for cleanup of PAHs in order to guide remedial decisions.
- Principal Scientist to AVX Corporation for an independent evaluation of a U.S. EPA feasibility study at New Bedford Harbor Superfund Site. Included assessments of environmental and transport issues related to Natural Resource Damages issues and site remediation. Developed recommendations to address potential adverse impacts of PCB and heavy metals contamination in the estuarine sediments of the harbor. Provided management of, and collaborated with a team of nationally recognized PCB experts who evaluated PCB fate and transport, sediment quality criteria, toxicology, ecological risk, epidemiology, etc. As an alternative to dredging of over one hundred acres of estuary a Remedial Action Plan was developed that involved alternative cleanup levels and in-situ sub-aqueous capping of approximately 50 acres of contaminated sediment in shallow Upper Estuary of New Bedford Harbor. In addition a mitigation plan for restoration of 13-acre salt marsh potentially affected by site remediation was developed. Evaluated apportionment of damages and remediation costs of various PRPs and third parties.
- Principal Scientist and Project Coordinator for Operable Unit 2 of Sullivan's Ledge Superfund Site in New Bedford, Massachusetts. Addressed Natural Resource Damages and Ecological Risk Assessment issues for Middle Marsh. Evaluated potential effects of PCB in wetland site. Provided litigation support for and participated in negotiations with other parties on allocation and cost issues. This includes presenting an alternative limited action strategy for leaving PCBs in place rather than destroying valuable wetland area. Negotiated Statement of Work, managed Pre-Design and remedial design studies.
- Senior Consultant and Project Manager to Union Carbide (now Dow Chemical) for site in Belleville, Ontario. Evaluated alternatives for site remediation and conducted a Level I Ecological Risk Assessment of potential impacts of PCB and

other constituents in a Lake Ontario wetland. Evaluated comparative impacts of excavation versus monitored natural recovery of PCB wetlands. This Risk Assessment was conducted following Ontario Provincial guidelines. A natural attenuation strategy for the wetlands was approved by the Ontario Ministry of the Environment.

- Senior Consultant for an ecological risk assessment for evaluating potential effects of PCB in wetlands and Mystic River, Medford, MA. Involves evaluating potential for natural attenuation through burial and biodegradation. Risk assessments being conducted under the Massachusetts Contingency Plan protocol.
- Senior Consultant for an ecological risk assessment for evaluating potential effects of PCB and pesticides in wetlands and ponds of Alcan Rolled Products Company in Oswego, New York. Involves evaluating potential for natural attenuation through burial and biodegradation. PCB congener vertical distribution and toxicity equivalency is being addressed.
- Co-Principal Investigator with Drs. Louis J. Thibodeaux and Danny Reible, Louisiana State University, for technology transfer of methodologies for in situ capping of contaminated bed sediments. A workshop was conducted that brought together selected members of the research, regulatory and consulting engineering communities on a national level. The purpose of this workshop was to develop a common perspective of the state of the practice, identify and discuss technical issues that need solution and develop an action plan to address these issues. The results of this workshop was published and incorporated into an Internet site.
- Principal Scientist to Tyco Suppression Systems-Ansul, Marinette, WI for site adjacent to Menominee River. Prepared baseline ecological risk assessment for evaluation of effects of arsenic in sediments of Menominee River to invertebrate, fish and wildlife receptors. Identified different species of inorganic and methylated arsenic species to differentiate their respective effects. Work has included sediment characterization, sediment bioassays and comprehensive benthic community characterization.
- Principal Scientist and Project Manager for a Baseline Ecological Risk Assessment for Hercules Chemical in Parlin, NJ. The objective of this study was to develop risk-based cleanup criteria for DDT in Brook 3 where DDT manufacturing by-products had historically been discharged. The assessment has involved evaluation of site-specific exposure pathways to receptors found in the area and estimating levels of DDT in

sediment and surface water that would be protective of these receptors. Further work is presently being conducted to characterize nature and extent as well as potential risk from DDT in sediments in the South River into which Brook 3 discharges. A baseline ecological risk assessment currently is being conducted. Supporting work has included sediment characterization and benthic and fish community characterization.

- Principal Scientist to ConocoPhillips, Inc. for conducting an evaluation potential impact to intertidal and subtidal sediments near Weymouth Neck Massachusetts from contaminants associated with former fertilizer operation. Potential contaminants included arsenic, copper, zinc, and PAHs.
- Senior Consultant to CITGO Petroleum Corporation for a site in Sulfur, LA along the Calcasieu River Estuary. Independently evaluated the fate and transport of sediment-associated chemicals in Calcasieu Estuary. Critically reviewed preliminary Natural Resource Injury Evaluation prepared by NOAA. Monitoring and providing critical review of Calcasieu Estuary RI/FS investigations for CITGO.
- Principal Scientist for critique of a Natural Resources Damages Assessment of the Southern California Bight. Provided litigation support and expert opinion on issues related to fate, transport and ecological effects of DDT and PCB associated with the sediment bed on the Palos Verdes Shelf.
- Principal Scientist and Project Manager to Nexen (formerly Canadian Occidental Petroleum Ltd.) for site in Squamish, BC. Completed human health and ecological risk assessment for assessing the potential effects of chlor-alkali and chlorate plant operations on Howe Sound and surrounding upland areas. Risk assessment evaluated the potential effects from several chemicals, including, mercury and chromium. Provided guidance to Nexen for management of contaminated sediments and ground water. Conducted sediment toxicity bioassays and benthic community characterization. Provided expert testimony before BC Environmental Appeals Board on aspects of the project.
- Principal Scientist and Senior Peer Reviewer to BCMWLAP contract managed by Golder Associates for screening ecological risk assessment evaluating the potential impacts from Britannia Mine on Howe Sound intertidal and subtidal

ecosystems.

- Principal Scientist to Domtar, Inc. for evaluation of sediment contamination at Vancouver Shipyard. Work consisted of critical review of historical reports and development of an expert opinion.
- Principal Scientist and Project Manager to Dow Chemical Canada, Inc. for site in Sarnia, Ontario. Worked with Dow to help develop strategy for addressing impacted sediments in St. Clair River along Dow waterfront. Developed work plan for sampling sediments to acquire data to support an evaluation of remedial alternatives for former Dow Outfall Area. Pilot dredging project for a portion of the St. Clair using TMT® dredge has been implemented and Phase I operational dredging is now being conducted. Currently working with Ontario MOE and Environment Canada on behalf of Dow to develop risk assessment guidance for the management of contaminated sediments in other areas of the St. Clair River.
- Project Manager for evaluating the environmental impact of various project alternatives for a 6-acre Portsmouth, New Hampshire port facility expansion on marine and wetland communities in the Piscataqua River. Project lead for development of mitigation plans, significant regulatory negotiations, and successful permitting effort including U.S. Army Corps of Engineers Section 10 and 404 permits for dredging and ocean disposal, Coastal Zone Management Consistency, and Section 401 Water Quality Certification. Marine terminal was successfully permitted and construction was initiated in 1996.
- Project Manager for a Lake Ontario shoreline protection study for the U.S. Army Corps of Engineers
- Officer-in-Charge for several projects at various New England harbors to provide information on the environmental impacts of dredging and spoil disposal for the U.S. Army Corps of Engineers.
- Senior Consultant and Risk Assessor for the GE Medford, MA site. Responsibilities have included preparation of a Stage I Ecological Risk Screening (under the Massachusetts Contingency Plan) addressing PCBs in the sediments of an aquatic area contiguous to the Mystic River.
- Principal Scientist providing litigation support and expert testimony for Natural Resources Damages claims for confidential client in Commencement Bay.

- Senior Consultant and Risk Assessor to General Electric for investigations at GE Schenectady Plant. Responsibilities have included development of a proposal for a habitat enhancement and natural attenuation plan in lieu of RCRA cap for 200 acre landfill on site. This work has also included the preparation of a screening ecological risk assessment.
- Senior consultant to Bethlehem Steel Corporation, Lackawanna, NY. Developed a Tier 2 ecological risk assessment of former coke and steel manufacturing operations site located on Lake Erie. Considered potential impacts on both terrestrial and aquatic receptors from various constituents of potential concern, including PAHs, resulting from those operations.
- Project Manager for Limited Ecological Risk Assessment for McKin site in Gary, Maine. This project evaluated the potential risk of trichloroethylene and 1,1,1-trichloroethane in ground water to aquatic receptors in a nearby stream. An instream benthic macroinvertebrate evaluation was also conducted following Maine Department of Environmental Protection protocols.
- Project Manager for a large, multi-year, multidiscipline baseline environmental study in coastal waters of New Hampshire for Seabrook Station, a nuclear generating station. Included design, development and evaluation of a sampling program for all biological communities, and collaboration on design of physical oceanographic studies. Supervised installation and maintenance of over 40 in-situ instruments in nearshore ocean environment, negotiated with state and federal regulatory agencies, and provided expert testimony on environmental impact at over a dozen regulatory hearings.
- Project Manager for a Method 2 Modification to Massachusetts Contingency Plan Standards. This project involved the use of a ground water transport model to predict concentrations of cyanide in ground water and extrapolate potential effects to downstream surface water receptors.
- Project Manager for a wetlands functional evaluation used as part of a Stage 1, Method 3 Environmental Assessment conducted in accordance with the Massachusetts Contingency Plan.
- Principal-in-Charge for an ecological risk assessment under CERCLA for a municipal landfill in Vermont. Identified ecological receptors that may be exposed to chemicals associated with landfill seeps, quantified levels of exposure and developed information on toxic effects of chemicals to

characterize risks to the ecosystem.

- Officer-in-Charge for studies of water quality, benthos, and aquatic and terrestrial habitats for FERC Exhibit E for proposed "Big A" hydroelectric facility. Included developing scope of work, reviewing and approving study plans and technical reports, and using Habitat Evaluation Procedures (HEP) for developing mitigation plans.
- Officer-in-Charge of physical and biological studies of OCS test site prior to leasing of offshore areas for exploratory drilling, George's Bank, Baltimore Canyon, Georgia Embayment.
- Officer-in-Charge of development of a candidate environmental impact study for a proposed dredging program at the Portsmouth Naval Shipyard in Kittery, Maine. Involved assessing dredging impacts as well as evaluating and selecting both offshore and upland spoil disposal sites.

PUBLICATIONS AND PRESENTATIONS

- Bosworth, W.S. and Turner, R.R. 2001 The Fate and Transport of Mercury in a Canadian Fjord. Presented at SETAC 2001.
- Turner, R.R. and Bosworth, W.S. 2001. Identification and Evaluation of Potential Groundwater Transport Pathways from Former Chlor-alkali Plant into a Fjord System. . Presented at SETAC 2001.
- Bosworth, W. S. and S. A. Sundstrom. 1995. How Much Do We Need to Dredge?: Strategies for Decision Making When Dredging Contaminated Sediments. Presented at the Fourteenth World Dredging Congress. November 1995. Amsterdam, The Netherlands.
- Short, F. T., R. Davis, D. M. Burdick, D. McHugh and W. S. Bosworth 1995. Restoration and Creation of Eelgrass, Salt Marsh and Mudflat Habitat in the Piscataqua River, New Hampshire. Presented at the autumn 1995 meeting of the Estuarine Research Federation Conference.
- Bosworth, W. S. and L. J. Thibodeaux. 1990. Bioturbation: A Facilitator of Contaminant Transport in Bed Sediment. Environmental Progress. 9(4):210-217.
- Thibodeaux, L. J., D. D. Reible, W. S. Bosworth, L. C. Sarapas. 1990. A Theoretical Evaluation of the Effectiveness of Capping PCB-Contaminated New Bedford Harbor Bed Sediment. Louisiana State University Research Center Report. 180 pp.
- Bosworth, W. S. and L. J. Thibodeaux, 1989. Bioturbation: A Facilitator of Contaminant Transport in Bed Sediment. Presented to American Society of Chemical Engineers, Session No. 120. Annual Meeting.
- Grabe, S. A., J. W. Shipman, and W. S. Bosworth, 1983. New

Hampshire Lobster Larvae Studies. IN: Michael J. Fogarty (Ed), Distribution and Relative Abundance of American Lobster, Homarus americanus, larvae: New England Investigations during 1974-1979. p.63-64. NOAA Tech Rep. NMFS SSRF-775.

- Bosworth, W. S., J. Germano, D. J. Hartzband, A. J. McCusker and D. C. Rhoads, 1980. Use of Benthic Sediment Profile Photography in Dredging Impact Analysis and Monitoring. IN: Proceedings of the Ninth World Dredging Conference (WODCON IX), 29-31 October 1980, Vancouver, B.C., Canada.
- Mattice, J. S. and W. S. Bosworth, 1979. A Modified Venturi Suction Sampler for Collecting Corbicula. Progressive Fish Culturist. 41(3):121-123.
- Bosworth, W. S., 1976. The Biology of the Genus Eohaustorius (Amphipoda: Haustoridae) on the Oregon Coast. Ph.D. Dissertation. Oregon State University. 200 pp.
- Bosworth, W. S., 1973. Three New Species of Eohaustorius (Amphipoda: Gammaridea) from the Oregon Coast. Crustaceana. 25(7):253-260.

Authored and/or contributed to hundreds of technical reports on various aspects of marine and aquatic communities.

AREAS OF EXPERTISE

- Design/Implementation of Environmental Sampling Programs
- Interpretation of Geochemical and Hydrogeologic Data
- Evaluation and Implementation of Remedial Options at Sites with Soil, Sediment and/or Groundwater Contamination

EDUCATION

Jersey City State College,
B.A. Geoscience, 1980

University of Iowa, M.S.
Geology, 1982

CONTINUING EDUCATION

Graduate Level
Hydrogeology Courses

Geologic
Characterization in
Glaciated Areas Short
Course

Natural Attenuation for
Remediation of
Contaminated Sites
Short Course

Fractured Glacial Till
Workshop

REPRESENTATIVE EXPERIENCE

Mr. Sklar has 17 years of experience in environmental site investigation and remediation projects, particularly as they relate to groundwater and soil/sediment contamination. His work experience includes project management, interaction with regulators, design of environmental sampling programs, interpreting geochemical and hydrogeological data, supervising drilling operations, evaluating remedial alternatives, writing technical reports, and preparing health and safety plans.

RELEVANT PROJECT EXPERIENCE – PROJECT MANAGEMENT

- Project manager for municipal water supply well contaminant source investigation. Reviewed regulatory databases, land usage, and well capture zone data to identify potential source areas and to locate monitoring wells. Prepared work plans, specifications and variance request for drilling and installation of multilevel well network that combined intermediate and deep wells in single borehole. Utilized discrete interval groundwater sampling and borehole digital video logging to refine well screen placement. Identified potential source area and management/technical options.
- Project manager/hydrogeologist for remedial investigation, alternatives evaluation and remedial action implementation at chlorinated solvent site. Evaluated groundwater quality and identified VOC degradation mechanisms. Developed and prepared documents and specifications for site remediation strategy that consisted of source area "hot spot" removal, utilization of site-specific soil cleanup standards, natural attenuation monitoring, and restricted site closure with institutional controls.
- Project manager for phased closure of five large fuel oil USTs (18,000 to 50,000-gallon capacity) and installation of replacement AST system. Obtained variance for in-place closure of one UST.

PROJECT EXPERIENCE – SUBSURFACE INVESTIGATION

- Technical manager/hydrogeologist for remedial investigation at medical instrument manufacturing facility with chlorinated solvent and petroleum hydrocarbon impacts. Developed rapid site characterization work scope to delineate extent of groundwater plume that utilized

CERTIFICATIONS

Certified Hazardous
Materials Manager No.
5210

40-Hour Hazardous
Waste Site Worker
Training

8-Hour Hazardous
Waste Site Supervision
Training

REGISTRATIONS

Professional Geologist
– Wisconsin, No. 83

Professional Geologist -
Indiana, No. 1373

PROFESSIONAL HISTORY

URS Corporation,
2003 - Present

Earth Tech, Inc., 1995 -
2003

Woodward-Clyde
Consultants, 1988 –
1995

Ecology &
Environment, Inc.,
1987-1988

Geophysical Services,
Inc., 1984-1986

Iowa Geological
Survey, 1982-1983

South Dakota
Geological Survey,
1981

multi-level sampling and a field laboratory. Reviewed historical information to target potential source areas for investigation.

- Project geologist for subsurface investigations at planned ANR Pipeline river crossing locations in Wisconsin and Michigan. Supported horizontal directional drilling program by directing geotechnical drilling activities, preparing summaries of regional and local geology, and subsurface conditions at river crossings.
- Project hydrogeologist for remedial investigation and alternatives evaluation of historical 600,000-gallon pipeline release at Air National Guard base. Prepared work plans for soil, groundwater, surface water and sediment analysis. Characterized two groundwater plumes and evaluated risk to off-site groundwater users. Successfully obtained site closure by demonstrating that off-site groundwater users were not at risk due to natural attenuation of gasoline constituents.
- Developed groundwater monitoring program to investigate release of plating solution containing hexavalent and trivalent chromium. Demonstrated that the hexavalent chromium was being reduced to trivalent species through formation of insoluble precipitates.

PROJECT EXPERIENCE – WATER RESOURCES

- Prepared project control documents including field sampling plans and SOPs for Sheboygan River and Harbor Superfund Site river channel and floodplain sediment characterization. Directed sampling of floodplain soil for evaluation of PCBs in support of remedial planning.
- Supported water resources staff in evaluation of flood management alternatives. Reviewed regulatory agency files and environmental reports, designed drilling and sampling plans and prepared report identifying environmental issues that could impact construction of flood management infrastructure.
- Developed sampling protocol for Des Plaines River sediment as part of a remedial investigation of a historical disposal site adjacent to the river. Evaluated site and basin-wide sediment data and prepared project reports. Client obtained no further action determination for sediment issues from regulatory agency.

- Developed field sampling plan and methodology for pond sediment sampling in support of dredging project. Proposal to utilize depth-composite samples approved by regulatory agency resulting in reduced analytical costs.
- Measured thickness and prepared cross-sections of sediment thickness throughout Fields Brook Superfund Site in support of remedial alternatives evaluation.
- Developed field sampling plan and methodology for sediment sampling to evaluate impacts from skeet shooting activities. Supervised sample collection and evaluated analytical data.
- Technical manager for evaluation of sediment adjacent to gasoline pipeline beneath a lake. Prepared geotechnical drilling plan, negotiated with land owners to secure access to the lake, coordinated mobilization of barge-mounted drilling equipment, logged and characterized lake sediments and prepared cross-sections, sediment thickness maps and project report.

PROJECT EXPERIENCE – WASTE MANAGEMENT

- Prepared work plans for investigation of soil and groundwater quality and excavation of source areas at former printing facility. Evaluated facility material and waste storage practices and successfully demonstrated that site soil should not be regulated as listed hazardous waste.
- Prepared RCRA closure plan for container storage area at manufacturing facility. Obtained regulatory agency approval for on-site use of low-temperature thermal treatment unit for remediation of hazardous waste soil.

PROJECT EXPERIENCE – POWER PLANTS

- Evaluated hydrologic budget of a coal pile, subsurface hydrogeologic conditions and storage practices at a power plant facility to determine if coal storage is adversely affecting groundwater quality.
- Prepared work plan for site assessment of former power plant site. Supervised investigation of former coal ash lagoons and fuel oil storage areas. Collected sediment samples from ash lagoons and identified specific suite of polynuclear hydrocarbons in lagoons that differed from those in adjacent harbor area. Evaluated discharge of sulfate and boron into Lake Michigan via groundwater.

Appendix G

Kreher Park Area – City Storm Water Sewers

APPENDIX G

LOCATION OF REROUTED CITY OF
ASHLAND STORM SEWER

