1165326

THE MARMON GROUP, INC.
225 West Washington Street, Chicago, Illinois 60606-3418, Tel. (312) 372-9500, Fax (312) 845-5305

September 28, 1995

Rec'd
SEP 29 1995
3HW33

Mr. Jeffrey A. Dodd
On-Scene Coordinator
U.S. Environmental Protection Agency
Removal Enforcement Section (3HW33)
401 Methodist Building
Wheeling, WV 26003

RE: Sabol Farms Drum Site, Girard, Erie County, PA

Dear Mr. Dodd:

In accordance with Administrative Order Docket # III-95-46-DC, we have outlined below the designated project coordinator and the identity and qualifications of the contractor and subcontractor who will be primarily responsible for developing the response action plan for the above referenced project.

Resumes or qualifications are enclosed for Raymond J. Avendt, Ph.D., P.E., Project Coordinator, Robert A. Bassett, On-Scene Coordinator/Contractor, and Smith Environmental Technologies Corporation, project remediation services. All personnel have training per 29 CFR 1910.120.

We will submit, prior to October 6, the identity and qualifications of any additional personnel warranted for this project. We have prepared a draft remediation action plan for this site which is undergoing internal and legal review.

If there are any questions, please contact the undersigned at your earliest convenience.

Very truly yours,

Raymond J. Avendt, Ph.D., P.E.
V.P., Environmental Activities

RJA/ts
enc.

AR100143

Raymond J. Avendt, Ph.D., P.E.

Vice President of Environmental Activities
The Marmon Group, Inc.

Dr. Avendt serves as Corporate Vice President and is responsible for assisting The Marmon Group of companies in maintaining compliance with environmental regulations and applicable policies. The Marmon Group represents a $4 billion multi-national group of manufacturing and professional companies with over 25,000 employees. He conducts due diligence audits and acquisition reviews, and provides consulting services regarding compliance matters during facility operation or decommissioning. Dr. Avendt reviews proposed solutions for technical and economic feasibility and recommends technical alternatives, participates in strategy decisions, and develops overall programs for member companies to achieve a level of self compliance. Dr. Avendt also provides technical oversight or commentary on site investigation and remediation programs relating to hazardous waste management.

With over 20 years of environmental engineering experience, Dr. Avendt has performed planning, design and construction inspection services for major industrial and municipal water, wastewater and hazardous waste management projects. His prior work experience includes serving as President of The Avendt Group, Inc., a consulting firm of environmental engineers and scientists with offices nationwide; Vice President of Environmental Engineering and Water Resources for Greenhorne & O'Mara, Inc.; and Assistant Vice President for Consoer Townsend & Associates, consulting engineers. Examples of Dr. Avendt's experience are provided below.

Environmental Audits and Due Diligence Investigations

- Lockhart Chemical, Flint, MI
- McGraw Industries, Sterling Heights, MI
- Rockbestos, Inc., New Haven & East Gramby, CT
- Greenville Saw Mill, Greenville, MS
- EMI Company, Erie, PA
- Phoenix Steel Corporation, Maspeth, NY
- Robertson-Whitehouse, Ontario, Canada
- Aluminum Forge Company, Santa Ana, CA
- TRW Corporation, Harrisburg, PA
- Midwest Foundry, Coldwater & Bridgeman, MI
- Rochester Instrument Systems, Inc., Rochester, NY
- Cerro Copper Products Company, East St. Louis, IL
- Union Tank Car Company, East Chicago, IN & Altoona, PA
- Union Spring, Chilacothee, OH
- American Safety Equipment, Juarez, Mexico
- Aztec Products, Inc., Mansfield, TX
- Triangle Auto Spring Company, DuBois, PA
- Trans Union Credit, Union Station, Chicago, IL
- National Energy Systems, Inc., Chicago, IL
- Hyatt Land Development, Amarillo, TX
- Medical Waste Incineration, Tokyo,Japan
- Southland Corp. Oil Storage Facility, Linden, NJ
- Croydon Furniture Company, Cambridge, Ontario, Canada

Hazardous Waste Site Remediation Management

- Cerro Wire and Conduit Company, Facility Decommissioning, Syosset, NY; $4.6 million
- Ecodyne Groundwater Contamination Remediation Program, Santa Rosa, CA; $1.7 million
- Cerro Copper Products Company, Dead Creek RI/FS and Contaminated Sediment Removal, Sauget, IL; $10.8 million
- Center 69 Properties Groundwater Contamination Remediation, Flint, MI; $0.16 million
- Oxford Tile Company, Superfund Site Remediation, Flowood, MS; $6.5 million

Underground Storage Tank Closures

- Ecodyne Corporation, Underground Storage Tank Closure and Investigation, Tulsa, OK
- Pheonix Forge, Catasauqua, PA
- General Motors Corporation, Cadillac Engine Plant, Livonia, MI
- Midwest Foundry Company, Coldwater, MI
- General Motors Corporation, Service Parts and Operation Division, Paint Facility Closure, Martinsburg, WVa

Industrial Waste Treatment

- Consolidated Paper Company, Monroe, MI
- Lauhoff Grain Company, Danville, IL
- Neenah-Menasha Papermill, Waste Treatment Facilities, WI
- Morton Quality Product, Carol Stream, IL
- Anheuser-Busch Wastewater Treatment Facility, Lafayette, IN
- Gulf & Western Industries, Michigan Plating & Stamping, Grand Rapids, MI
- U.S. Air Force, Hunts Point, CA
- Westinghouse Electric Corporation, Defense & Electronic Center, Baltimore, MD
- Reynolds Metals, McCook, IL
- U.S. Army Rocky Mountain Arsenal, Denver, CO
- Continental Can Corporation, Pabst, GA
- Equitable Bag Company, New York, NY
- U.S. Navy, David Taylor Research & Development Center, Annapolis, MD

Municipal Water Supply & Treatment

- Monroe County Industrial Waste Surveillance Study, Monroe, MI
- Cedar Creek Water Reclamation/Groundwater, Nassau County, NY; 5.5 mgd
- Joint Wastewater Treatment Plant, Benton Harbor & St. Joseph, MI; 13 mgd
- Cedar Creek Wastewater Treatment Plant, Nassau County, NY; 45 mgd
- Bay Park Wastewater Treatment Plant, Nassau County, NY; 70 mgd
- Piney Creek Wastewater Treatment Plant, Beckley, WV; 3.5 mgd
- Frederick Wastewater Treatment Plant, Frederick, MD; 7 mgd
- Pataspco Wastewater Treatment Plant Sludge Recovery Facility, Baltimore County, MD; 100 mgd
- Back River Wastewater Treatment Plant Sludge Storage Facility, Baltimore, MD; 240 mgd
- Bedford Wastewater Treatment Plant, Monroe County, MI; 3 mgd
- Back River Odor Control Program, Baltimore, MD; 240 mgd
- Flint Water Pollution Control Plant, Flint, MI; 54 mgd
- Southwest Sewer District No. 3 Water Pollution Control Plant, Suffolk Control, NY; 30 mgd
- Lake Township Water Pollution Control Plant, Baroda, MI; 1 mgd
- Monroe Metropolitan Water Pollution Control Plant, Monroe, MI; 24 mgd

Resource Recovery/Solid Waste Management

- Monroe Metropolitan Water Pollution Control Plant, Monroe, MI
- Due West Landfill, Nashville, TN
- Nassau County Department of Public Works, Nassau County, NY
- Dubuque Waste Heat Recovery System, Dubuque, IA
- Monroe County Drain Commission Solid Waste Facility, Monroe, MI; 280 TPD
- University of Maryland, Abandoned Landfill Investigation, College Park, MD
- Sludge Dewatering and Compost Facilities, Nassau County, NY; 80 TPD

Registration

Registered Professional Engineer: WI, MI, IL, NC, NY & MD
Hazardous Materials Incident Response Operations Training 29 CFR 1910.120

Education

Ph.D., Environmental Engineering, Illinois Institute of Technology, 1979
M.S., Environmental Engineering, Illinois Institute of Technology, 1975
B.S., Biology & Chemistry, Grand Valley State College, 1970

Professional Affiliations

American Society of Civil Engineers
American Water Works Association
Water Environment Federation
  Water Reuse Committee, Chairman
  Hazardous Wastes Site Remediation Task Force, Chairman
Association of Energy Engineers, Certified Energy Manager
Hazardous Materials Control Research Institute
American Academy of Environmental Engineers
  Diplomate Certification
The Economic Club of Detroit

Raymond J. Avendt, Ph.D., P.E.

Publications and Presentations

- "Field Protocols for Acceptance of Bioremediation"; U.S.EPA Region VI Regional Response Team Oil Spill Bioremediation Seminar, Louisiana State University, Baton Rouge, LA, February 5, 1992.
- "Hydrocarbon Remediation: Performance and Reliability Analysis of Bioremediation Facilities, Clean Gulf - 91 Conference, Hosted by the Texas General Land Office, Austin, TX, October 29 - 31, 1991.
- "RCRA Reauthorization - Prescription for Compliance" , Environmental Issues in Manufacturing, Michigan Manufacturers Association, Lansing, MI, October 2, 1991
- "Hazardous Waste Site Remediation Management", Editor and contributor, A Special Publication, Water Pollution Control Federation, Alexandria, VA, 1990, 187 pages.
- "Waste Minimization - Approaches and Techniques." US EPA sponsored International Conference on Pollution Prevention: Clean Technologies and Clean Products, Washington DC, June 1990.
- "Pricing Environmental Liabilities, Environmental Due Diligence - Protecting the Deal." Executive Enterprises Inc., The Plaza, New York, NY, May 8, 1990.
- "Environmental Regulatory Compliance Issues for the Construction Industry." Michigan General Contractors Association, Flint, MI, April 1990.
- "Hazardous Waste Site Remediation; Assessment & Characterization" Editor and contributor, A Special Publication, Water Pollution Control Federation, Alexandria, VA, 1988, 33 pages.
- "Statement on Groundwater." Presented on behalf of the Water Pollution Control Federation before the Senate Subcommittee on Water Resources, Transportation and Infrastructure and the Subcommittee on Hazardous Wastes and Toxic Substances, May 1988.
- "Reliability Analysis of Hazardous Wastewater Treatment Facilities." Michigan Industrial Hazardous Waste Conference, Mt. Clemens, MI, May 1985.
- "Guidelines for Evaluating Recreational Water Reuse." J.F. Caruso & R.J. Avendt. International Symposium on Reuse of Sewage Effluent, The Institute of Civil Engineering, London, England, 1984.
- "Cedar Creek Water Reclamation-Groundwater Recharge Demonstration Program." International Symposium on Reuse of Sewage Effluent, The Institute of Civil Engineering, London, England, 1984.
- "Water Reclamation/Groundwater Discharge." Chesapeake Section, American Water Works Associations, Annual Conference, Baltimore, MD, August 1984.
- "Summary Report, Nassau County Water Reclamation/Recharge Demonstration Program." Water Reuse Symposium III, American Water Works Association Research Foundation, San Diego, CA, August 1984.
- "Durability and Performance of Foam Domes at Wastewater Treatment Plants." National Academy of Sciences/National Research Council, Commission on Engineering and Technical Systems Advisory Board on the Built Environment, Washington, DC, December 1983.
- "Municipal Activated Sludge Treatment of Organometallic Pesticide Residues." R.J. & B.J. Avendt. 15th Mid-Atlantic Industrial Waste Conference, Bucknell University, Lewisburg, PA, June 1983.
- "Municipal Sludge Incineration-Unresolved Engineering Issues." U.S. Environmental Protection Agency, International Conference on Thermal Conversion of Municipal Sludge, Hartford, CT, March 1983.
- "Design/Performance Analysis of Industrial Wastewater Treatment Facilities." 14th Industrial Waste Mid-Atlantic Conference, University of Maryland, College Park, MD, June 1982.
- "Water Reuse", Manual Of Practice, SM-3, Editor and contributor, Water Pollution Control Federation, Washington, D.C, 1982, 156 pages.

- "Design/Performance Analysis: Wastewater Treatment." 1982 American Society Civil Engineers National Conference Environmental Engineering, Minneapolis, MN, July 1982, pages 230-236.
- "Performance and Reliability of Package Treatment Plants." West Virginia WPCA Annual Conference, Wheeling, WV, June 1982.
- "Hazardous Waste Management Issues." Hazardous Wastes Seminar, Professional Engineers Political Action Committee, Denver, CO, December 1981.
- "Reliability and Performance of Conventional Pollutant Removal." R.J. Avendt and J.A. Oliva. Water Reuse Symposium II, American Water Works Association Research Foundation, Washington, DC, August 1981, pages 51-64.
- "Design/Performance Analysis for Wastewater Treatment Plants." Ph.D. Thesis, Illinois Institute of Technology, Chicago, IL, 1979.
- "Design/Performance Analysis of Water Reclamation Facilities." Water Reuse Symposium, American Water Works Association Research Foundation, Washington, DC, March 1979.
- "Groundwater Recharge Case Study, Cedar Creek Wastewater Reclamation and Groundwater Recharge Facility." F.J. Flood & R.J. Avendt. Wastewater Reuse of Groundwater Recharge Symposium, Polytechnic University, Pomona, CA, September 1979, page 255.
- "Wastewater Reclamation and Groundwater Recharge at Cedar Creek, New York." Water Pollution Control Federation, 51st Annual Conference, Anaheim, CA, 1978.
- "Use of Executive Program to Determine the Effect of Economic Parameters on Capital and O&M Costs." US Environmental Protection Agency, Short Course, Illinois Institute of Technology, 1977.
- "Advanced Wastewater and Groundwater Recharge." Cornell University, 1977.
- "Methods for Collection, Handling, Preservation and Storage of Soil Samples." US Department of Army, Rocky Mountain Arsenal, Denver, CO, 1977.
- "Selection of Modeling Programs and Techniques for Groundwater Management." US Department of the Army, Chemical Demilitarization and Installation Restoration, Edgewater Arsenal, MD, 1977.
- "Matching Design of Sensing Devices with Needs of State and Local Users." American Chemical Society Joint Conference on Sensing of Environmental Pollutants, New Orleans, LA, 1977.
- "Cedar Creek Water Reclamation and Recharge Facility." New York Water Pollution Control Association, Long Island Section, 1976.
- "Microbial Denitrification Utilizing Methane," M.S. Thesis, Illinois Institute of Technology, 1975.
- "Groundwater Recharge at Cedar Creek." New York Water Pollution Control Association, January 1975, volume 4, pages 12-13.
- "Correlation of Advanced Wastewater Treatment and Groundwater Recharge." W.J. Beckman & R.J. Avendt. Class I, US Environmental Protection Agency Research Grant 801478, 1974, 363 pages.
- "Combined Carbon Oxidation - Nitrification." W.J. Beckman, R.J. Avendt, T.J. Mulligan and G.J. Kehrberger. Water Pollution Control Federation Journal, October 1972, volume 44, pages 1916-31.
- "Nitrification Design and Operation." Michigan Department of Natural Resources, Michigan State University, Ann Arbor, MI, 1971.
- "Design and Operation of a Combined Carbon Oxidation-Nitrification, Activated Sludge Plant." 44th Annual Water Pollution Control Federation Conference, San Francisco, CA, October 1971.

Bassett Environmental Associates
AN ENVIRONMENTAL INVESTIGATIVE FIRM
P.O. BOX 287 • HARRISBURG, PA 17108-0287 • TEL. 717-732-6132

CURRICULUM VITAE

ROBERT J. BASSETT
C.E.O./President

BASSETT ENVIRONMENTAL ASSOCIATES, INC.
P.O. BOX 287
Harrisburg, PA 17108-0287
(717) 732-6132

Environmental Consultants
Licensed Private Detective Agency
Commonwealth of Pennsylvania, License Ordered/Issued,
by Court of Common Pleas, Cumberland County

EDUCATION

Williamsport High School - 1975
Williamsport, PA

Penn State University 1975 - 1979
Criminal Justice Major

IMMEDIATE PAST EMPLOYMENT

OFFICE OF ATTORNEY GENERAL
Commonwealth of Pennsylvania
Bureau of Criminal Investigation
Strawberry Square Office Building
Harrisburg, PA 17120

Position: Special Agent II

Description: This is a full journeyman level, criminal investigative work of a highly confidential nature performed by agents of the Bureau of Criminal Investigation involving the detection and investigation of violations of the laws and statutes of the Commonwealth as specified in the Commonwealth Attorneys Act.

Assigned to the Environmental Crimes Section of the Office of Attorney General in 1983. Job duties include investigation and prosecution of individuals and corporations for criminal violations of Pennsylvania environmental statutes. Investigations have included the following types of cases: commercial treatment, storage and disposal facilities; waste oil recyclers; solvent recyclers; sewage treatment plants; solid and hazardous waste landfills; iron and steel manufacturers; pesticide manufacturers. One investigation regarding corporate vicarious liability was presented to the U.S. Supreme Court, with the court upholding the arrest and conviction. The waste oil case resulted in the first state court interpretation of waste oil as a solid waste in Pennsylvania. Investigations were conducted under the Clean Streams Law as well as the Solid Waste Management Act.

Period of Employment: September 1979 through October 1991

PRIOR EMPLOYMENT

P H I L A D E L P H I A E A G L E S F O O T B A L L C L U B

Position: Professional Athlete

Description: Signed as a free agent wide receiver and participated in preseason activities.

Period of Employment: May 1979 to September 1979

SPECIALIZED TRAINING

White Collar Crime Training Course - Sponsored by the Pennsylvania Department of Justice, under the direction of the Criminal Justice Department, Harrisburg Area Community College, Harrisburg, PA, nine weeks in residence, September through November 1979.

Course Curriculum	Hours
1) Introduction and Orientation	1.5
2) Other Law Enforcement and/or Investigative Agencies	7.5
3) Physical Training and Arrest Techniques	32.0
4) Report Writing	26.0
5) Firearms Training	29.0
6) Crimes Code (Investigative Grand Jury (Pa.C.S.A. Title 18) Rules of Criminal Procedure, Search and Seizure)	64.0
7) Interviewing and Polygraph	2.0
8) Accounting Techniques and Governmental Accounting	11.0
9) Document Examination and Evidence	24.5
10) Surveillance Techniques	8.0
11) Testimony in Court	8.0
12) Computer Technology	8.0
13) Photography	4.0
14) Car Stop Procedures	12.0
15) Sources of Information	7.5
16) Wiretap Laws and Techniques	8.0
17) Video Usage	8.0
18) Vehicle Code (Pa.C.S.A. - Title 75)	10.0
Minimum Total Hours	269.0

Electronic Surveillance - Consensual monitoring training course, conducted by the Pennsylvania State Police, Pennsylvania State Police Academy, Hershey, PA, one week, July 1981, Class "A" certification, certification #0394.

Arson Detection and Investigation - Conducted by the University of Missouri, Columbia, MO, April 1982, 21 hours.

Arson Detection - Conducted by the Pennsylvania State University, June 1982, 30 hours.

Hazardous Waste Investigation - Basic course conducted by the N.E. Hazardous Waste Project, Boston, MA, one week, August 1985.

Hazardous Waste Investigation Advanced Course - Conducted by the N.E. Hazardous Waste Project, Highstown, NJ, one week, November 1985.

Personnel Protection and Safety - Conducted by NUS Corporation for the US EPA Jefferson City, MO, provided basic information on the protection and safety of personnel engaged in field operations dealing with hazardous substances, one week, January 1986.

Sampling of Hazardous Materials - Conducted by NUS Corporation for the US EPA Edison, NJ, provided information on the design of sampling programs, the equipment and procedures for sample collection, sample safety, regulations on transporting samples, and the use of statistics in sampling, one week, July 1986.

Response Safety Decision Making - Conducted by NUS Corporation for the US EPA Lexington, KY, provided information on development of site safety plans, medical monitoring, decontamination, air surveillance strategies, site contingency planning, community relations, and public safety, one week, May 1988.

Hazardous Materials Response for First Responders - Conducted by NUS Corporation for the US EPA, Cincinnati, OH, provided information on response team function, methods, procedures, and safety in responding to hazardous substances spills or abandoned waste sites, one week, March 1989.

Hazardous Waste Site Operations - Conducted by Center for Hazardous Materials Research, Pittsburgh, PA, refresher training, 8 hours, December 1989.

Train the Trainer for Hazardous Materials Eight Hour Refresher - Conducted by NUS Corporation for the US EPA, Cherry Hill, NJ, one day, February 1990.

Certified by Pennsylvania State Fire Academy as Haz-Mat First Responder Operations Level, February 1991.

Certified by Pennsylvania Department of Health as an Emergency Medical Technician July 1991.

Certified by American College of Emergency Physicians as a Basic Trauma Life Support Provider, June 1989.

Certified by the Enviromental Assessment Association as a certified Environmental Specialist and an Environmental Inspector.

Qualified as a Residual Waste Expert, Court of Common Pleas, Lackawanna County, before the Honorable James M. Munley, Judge, In Re: Commonwealth v. Robert X. Hubshman, May 1989.

Qualified as a Hazardous Waste Expert, U.S. District Court, Eastern District of Pennsylvania, In Re: U.S. v. Samuel Gratz, September 1992.

Experienced in the preparation of search warrant applications, search warrants, return of search warrants, and evidence inventory forms - participated, supervised or coordinated over 100 executions of search warrants or consent searches, involving hazardous, residual, or municipal waste.

Experienced in development of site safety plans, work plans, sampling plans, along with sampling and coordinating sampling at over 100 sites. Sampling has included above and below ground tanks, waste piles, tank-type trailers, drums, ponds, and ground water.

TEACHING EXPERIENCE

Participated as faculty for the Environmental Law Institute, Washington, D.C., RCRA Inspector Workshop, Interviewing techniques, Edison, NJ, May 1988.

Participated as faculty for the N.E. Hazardous Waste Project, Edison, NJ, 1987 and 1988.

Participate as faculty for the US EPA's Advanced Hazardous Waste Investigators Course - Execution of search warrants at hazardous waste facilities, held at the Federal Law Enforcement Training Center, Brunswick, GA, 1988 to Present.

Instructor for State of Arkansas, Department of Pollution Control and Ecology, and Arkansas State Police, Environmental Investigations and Case Development, Little Rock, AR, May 1989.

Instruction for Pennsylvania Fire Academy for hazardous materials operations, and hazardous materials defense practices.

Participated as a speaker for the National Oil Recyclers Association and the National Petroleum Re-Refiner Association on Criminal Environmental Enforcement, San Francisco, Ca. May 1994.

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

August 3, 1995

Raymond J. Avendt, Ph.D., PE
The Marmon Group, Inc.
225 W. Washington Street
Chicago, IL 60606

Dear Mr. Avendt:

Enclosed per your request is a copy of Smith Environmental Technologies Corporation's Statement of Qualifications package.

The package details Smith Environmental's experience performing remediation and emergency response services, and includes resumes of key personnel and proof of tranining per 29 CFR 1910.120.

Should you have any questions, please do not hesitate to contact me at 708/238-1818. I look forward to working with you.

Sincerely,
Riedel/Smith Environmental Technologies Corporation

Dana A. Berry
Business Development Manager

DAB:dd

Enclosure

SMITH

STATEMENT OF QUALIFICATIONS

THE MARMON GROUP
225 W. Washington
Chicago, IL 60606

Prepared by:

Smith Environmental Technologies Corporation
500 Eastern Avenue
Bensenville, IL 60106

August 1, 1995

Mission Statement

"Be the finest provider of Environmental Services."

To achieve our mission, we subscribe to the following values:

S ervice
M anage Profitably
I ntegrity and Ethics
T eamwork
H ealth and Safety

SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

SMITH

TABLE OF CONTENTS

Overview

"This district has selected your company almost exclusively the last two years because of the overall high quality performance we have received. Of particular note has been [your] full service capabilities and excellent response..."

Robert G. Hargis
Construction Hazardous Waste Coordinator
California Department of Transportation
Stockton, California

Overview

Smith Environmental Technologies Corporation (Smith Environmental) is one of the nation's largest and most experienced environmental engineering, consulting, remediation, and construction firms. We provide industry, business, and government with a comprehensive range of environmental planning, scientific, engineering, remediation, and construction capabilities.

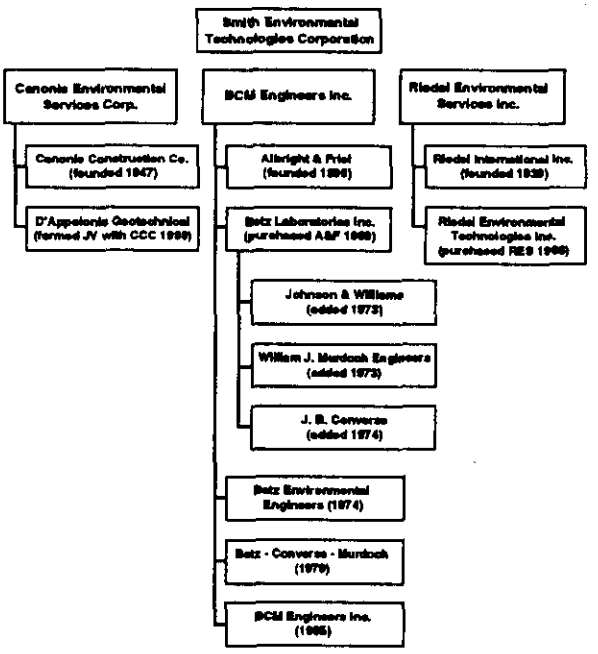
With a unique blend of resources, Smith Environmental provides our clients with broad range services at a competitive price. These resources include:

- A heritage that spans the century; the oldest member firm was founded in 1890
- A coast-to-coast network of offices
- The in-house resources to meet our client's needs from concept to project completion
- Over 1,200 employees who share a commitment of safety, quality, and responsiveness to clients
- A broad range of technical disciplines
- Demonstrated success in remedial approaches by combining proven, commercially feasible technologies
- Proprietary licenses for thermal treatment and two-phase soil vapor extraction

Smith Environmental, a $200 million a year corporation, was established in 1994. Through growth, merger and acquisition, the company now stands among the top environmental consulting and remediation firms in the United States.

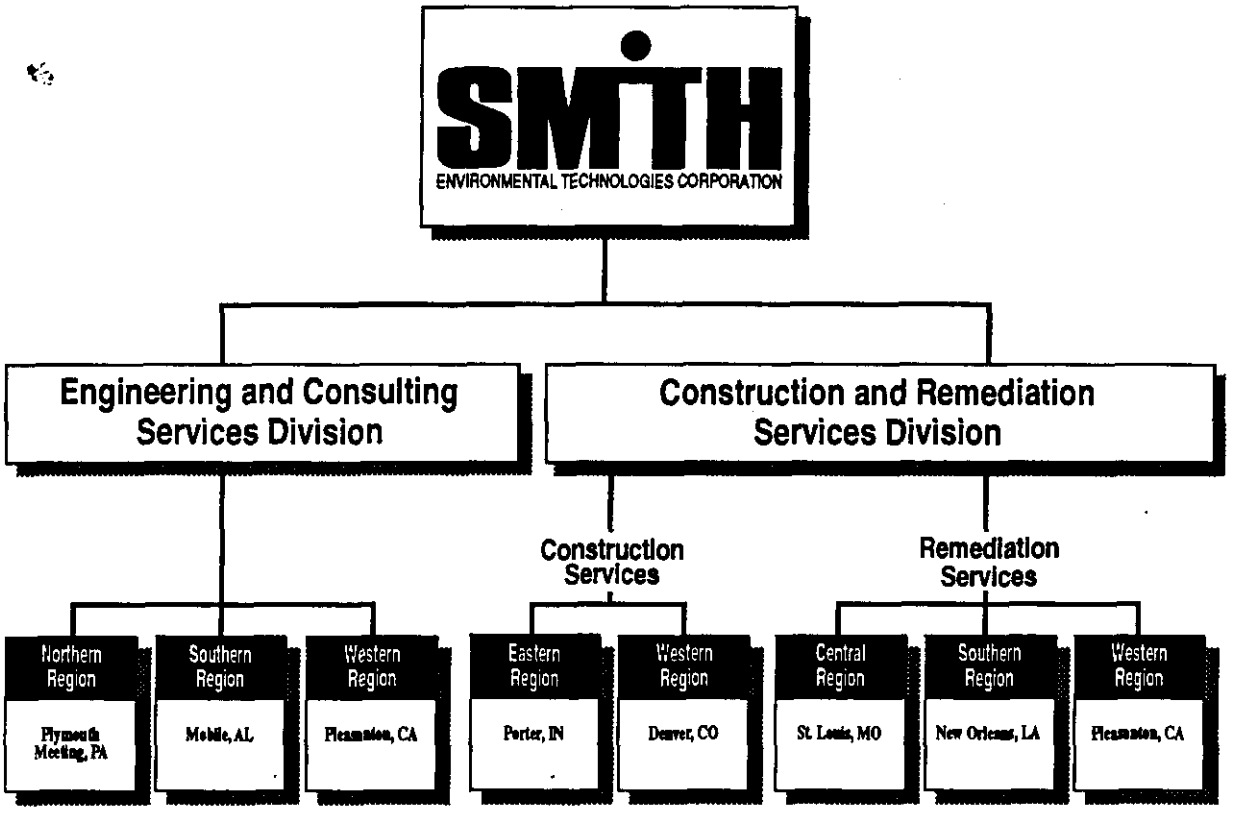
The rapid rise of Smith Environmental combined the talents of three nationally known environmental firms during 1993 and 1994. These firms, consisting of Canonie Environmental, BCM Engineers Inc., and Riedel Environmental Services, Inc. each make a significant contribution in consulting, engineering, construction, and remediation.

Smith Environmental can trace its heritage back more than 100 years. With a history steeped in experience and tradition, we have developed a long record of successful service to industry and government.



Organization

Smith Environmental is organized into two operating divisions, engineering and consulting services; and construction and remediation services as noted in the organization chart. These divisions operate from regional and district offices throughout the country and are structured to serve the environmental needs of private industry, and federal, state, and local government. Our management structure, technical capabilities, and field experience assures our clients the ability to successfully implement varied environmental solutions.



Range Of Services

As environmental problem solvers, our professionals apply their extensive planning, engineering, design, and construction experiences to provide the superior integrated management needed for successful project completion. Each operating group offers broad-based experience in all project phases including initial planning, concept and final design, remediation and construction management, operations, maintenance, and startup. Services available to our clients include:

Site Investigations to support remediation evaluation and design requirements by identifying the affected matrices, the existing and potential paths of migration, the existing or potential receptors, and to assess the impact to those receptors. Areas investigated include the geology, hydrogeology, topography, cultural features, contamination, background chemical conditions, and physical properties.

Risk Assessments to develop clean-up levels for both groundwater and soil media and negotiations with both federal and state regulatory agencies for approval of these proposed levels.

Remediation Services to provide solutions to small and large scale problems involving hazardous materials that require the application of traditional and innovative approaches. We offer a wide variety of technologies and construction techniques including developed expertise in the physical, chemical, thermal, and biological treatment of contaminated soils and groundwater.

Wastewater Systems design and construction management services with experience including more than 200 new, upgraded or expanded wastewater treatment plants ranging in size from 200,000 gallons per day to 40 million gallons per day. In the last 10 years, Smith Environmental has completed over 7,200 wastewater consulting and engineering projects in 34 states, These projects have ranged from feasibility studies for small community systems to the design and constuction management of large regional treatment facilities.

Groundwater Services which encompass remedial investigations and feasibility studies, along with the design, installation, and operation of sophisticated contaminant recovery systems. Our groundwater services combine civil, mechanical, and chemical engineering technologies with specialized knowledge in geology, biology, and hydrogeology to provide the most effective solution.

Water Supply and Treatment with experience including over 1,400 water supply consulting and engineering projects in 30 states in the past 10 years. These projects have ranged from feasibility studies for public water systems of less that 50 customers to the design of a 40 mgd state-of-the-art water treatment plant.

Emergency Response to hazardous material incidents on land and water. With over 25 years of experience, we have conducted thousands of responses to suspected petroleum and chemical underground storage tank leaks, pesticide spills, industrial fires and explosions, illegal accidental dumping of chemicals and chemical containers, and spills of petroleum products and chemicals on soil and surface waters.

Storage Tank Management services including assessment, removal, replacement, and site closure activities of storage tanks. Our project managers are fully knowledgeable in all phases of tank procedures, regulatory requirements, permitting, closure, remedial action options, and disposal methods.

Air Quality Management capabilities including air testing and modeling to encompass problem definition, environmental planning, engineering design, siting surveys, and computerized data management.

Asbestos Management with the specialists to perform building surveys, hazard assessments, and prioritization, laboratory analysis, abatement plans and specifications, abatement procedures including operations and management, encapsulation, enclosure, isolation, removal, air monitoring, and clearance testing.

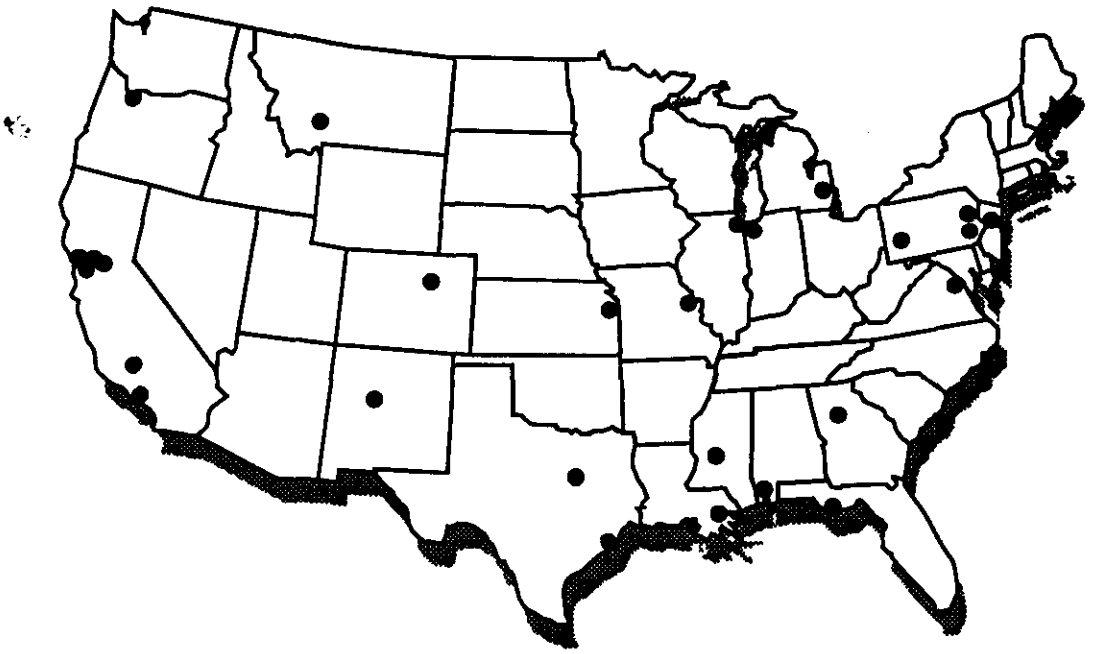
Environmental Planning and Assessment capabilities are drawn from Smith Environmental's staff of over 350 environmental scientists, engineers, and geologists who have performed thousands of phases of property and facility environmental assessments.

Storm Water Management experience spanning over 100 years of providing professional engineering services for storm water planning management, design, construction administration, and surveillance, and public works financing in the municipal sector.

Solid Waste Management capabilities which include planning to final design and start-up of waste processing and disposal facilities.

Office Locations

Smith Environmental maintains a nationwide network of regional and district offices organized to provide our customers with easy access to the technical personnel and equipment required to solve virtually any environmental problem. Personnel located in each office are experienced in developing and implementing solutions which meet the requirements of local regulations as well as a variety of other technical and business considerations. Besides providing the local knowledge necessary for successful completion of the project, this network helps ensure that Smith Environmental resources can respond rapidly and cost-effectively to customers needs.



ALABAMA
Mobile

CALIFORNIA
San Francisco Bay Area
- Alameda
- Mountain View
- Pleasanton
- Stockton

Bakersfield
Los Angeles

COLORADO
Denver

FLORIDA
Panama City

GEORGIA
Atlanta

ILLINOIS
Chicago

INDIANA
Porter

KANSAS
Kansas City

LOUISIANA
New Orleans

MICHIGAN
Detroit

MISSISSIPPI
Jackson

MISSOURI
St. Louis

MONTANA
Bozeman

NEW JERSEY
Burlington

NEW MEXICO
Albuquerque

OREGON
Portland

PENNSYLVANIA
Norristown
Pittsburgh
Plymouth Meeting
Pocono Summit

TEXAS
Dallas
Houston

WASHINGTON D.C. METRO AREA
Chantilly

Capability by Office Locations

Engineering & Consulting Services

SMITH

	Air Quality Management	Asbestos Management	Civil Engineering	Env. Planning and Assessment	Env. Impact / Wetlands Assessment	Site Investigation / Assessment	Pilot / Treatability Studies	Industrial Hygiene	Storage Tank Management	Solid Waste Management	Wastewater Systems	Water Supply and Treatment	Laboratory Services
Mobile, AL 334/433-3981 Donald B. Wright, P.E.	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Stockton, CA 209/838-3507 Jeanne Homsey		✔	✔	✔		✔			✔	✔	✔		
Mountain View, CA 415/960-1640 Dennis Curran	✔		✔	✔		✔	✔	✔	✔	✔	✔	✔	
Pleasanton, CA 510/463-9117 Nene Duplancic, Ph.D.	✔		✔	✔		✔	✔	✔	✔	✔	✔	✔	
Torrance, CA 310/324-4382 Nene Duplancic, Ph.D.	✔	✔	✔	✔	✔	✔	✔	✔		✔	✔		
Washington D. C. 703/260-0060 Charles Riedlinger, P.E.		✔	✔	✔		✔	✔		✔	✔	✔	✔	
Panama City, FL 904/769-0292 John Goin, P.E.			✔	✔			✔		✔	✔	✔	✔	
Atlanta, GA 404/525-5005 Jim Mallison, P.G.		✔		✔					✔				
Chicago, IL 312/380-5010 Bruce Johnson		✔		✔					✔				
Detroit, MI 313/513-2522 Edward Hogan, P.E.		✔	✔	✔		✔			✔		✔		
Burlington, NJ 609/386-8800 John Fowler, P.G.	✔	✔	✔	✔	✔	✔			✔		✔	✔	
Albuquerque, NM 505/271-0220 Brian Britain, P.E.	✔	✔	✔	✔		✔		✔		✔	✔		
Norristown, PA 610/275-0281 Rocco Alessandro, Ph.D.													✔
Pittsburgh, PA 412/361-6000 John Schaude, P.E.	✔	✔	✔	✔			✔			✔	✔	✔	
Plymouth Meeting, PA 610/825-3800 Robert Swavely	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Pocono Summit, PA 717/839-8433 John Devine				✔	✔								
Dallas, TX 214/960-9171 W. J. Brotherton, Esq.		✔		✔					✔		✔		

Our offices offer our clients a wide range of capability backed with extensive experience from engineering design through remediation and construction.

Enhancing our capabilities as a turnkey organization are a number of company-integrated programs and resources. From our company-owned equipment fleet to established programs in health and safety and quality assurance/quality control, these systems and procedures are networked throughout Smith Environmental.

We maintain a diverse and extensive fleet of equipment and material resources located throughout our office network to serve client needs in handling environmental programs. Our company owned equipment includes rolling stock (trucks, cranes, trailers, vans, mobile labs, etc.), heavy equipment (backhoes, dozers, excavators, auger flights, front-end loaders, hydraulic hammers, tractors, etc.), marine equipment (boats, trailers, outboard motors, etc.), small equipment (air compressors, air blowers, battery chargers, centrifugal pumps, filter presses, gas-powered augers, high-pressure washers, pneumatic drum openers, sand blasters, submersible pumps, etc.), sampling equipment (calibrators, air samplers, electric weather stations, gas chromotographers, Geiger counters, metal detectors, OVA/organic vapor analyzers, portable magnetometers, etc.), personal protective equipment, and miscellaneous warehouse equipment.

Our Analytical Laboratory is one of the largest, most comprehensive environmental laboratories in the nation. The laboratory analyzes more than 40,000 samples each year and is located in Norristown, Pennsylvania. The laboratory is certified by many federal and state agencies and holds numerous national accreditations. The 23,000 square foot facility is staffed by over 50 people and features the most advanced equipment. Environmental analyses are performed for asbestos, contaminated soils, industrial process water, raw and treated water, solid and hazardous waste, surface water and groundwater, wastewater, and sludge. All analyses are produced through rigorous adherence to quality assurance and quality control protocols.

Our health and safety program was established to meet the requirements of 29 CFR 1910.120. Dedication to a health and safety program at the highest levels of the organization instills all individuals with the necessary regard for health and safety. Safety plans are prepared for each project which address problems and areas of concern related to the particular project and site. These plans are the basis for all safe work practices.

Our company quality assurance department provides a wide range of quality assurance/quality control services that can be custom designed to meet specific project needs. These services include technical consulting on a variety of topics, development of objectives and site plans, development and enforcement of standard operating procedures, conducting field audits, performing data validation, developing analytical methods for non-routine compounds or matrices, and negotiating for regulatory approvals on QA issues.

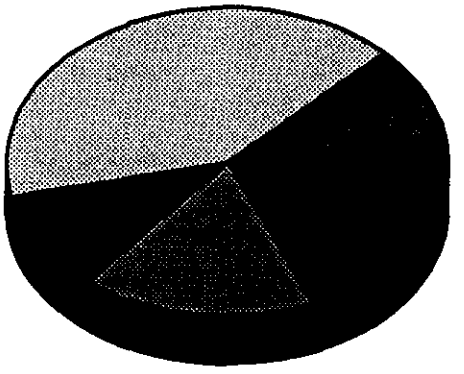
Remediation & Construction Services

SMITH

	Pilot / Treatability Studies	Site Investigation / Assessment	Water / Groundwater Treatment	Excavation / Earthwork / Material Handling	Soils / Solids Treatment / Disposal	Containment System Installation	Surface Controls / Diversion Installation	Construction Management	Structural Decontamination / Demolition	Emergency Response	Waste Characterization / Waste Stream Mgmt.	AST / UST Management	Structural Sheeting and Shoring	Environmental Dredging
Mobile, AL 334/479-6500 Lee Porterfield, P.E.		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Alameda, CA 510/748-3800 Gene Lovett		✓	✓	✓	✓			✓	✓	✓	✓	✓		
Bakersfield, CA 805/835-7700 Bob Becker		✓		✓							✓	✓		
Los Angeles, CA 310/327-4428 Jim Sutherland	✓	✓	✓	✓	✓				✓	✓	✓	✓		
Denver, CO 303/790-1747 Oliver Wesley, P.E.	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Denver, CO 303/373-4400 Matt Wetzel	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
Chicago, IL 708/238-1818 Tony Price		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
Porter, IN 219/926-8651 Tim Harrington, P.E.	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Kansas City, KS 816/765-4123 Kevin Neal		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
New Orleans, LA 504/254-3600 Mike Keen		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		
Detroit, MI 313/513-2511 Charles Klumb		✓	✓	✓	✓	✓			✓	✓	✓	✓		
Jackson, MS 601/362-2603 Ed Dykes		✓		✓	✓	✓				✓	✓	✓		
St. Louis, MO 314/532-7660 Jerry Linder	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Bozeman, MT 409/586-9496 Tom Stoneman	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Portland, OR 503/286-4656 Mike Cunningham		✓	✓	✓		✓	✓		✓	✓	✓	✓		
Houston, TX 713/479-5295 David Lee		✓		✓		✓	✓		✓	✓	✓	✓		

Personnel

Smith Environmental's multi-disciplinary staff includes a complete range of environmental planning, scientific, engineering, remediation, and construction capabilities. The combination of environmental sciences and engineering is fully integrated and supported by a broad base of construction and hazardous waste remediation management capabilities.



- **Project Managers** (102)
  [engineers, environmental scientists, geologists, field construction managers]
- **Engineers** (232)
  [civil, mechanical, chemical, sanitary]
- **Environmental Scientists** (183)
  [chemists, biologists, ecologists, planners, scientists]
- **Geologists / Hydrogeologists** (84)
- **Health and Safety** (29)
- **Field Construction / Technicians** (439)

* Does not include administrative, management, procurement, financial, business development, estimators

Clients

Our clients include industries ranging from small commercial establishments to Fortune 500 companies and local, state, and federal government agencies.

The degree we have fulfilled our promise of quality and service is measured by our clients' continued reliance on Smith Environmental for solving their problems. Over 80 percent of our work is for repeat customers.

Smith Environmental's revenues are distributed between the major client types as follows:

Private sector	**56 %**
Federal government	**33 %**
State and local government	**11 %**

The diversity and breadth of clients served by Smith Environmental is truly exceptional. As an example, consider the following client statistics over the past five years:

Industrial Clients

- 6,019 projects conducted for 2,345 manufacturing and light industry in 45 states
- Extensive record of service for large companies:
    - 9 of Fortune 10 companies
    - 84 of Fortune 100 companies
    - 225 of Fortune 500 companies
- Experienced in meeting the needs of smaller industries:
    - 50 percent of projects were less than $25,000
    - 60 percent of industrial client base is for facilities with less than 100 employees
- 386 Master Service Agreements
- Example industrial clients include:
    - **Ciba-Geigy**
    - **Chevron U.S.A.**
    - **Exxon U.S.A.**
    - **Georgia-Pacific**
    - **Occidental Chemical**
    - **Olin Chemical Corporation**
    - **AKZO Chemical**
    - **DuPont**
    - **International Paper**
    - **Unocal**

Commercial Clients

- 6,317 projects conducted for 1,929 commercial clients such as banks, insurance companies, malls, and retail stores
- Range of services include asbestos management, property transaction audits, underground storage tank management, and infrastructure services (water supply, waste treatment, roads, and storm water management)
- Example commercial clients include:
    - **The Prudential**
    - **Equitable Real Estate Investment and Management**
    - **Bankers Trust Company**
    - **Compass**
    - **General Growth Management Inc.**
    - **Calpers**

Local Government Clients

- 4,580 projects conducted for 798 municipalities, planning commissions, water and waste authorities, schools, and solid waste management agencies.
- Services provided include the entire range of infrastructure engineering, environmental assessment, and hazardous waste design, construction, and operations services.
- Example local government clients include:
  - **City of Detroit, Michigan**
  - **City of Philadelphia, Pennsylvania**
  - **City of Mobile, Alabama**

State Government Clients

- 1,692 projects performed for 240 state clients (35 states)
- Representative agencies include Departments of Transportation, environmental protections agencies, Departments of General Services, state educational departments, and many others
- Example state government clients include:
  - **Alabama Department of Environmental Management**
  - **California Department of Transportation**
  - **Illinois Environmental Protection Agency**
  - **Missouri Department of Environmental Quality**
  - **Texas Natural Resource Conservation Commission**
  - **Oregon Department of Environmental Quality**

Federal Government Clients

- 1,537 projects performed for 272 federal clients
- Projects conducted throughout the US and overseas, including 47 states, 3 territories, and 25 overseas sites
- Primary agencies for which work has been performed:
  - **Department of Defense**
  - **Coast Guard**
  - **Department of Energy**
  - **Environmental Protection Agency**
- Example federal clients include:
  - **U.S. Air Force**
  - **U.S. Environmental Protection Agency**
  - **U.S. Army Corps of Engineers**
  - **U.S. Department of Energy**
  - **U.S. Army**
  - **U.S. Marine Corps**
  - **U.S. Navy**
  - **U.S. Coast Guard**
  - **U.S. Postal Service**
  - **Defense Logistics Agency**
  - **U.S. Drug Enforcement Agency**
  - **U.S. Department of the Interior**

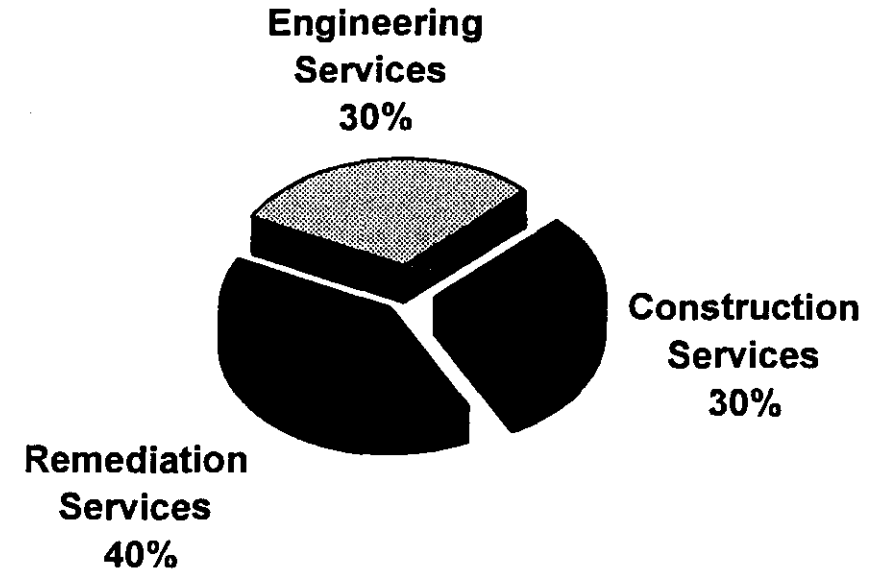
Capabilities And Experience

"I wish to commend your company for outstanding performance ... The removal of underground storage tanks was an extremely challenging undertaking. The outstanding results attained would not have been possible without a total commitment to cooperation and quality"

Joseph L. Theobald
Contracting Officer
U.S. Army Corps of Engineers
District, Louisville
Louisville, Kentucky

Capabilities and Experience

Over the past five years, Smith Environmental has completed in excess of 24,400 projects, making us one of the largest environmental services companies in the United States. These projects, valued at over $910 million, involved solving problems related to remedial, removal, and emergency response actions, ground and surface water contamination and supply, air quality and other significant environmental issues. It is the magnitude of this experience that assures our clients value-added, cost-effective capabilities in the engineering, treatment, and remediation of a comprehensive range of contaminants in various media.



Site Investigations

Smith Environmental conducts site investigations to support remediation evaluation and design requirements by identifying the affected matrices, the existing and potential paths of migration, the existing or potential receptors, and to assess the impact to those receptors. Areas investigated include the geology, hydrogeology, topography, cultural features, contamination, background chemical conditions, and physical properties. The types of soil and groundwater investigations performed include industrial site groundwater contamination, soil vapor surveys, geophysical surveys, well siting, testing and drilling supervision, groundwater discharge permit compliance, groundwater decontamination, and remedial design engineering. The extensive use of field contaminant screening technologies allows maximum information gathering and minimal cost without compromising investigation objectives or regulatory requirements. Our RCRA and Superfund investigations

experience includes regulatory agency relations, work plan and associated documents preparation, facility investigations/remedial investigations, risk assessments and technical oversight. This experience has resulted in a reputation for accurate and effective site investigations with both our clients and the regulatory agencies.

Risk Assessments

On behalf of our clients, we have developed risk-based clean-up levels for both groundwater and soil media and have negotiated with both federal and state regulatory agencies for the approval of these proposed levels. Risk-based, site specific levels have been negotiated for Total Petroleum Hydrocarbon (TPH) contamination, volatile and semivolatile organic compounds and inorganics such as lead and mercury. Media Protection Standards (MPS) have also been developed by Smith Environmental and negotiated with regulatory agencies. The MPSs were developed for long-term monitoring of the performance of the approved Corrective Measures. The development of the MPSs included natural attenuation and dilution along with compound-specific factors. Our toxicologists, biologists, and remediation engineers work closely together in the development of any clean-up levels and are an integral element of any negotiation meetings with the regulatory agencies.

Remediation Services

- Smith Environmental's forte is bottom-line comprehensive remediation design and construction services. We are nationally known for our work on over 13,000 environmental remediation projects, including the management and control of remediation activities at Superfund sites. We offer a wide variety of technologies and construction techniques that include traditional, as well as leading-edge, designs to meet and solve our clients' environmental issues. This is accomplished through developed expertise in the physical, chemical, thermal, and biological treatment of contaminated soils and groundwater facilities.

  Typical remedial construction activities performed include:

- Design, construction, operation, and maintenance of recovery and treatment systems
- Soil processing technologies for removal, destruction or detoxification of wastes
- Design and installation of leachate collection and treatment systems
- Hazardous waste excavation, transportation, and disposal
- Slurry wall containment systems
- Landfill construction and closure
- Impoundment closure, dewatering, and waste stabilization
- Facility decommissioning, decontamination, and demolition
- Sludge removal and stabilization
- Hazardous waste containment, design, and construction
- On-site air quality monitoring and emissions control
- Storage tank management
- Chemical categorization, packaging, and disposal
- Environmental dredging

Wastewater Systems

Through a "total-system approach," Smith Environmental has provided design and construction management services for more than 200 new, upgraded or expanded wastewater treatment plants ranging in size from 200,000 gallons per day to 40 million gallons per day. The approach examines and quantifies a problem in its entirety, from wastewater generation to disposal of residues.

Our comprehensive services include:

- Conducting facility audits to identify compliance constraints for wastewater discharge, air emissions, and solid or hazardous waste disposal
- Wastewater characterization to design cost-effective sampling plans, conduct flow measurement, and perform sampling and analytical testing
- Wastewater minimization
- Design basis formulation to establish design flow and it variability, pollutant concentrations and their variability, and target treatment levels
- Feasibility studies to screen treatment processes
- Treatability studies to analyze treatment processes, confirm processes, and design criteria for equipment
- Design engineering to develop contract plans and specifications for bidding and construction
- Construction management to oversee the installation of the wastewater management systems as well as startup assistance, operator training, and preparation of operation and maintenance manuals
- Regulatory negotiation and permit acquisition with state and federal agencies
- Environmental monitoring for a wide range of emissions including stack testing, wastewater effluent monitoring, and hazardous waste manifesting

Groundwater Services

Groundwater contamination services available through Smith Environmental encompass remedial investigations and feasibility studies, along with the design, installation, and operation of sophisticated contaminant recovery systems. This direct experience allows us to tailor treatment alternatives and provide cost comparisons to select the optimum remediation program.

Our groundwater services combine civil, mechanical, and chemical engineering technologies with specialized knowledge in geology, biology, and hydrogeology to provide the most effective solution. In particular, we are able to provide the planning and implementation of subsurface investigations for the definition of lateral and vertical extent of contamination. We have the technical experts to characterize the hydrogeologic parameters using aquifer tests, groundwater flow, and solute fate and transport modeling to assess the conditions, design the remediation systems, or to lead technical negotiations for no further action or natural alternation. Our staff includes personnel with expertise to manage installation, operation, and maintenance of structured systems, liquid hydrocarbon recovery, and groundwater remediation systems.

Services provided include:

- Plume containment
- Extent of contamination surveys
- UV oxidation/chemical oxidation
- Pump and treat systems
- Vapor extraction systems
- Air stripping
- Granular activated carbon adsorption

Water Supply and Treatment

During the past 10 years, Smith Environmental has completed over 1,400 water supply consulting and engineering projects in 30 states. These projects have ranged from feasibility studies for public water systems of less that 50 customers to the design of a 40 mgd state-of-the-art water treatment plant. Our water supply engineering and scientific capabilities encompass groundwater supply, surface water supply, water treatment, storage, and distribution, laboratory services, and financial services.

Emergency Response

Smith Environmental has nearly 25 years of direct experience conducting over 10,000 responses to suspected petroleum and chemical underground storage tank leaks, pesticide spills, industrial fires, and explosions, illegal/accidental dumping of chemicals and chemical containers, and spills of petroleum products and chemicals on soil and surface waters. Our 24-hour emergency response call center has been in existence for over 20 years and includes a network of offices throughout the U.S. with the capabilities to respond to any size incident. Our personnel are experienced in rail and other transportation incidents requiring liquid chemical transfer and tank patching services, material testing, segregation, and management. Our client base is serviced through established environmental service agreements and through contracts with oil spill cooperatives across the United States. We also provide contingency planning for spill incidents to the oil industry, transportation, and pipeline industries. Since the implementation of the Oil Pollution Act of 1990 (OPA90), we have been approved as a response contractor. To date, we have provided service under this program to over 300 clients.

Storage Tank Management

For over 12 years, Smith Environmental has assisted our clients with the assessment, removal, replacement, and site closure activities of storage tanks. We have established considerable experience in both the public and private sectors and our knowledge of the regulations, regulators, and trust funds provide our clients with considerable value-added resources. Our project managers are fully knowledgeable in all phases of tank procedures, regulatory requirements, permitting, closure, remedial action options, and disposal methods.

Services performed include:

- Tank registration and regulatory compliance
- Corrosion analysis
- Full-scale site assessments
- Plume identification
- Contaminant containment
- System engineering design
- Removal, installation, and closure
- Product treatment and recovery
- Trust-fund applications

Air Quality Management

Our comprehensive turnkey capabilities include air quality control programs. We offer air testing and modeling encompassing problem definition, environmental planning, engineering design, siting surveys, and computerized data management. Our air toxics management staff includes engineers, scientists, sampling technicians, dispersion modelers, and risk evaluation specialists skilled in all facets of air toxics monitoring, assessment, and facility control design.

Asbestos / Lead-Based Paint Management

With over 3 billion square feet of building space asbestos assessments in the past 10 years, we are one of the largest asbestos firms in the nation. Our specialists perform building surveys, hazard assessments and prioritization, laboratory analysis, abatement plans and specifications, abatement procedures including operations and management, encapsulation, enclosure, isolation, removal, air monitoring, and clearance testing. We offer operation and maintenance seminars to assist clients in the implementation of all asbestos control programs. We also have considerable experience in lead-based paint management programs including on-site, real-time lead identification, identification of removal

options, plans and specifications for removal, and removal oversight.

Environmental Planning and Assessment

Smith Environmental's staff of over 350 environmental scientists, engineers and geologists have performed over 10,000 property and facility environmental assessments. These have included preliminary site contaminant evaluations involving the historical review of the site, the detailed investigative programs employing sampling and analysis, facility compliance and inspection, summaries of the source and pathway of the contamination, and the actual development and implementation of the remedial measures for the site. Our responsiveness and quality products are reflected in our contracts with several multi-state companies to provide nationwide assessment programs.

Storm Water Management

We have over 100 years of experience providing professional engineering services for storm water planning, design, construction administration and surveillance, and public works financing in the municipal sector. Our staff's significant expertise in permitting, codes, and regulations allow our projects to move expeditiously from assessment through completion.

We have completed storm water management projects covering all aspects, including sampling and monitoring, developing permitting strategies, designing inventory and sampling programs, and implementing management plans through structural and non-structural solutions.

Solid Waste Management

Smith Environmental is experienced in solid waste management planning to final design and start-up of waste processing and disposal facilities.

These capabilities include:

- Management planning to encompass all aspects of waste management
- Sanitary and residual landfills including direct experience with site evaluation, financing, permitting, design, construction monitoring, closure, and site reuse
- Development of materials recycling and source reduction programs aimed at reduced waste quantities
- Collection and transfer comparative analysis
- Environmental studies and community relations

We have extensive experience in applying these scientific engineering and remediation solutions for various environmental problems encountered by government and industrial clients. Our reputation has been built on effective project management of both large and small projects with demanding technical, time, and cost constraints. Backed by a successful completion of over 30,000 projects, we have proven client satisfaction on projects of diversified sizes and environmental scopes. The following projects demonstrate our relevant experience to plan, organize, and implement the programs necessary to solve our clients' environmental problems successfully and within designated time frames and cost constraints.

Project Experience

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ENVIRONMENTAL TECHNOLOGIES CORPORATION

AR100176

		Project Scheduling / Estimating / Reporting / Plan Development	Site Investigation / Audit / Survey	Permitting / Modeling	Environmental Impact Assessment / NEPA	Remedial Investigation / Feasibility Study	Engineering Design	Operations and Maintenance	Pilot / Treatability Studies	Waste Isolation / Characterization / Collection	Groundwater Treatment System Design / Operation / Maintenance	Soils / Solids System Design / Treatment	Site Structural Decontamination / Demolition	Earthwork / Excavation / Material Handling	AST / UST Management	Containment System Construction	Structural Sheeting and Shoring	Construction Management	Surface Water Diversions	Environmental Dredging	Emergency Response	Facility Services
CALTRANS Multiple Sites State of California	*Multiple remediation efforts including UST removals, structural decon, excavations, groundwater recovery*										◆		◆	◆	◆							
Jacobs Engineering Rocky Mountain Arsenal Denver, Colorado	*Multiple tasks including structural decontamination/demolition, site remediation*	◆							◆	◆			◆	◆								
Ciba-Geigy Corporation McIntosh, Alabama	*Multiple tasks including structural decontamination/demolition, site remediation, Title V air permitting*	◆	◆		◆	◆	◆		◆	◆		◆		◆				◆	◆			
EG&G Rocky Flats DOE Facility Golden, Colorado	*Engineering design, construction and long-term operation of a water treatment system*						◆	◆	◆	◆	◆							◆			◆	◆
Goshen Air Sparging System Goshen, Indiana	*Design, construction, operation and maintenance of an air sparging system*							◆				◆										
DRMO Alameda, California	*Hazardous waste packaging, transportation and disposal*	◆								◆												
Confidential Client Santa Ana Vacuum Extraction Santa Ana, California	*Design and construction of a soil vapor extraction system for solvents*		◆	◆								◆										
U.S. Army Fort Irwin, California	*UST removal/site remediation*	◆												◆	◆							
H.E. Myers Filtration Facility Mobile, Alabama	*Design/construct supervision of a 40 mgd municipal water treatment plant*	◆		◆			◆	◆										◆				

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PROJECT EXPERIENCE

		Project Scheduling / Estimating / Reporting / Plan Development	Site Investigation / Audit / Survey	Permitting / Modeling	Environmental Impact Assessment / NEPA	Remedial Investigation / Feasibility Study	Engineering Design	Operations and Maintenance	Pilot / Treatability Studies	Waste Isolation / Characterization / Collection	Groundwater Treatment System Design / Operation / Maintenance	Soils / Solids System Design / Treatment	Site Structural Decontamination / Demolition	Earthwork / Excavation / Material Handling	AST / UST Management	Containment System Construction	Structural Sheeting and Shoring	Construction Management	Surface Water Diversions	Environmental Dredging	Emergency Response	Facility Services
M/V Morris J. Berman U.S. Coast Guard San Juan, Puerto Rico	*Response to a 750,000-gallon Bunker C oil spill into the Gulf of Mexico*																				◆	
U.S. EPA Zone 4A ERCS Contract Kansas City, Missouri	*Interim and remedial actions at multiple sites across 15 Midwestern/Rocky Mountain states*	◆						◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆		◆	
Confidential Client Gould Battery Site Portland, Oregon	*Soil washing for the removal of contaminants from battery wastes, sheet pile barriers and on-site capping*	◆							◆			◆				◆		◆				
Reichhold Chemical Tacoma, Washington	*Excavation, structural decontamination/demolition, groundwater recovery and capping*	◆									◆		◆	◆		◆						
URS Consultants Bangor Subase Remediation Bangor, Washington	*Excavation of buried drums and contaminated soils, construction of three storage cells*	◆								◆				◆								
Pottstown Wastewater Treatment Plant Pottstown, Pennsylvania	*Design/construction management of a 15.6 mgd activated sludge municipal wastewater treatment plant*	◆	◆	◆			◆	◆						◆	◆			◆				
FMC Corporation Crego Park Site Lansing, Michigan	*Design and installation of 100 gpm water treatment system and excavation of 46,000 tons of impacted soils*						◆				◆			◆								
U.S. Army Corps of Engineers Ogden Defense Depot Superfund Site Ogden, Utah	*Design and construction of a 200 gpm groundwater extraction and treatment system, soil excavation*	◆		◆			◆				◆			◆								

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		Project Scheduling / Estimating / Reporting / Plan Development	Site Investigation / Audit / Survey	Permitting / Modeling	Environmental Impact Assessment / NEPA	Remedial Investigation / Feasibility Study	Engineering Design	Operations and Maintenance	Pilot / Treatability Studies	Waste Isolation / Characterization / Collection	Groundwater Treatment System Design / Operation / Maintenance	Solls / Solids System Design / Treatment	Site Structural Decontamination / Demolition	Earthwork / Excavation / Material Handling	AST / UST Management	Containment System Construction	Structural Sheeting and Shoring	Construction Management	Surface Water Diversions	Environmental Dredging	Emergency Response	Facility Services
Unocal Southern California	*Site investigations at multiple retail establishments*		◆												◆							
Carolina Eastern Chester, South Carolina	*In-situ sparging/bioremediation of petroleum hydrocarbon-impacted groundwater*										◆	◆		◆								
Commonwealth Edison Chicago, Illinois	*PCB remediation at substations and vault locations at multiple sites*	◆	◆	◆						◆			◆	◆	◆						◆	◆
U.S. NAVFAC Northern Division Naval Weapons Station Earle, New Jersey	*Five EISs and EAs for NEPA siting studies, modernization and facility expansion*	◆		◆			◆	◆												◆		
Warzyn Engineering Novi, Michigan	*Remediation and removal of 38 AST and UST and containers*	◆								◆				◆	◆							
PRC Environmental Navy CLEAN Contract San Francisco, California	*Multiple UST remediation, soil excavation and removal actions*													◆	◆							
Confidential Client Wappinger Falls Remediation Wappinger Falls, New York	*Design and construction of a 770-foot groundwater interception trench and groundwater treatment plant*	◆		◆			◆				◆				◆	◆			◆			
Confidential Client Smith's Farm Operable Unit One Bullit County, Kentucky	*Separation and dechlorination of 17,000 yards of PCB-contaminated soils using SoilTech thermal treatment*	◆					◆	◆	◆	◆		◆		◆				◆				
M-K Ferguson Weldon Spring DOE Facility Weldon Spring, Missouri	*Management and operation of three wastewater treatment plants*	◆						◆		◆												◆

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		Project Scheduling / Estimating / Reporting / Plan Development	Site Investigation / Audit / Survey	Permitting / Modeling	Environmental Impact Assessment / NEPA	Remedial Investigation / Feasibility Study	Engineering Design	Operations and Maintenance	Pilot / Treatability Studies	Waste Isolation / Characterization / Collection	Groundwater Treatment System Design / Operation / Maintenance	Soils / Solids System Design / Treatment	Site Structural Decontamination / Demolition	Earthwork / Excavation / Material Handling	AST / UST Management	Containment System Construction	Structural Sheeting and Shoring	Construction Management	Surface Water Diversions	Environmental Dredging	Emergency Response	Facility Services
Confidential Client Mitchell Field Site Garden City, New York	*Construction and operation of a 1,400 gpm air stripping water treatment plant and installation of a slurry wall*	◆					◆		◆		◆					◆		◆				
Pennsylvania Department of Transportation Statewide Contract	*Various environmental services in support of highway design, right-of-way acquisition and highway construction*	◆	◆		◆	◆	◆		◆	◆	◆	◆		◆	◆		◆	◆				◆
Confidential Client Wells G&H Woburn, Massachusetts	*Design and construction of a full scale 30 gpm treatment system and groundwater recovery*	◆					◆	◆	◆		◆								◆			
U.S. EPA Region V ERCS Contract Chicago, Illinois	*Interim and remedial actions at multiple sites across six Great Lakes states*	◆						◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	
Confidential Client Waukegan Harbor Superfund Site Waukegan, Illinois	*Thermal treatment of 13,000 cubic yards of PCB soils, dredging of 30,000 cubic yards, construction of a slurry wall and containment cells*	◆					◆	◆	◆	◆	◆	◆		◆		◆		◆	◆	◆		
Confidential Client Royal Hardage Superfund Site Criner, Oklahoma	*Installation of a groundwater interceptor trench, placement of a gas collection system, capping, construction of a water treatment system*	◆					◆			◆	◆					◆			◆			
Confidential Client Pristine I & II Superfund Site Reading, Ohio	*Construction of an ISVE system, treatment of 13,000 tons of soils and construction of a 3-acre multi-media cap*	◆					◆	◆	◆		◆	◆		◆		◆	◆	◆				
Allied Corporation Birmingham, Alabama	*RCRA Part B permit/trial burn for hazardous waste incinerator*	◆		◆																		

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Handy J Car Wash Los Angeles, California	*Site investigation, design construction and operation of soil vapor extraction and groundwater treatment system*		◆				◆				◆	◆	◆	◆	◆						◆	
U.S. Army Corps of Engineers Lackland Landfill Remediation San Antonio, Texas	*Construction of a 3,800 linear foot slurry wall and a cap over a 50-acre site*	◆					◆									◆	◆					
San Mateo County Housing Authority San Mateo, California	*Removal of TNA-contaminated soils in a residential area, surface improvements, transportation and disposal*	◆	◆	◆										◆								
Confidential Client Anaconda Minerals Company Anaconda, Montana	*Stabilization of flue dust piles and placement in an engineered repository*	◆					◆					◆		◆		◆		◆				
U.S. Navy Naval Weapons Station Seal Beach, California	*Removal for closure of 39 USTs, excavation of contaminated soils*													◆	◆							
Confidential Client United Nuclear Superfund Site Gallup, New Mexico	*Remedial engineering of a disposal area cap and a groundwater extraction and evaporation system*	◆					◆				◆					◆	◆					
Sandia National Laboratories Albuquerque, New Mexico	*Hazardous/toxic materials surveys of 1,100 buildings, 3.8 million square feet*	◆	◆																			
Amoco Oil Company Multiple Sites St. Louis, Missouri	*Performance of site assessments, UST management, bioremediation, groundwater recovery and remedial actions*	◆	◆	◆			◆	◆	◆	◆	◆	◆		◆	◆			◆			◆	◆

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Confidential Client Memphis PCB Site Memphis, Tennessee	*Excavation, solidification and off-site disposal of 18,800 tons of PCB soils and sludges*	◆							◆			◆		◆								
Chinese Petroleum Company Lin Ya Liao Terminal Kaohsiung, Taiwan	*Design, installation and operation of a fuel pump hydrocarbon recovery system*	◆	◆								◆											
Bonneville Power Administration Pacific Northwest	*UST and PCB remediation program across multiple sites*	◆	◆							◆	◆	◆	◆	◆	◆	◆		◆			◆	
Wisconsin Power & Light Madison, Wisconsin	*Field blending study, excavation, processing and treatment of coal tar contamination*	◆							◆			◆		◆								
The Price Company San Diego, California	*Environmental site assessments, UST removals and on-site biological treatment*		◆									◆		◆	◆							
Confidential Client Seymour Recycling Superfund Site Seymour, Indiana	*Construction of a 13-acre cap and a vapor extraction system*	◆					◆					◆				◆	◆					
Clark Refining & Marketing St. Louis, Missouri	*Response to a 240,000-gallon gasoline spill into the Mississippi River*	◆						◆		◆				◆		◆					◆	
Mallinckrodt Specialty Facility St. Louis, Missouri	*Decommissioning of chemical laboratory, dismantling and removal of piping*	◆								◆			◆		◆							◆
Alabama State Docks Mobile, Alabama	*Demolition of eight buildings and removal and demolition of USTs*	◆					◆						◆	◆	◆			◆				

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ERASCO Times Beach Site Times Beach, Missouri	*Sampling and analysis program to determine extent of dioxin contamination*	◆	◆							◆												
Confidential Client South Street Site Walpole, Massachusetts	*Excavation of 6,700 cubic yards of asbestos soils*	◆					◆							◆			◆					
Confidential Client MOTCO Superfund Site La Marque, Texas	*Design and operation of a groundwater extraction system and bioremediation treatment*	◆				◆		◆		◆	◆	◆						◆				
MCI Telecommunications Dallas, Texas	*Remediation, removal and replacement of USTs across the United States*	◆								◆			◆	◆	◆			◆				
CSX Transportation Perdido, Alabama	*Design, construction and long-term operation and maintenance of a groundwater recovery system*	◆						◆		◆	◆							◆				
Chevron USA El Segundo Refinery El Segundo, California	*Engineering design, construction and operation of two liquid and vapor hydrocarbon recovery systems*	◆	◆			◆	◆	◆	◆	◆	◆							◆				
M/V An Ping 6 Longview, Washington	*Response to remediate a Bunker C oil spill*									◆						◆					◆	
Confidential Client South Valley Superfund Site Albuquerque, New Mexico	*Design, construction and implementation of pilot and full scale vacuum extraction system and water treatment system for VOCs*	◆					◆		◆		◆	◆										

Technologies

"I would like to take this opportunity to express my appreciation for the professionalism [you] exhibited during constuction of our pump and treat system.... [You] provided us with a state-of-the-art system which will make a significant contribution to [our] Superfund cleanup.... Your staff's perseverance and tenacity have helped [us] meet the difficult environmental challenges of our schedule.

M. D. Curry
Captain, SC, USN
Commander
Defense Distribution Depot Ogden
Defense Logistics Agency

Technologies

Smith Environmental has significant experience in the application of traditional and innovative technologies. Throughout its history, we have concentrated on developing practical, cost-effective, on-site solutions to meet our clients' needs. As problem-solvers, we apply the best technology to each individual situation. To accomplish this, we have developed expertise in the physical, chemical, thermal, and biological treatment of contaminated soils, groundwater, and facilities.

Soils Treatment

LTTA (Low Temperature Thermal Aeration) Smith Environmental holds a patent for low temperature thermal aeration (LTTA) which is an on-site remediation technology. The LTTA technology removes volatile and some semi-volatile organics from soils by thermal desorption/vaporization at temperatures from 300 to 800 degrees Fahrenheit.

SoilTech ATP Unit (High Temperature Thermal Separator) We share a patent with UMATAC Industrial Processes, a Canadian firm, for an on-site thermal treatment unit, SoilTech Anaerobic Thermal Processor (ATP). The SoilTech ATP Unit operates at temperatures from 400 to 1150 degrees to separate organic-contaminated soils, sludges, and other soil hazardous wastes into clean solids, process wastewater, and oily concentrate. The SoilTech unit has successfully treated over 60,000 tons of PCB-impacted soils at four Superfund sites.

Soil Vapor Extraction Smith Environmental is a patent holder of a two-phase soil vapor extraction system. This is a single treatment method applicable to all states of hydrocarbon contamination. The process induces volatilization of soil contamination, gathering soil vapors from a broad area, and lifts hydrocarbon liquids together with contaminated groundwater from an aquifer. The process maximizes the rate of site cleanup and minimizes equipment requirements and project costs.

Soil Washing We have utilized soil washing as the remedial technology to treat contaminated soils and sludges for projects. This technology treats a wide variety of organic and inorganic contaminants with high removal efficiencies of 95% to 99%. The technology is an ex-situ process of mixing contaminated soil with water, surfactants or other reagents, and mechanically agitating and separating the soil fractions to remove the contaminants. Typically we have custom-designed systems that address a specific contaminant and soil profile.

Bioremediation Smith Environmental has successfully implemented both in-situ and ex-situ bioremediation technologies on numerous sites ranging from bioreactors constructed to treat hydrocarbon-contaminated groundwater at single-point service stations to multiple-acre landfarms used to successfully treat creosote-impacted soils. Smith Environmental's bioremediation projects have ranged from the use of nutrient-enhanced indigenous bacteria species to augmentation of both bacteria and nutrients in an effort to reach predetermined goals. We have the turnkey capabilities to evaluate bioremediation potential through pilot studies, design, construct and complete bioremediation projects.

Smith Environmental's bioremediation program has treated over 21,000 tons of impacted soils and tens of thousands of gallons wastewaters contaminated with a multitude of organic compounds including creosote and petroleum products.

Stabilization/Fixation Smith Environmental has successfully and economically treated contaminated soils throughout the U.S. on sites impacted by a range of heavy metal contamination. We offer turnkey capabilities ranging from initial consultation through pilot study to on-site treatment. We use approaches ranging from the simple mixing of soil and stabilization agents within an excavation to hydraulic mixing units to on-site pug mill operations.

Waste streams treated have included traditional soils to river dredgings and soil/debris mixes resulting from contaminated landfills. Each waste stream has required a site-specific material handling strategy to allow effective mixing and maximize stabilization efficiency. Material handling equipment used to achieve this efficiency has included crushers, mixers, screens, and shredders.

Water Treatment

Smith Environmental has routinely designed, constructed and operated on-site wastewater treatment facilities ranging from permanent municipal plants to mobile wastewater treatment plants for use on sites contaminated with both radioactive and hazardous wastes. Additionally, we construct and operate small plants for use on site to effectively treat waste streams resulting from groundwater contamination to captured precipitation. Examples of on-site capabilities include the design and construction of numerous groundwater/ leachate collection systems with on-site treatment through air stripping, media adsorption, ion exchange and oxidation (UV and chemical); the design, construction and operation of mobile hazardous waste treatment units for both U.S. EPA and U.S. DOE, and the operation and maintenance of wastewater treatment plants on EPA and DOE sites including multiple-year, around-the-clock operations at DOE's Weldon Spring Site in Missouri and the Rocky Flats facility in Colorado. The Weldon Spring site alone has required the efforts of 35 full-time engineer/ operators to maintain and operate three on-site plants capable of removing both organic and radioactive materials.

Structural Decontamination

The high cost of off-site disposal has emphasized waste minimization to minimize project costs. Smith Environmental has a full range of capabilities to allow for decontamination of structural components and minimize off-site disposal costs. These technologies involve destructive and non-destructive technologies including sand/shot blasting, scarification, in-situ oxidation, foam extraction as well as the traditional power washing approaches. These technologies have been combined with material handling capabilities including cyclone/centrifuge separation and grit recycling that allow for further waste reduction. Smith Environmental has successfully implemented structural decontamination efforts on hundreds of sites throughout the U.S. and currently maintains numerous contracts where structural decontamination efforts are routinely requested. Additionally, Smith Environmental's expertise in this area has resulted in emergency response mobilization of crews to numerous sites both within the U.S. and overseas.

A comparison of technologies table, which identifies the effectiveness of technologies in the treatment of various contaminants, follows.

Comparison of Technologies

Waste Treatment Technology	CONTAMINANT									
	HYDROCARBONS (GASOLINE)	VOLATILE ORGANICS (SOLVENTS TCE, TCA)	SEMIVOLATILE ORGANICS (CHLOROBENZENES, PHENANTHRENES, PHTHALATES)	CREOSOTE	PCB	CHLORINATED PESTICIDES (DDT, DIELDRIN, KEPONE)	NONCHLORINATED PESTICIDES (PARATHION, GLUTARALDEHYDE, GLYCISSATE)	METALS	RADIOACTIVES (RADIUM PLUTONIUM, URANIUM, ETC.)	COAL TAR
Ground Water										
Air Stripping	■	■	▲	N/A	N/A	●	●	N/A	N/A	N/A
UV Oxidation	▲	●	●	N/A	N/A	▲	▲	N/A	N/A	⬟
Carbon Adsorption	▲	■	■	●	●	■	■	N/A	N/A	▲
Membrane Filtration	●	⬟	⬟	N/A	N/A	⬟	⬟	N/A	N/A	⬟
Soils and Solids Treatment										
On-site Thermal *SoilTech ATP*	■	●	●	⬟	■	●	●	N/A	N/A	⬟
On-site Thermal LTTA®	● (At Low Concentrations)	■	●	N/A	N/A	■	●	N/A	N/A	N/A
In-Situ Aeration	●	■	▲	N/A	N/A	⬟	▲	N/A	N/A	N/A
Soil Vapor Extracton	●	■	▲	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Incineration (Technically Good But Costly and Difficult to Permit)	●	●	●	●	●	●	●	N/A	N/A	●
Stabilization	▲	▲	▲	▲	▲	▲	▲	■	■	▲
Soil Washing	●	▲	▲	▲	▲	●	●	■	●	●
Bioremediation	●	▲	▲	●	⬟	⬟	⬟		N/A	⬟
Water Treatment										
Precipitation and Settling	N/A	N/A	N/A	N/A	▲	N/A	N/A	■	●	N/A
Sand Filtering/ Biotreat Media	●	N/A	●	▲	▲	●	●	▲	▲	●
ION Exchange	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	■	N/A
Dissolved Air Flotation	●	▲	▲	▲	▲	▲	▲	▲	●	▲
Absorb Media	■	■	■	▲	■	■	■	N/A	N/A	●

■ Very Effective Technically and Economically

● Effective Technically and Economically

▲ Limited Applicability But May Be Used

⬟ Under Evaluation

N/A Not Applicable

Personnel

"[Your] personnel displayed energy and depth of knowledge when performing an environmental audit that was critical to a major waterfront development project. We couldn't have asked for better responsiveness, communication and technically competent reporting"

John J. Freyer, P.E.
Vice President
Chase Manhattan Bank

Personnel

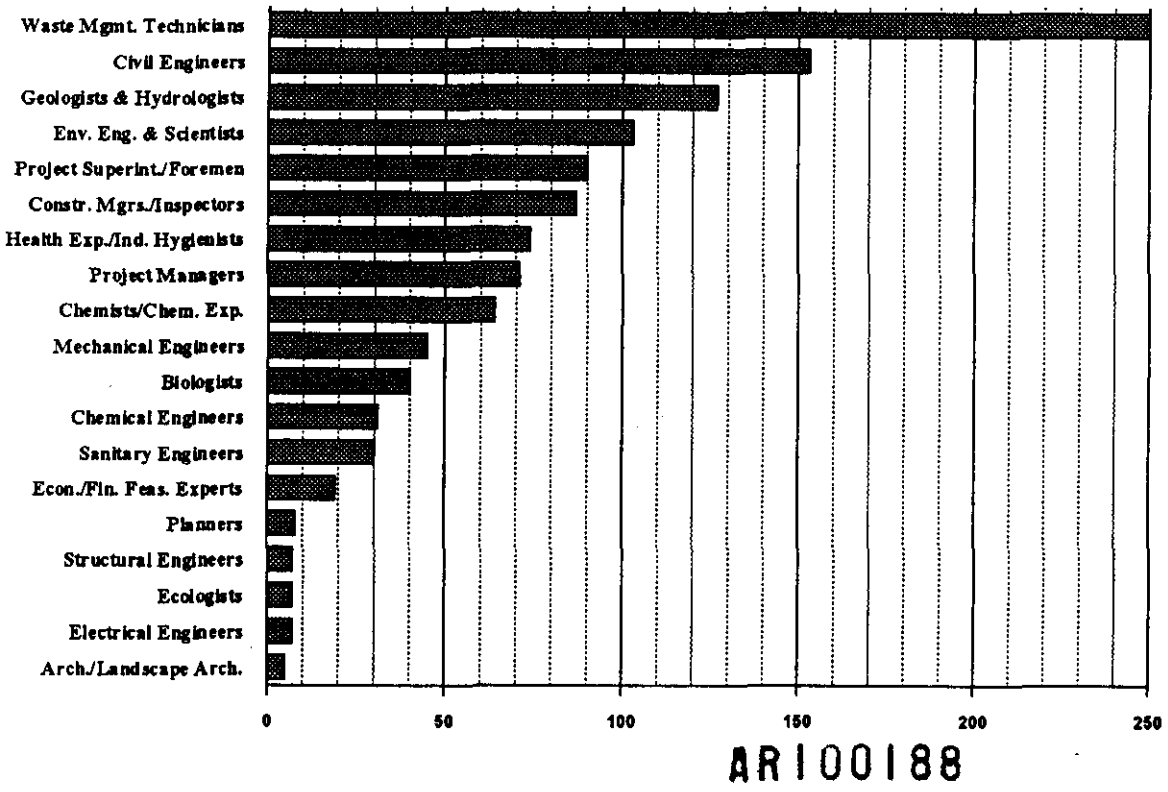
Smith Environmental employs a highly skilled professional and technical staff who are disciplined in and knowledgeable of environmental waste management systems, sampling techniques, engineering, design of treatment systems, ecological/biological systems, emergency response protocols, groundwater treatment technologies, remediation processes and construction procedures having designed and instituted various methodologies on numerous projects.

Our staff has demonstrated capabilities in supervising and coordinating complex multi-disciplinary engineering, remediation and construction projects. These professionals provide the depth and expertise in all engineering and remediation disciplines and are supported by an extensive field resource pool.

Smith Environmental employees whose position requires direct association with hazardous materials must complete and be certified by a 40 hour training course to comply with 29 CFR 1910.120 to ensure safe handling procedures, personnel protection, equipment usage, and health and safety processes. These individuals also complete an annual 8 hour refresher training course and all site managers and supervisors complete an 8 hour training course in the management of hazardous waste sites.

The technical staff is composed of highly qualified individuals with over 30% of the professional staff holding advanced degrees (master's and doctorates). A large number of the staff have certifications and registrations in their respective areas of expertise.

Technical and Scientific Staff



SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title:
Tony L. Price
Senior Project Manager
District Manager, Chicago District
Years of Experience: 13
Registration:
US EPA Certified Response Manager

Education: Degree(s)/Specialization/Year:
B.A. Business Management 1983
Health and Safety Training:
40 Hour OSHA 29 CFR 1910.120, 3/85
8 Hour OSHA Manager Training, 2/86
8 Hour OSHA Annual Refresher, 8/94

Experience and Qualifications

Mr. Price currently serves as both Senior Project Manager and District Manager of Smith Environmental Technologies Corporation's Chicago District. As such, he is responsible for overview of all daily activities including administration, accounting, personnel management, technology development, sales, estimating and field operations. The district staffing consists of 21 professional technical scientists, engineers and project managers and a labor force of over 35 hourly pollution control specialists. The district experience base includes expertise in bioremediation, groundwater investigation and remediation, site assessment, structural decontamination, contaminant excavation, dewatering, environmental construction and industrial hygiene. District equipment includes a motor fleet exceeding 20 vehicles, heavy equipment, mobile decontamination showers, office trailer, and specialized hazardous waste remediation equipment.

During 1990-1992, Mr. Price served as a Division Manager for an environmental remediation company in Columbus, OH. He was responsible for the operations and sales in a five state area. He was charged with the management of a five man professional/technical staff and a labor force of over 25 technicians. Experience included expertise in lead treatment soil processing, soil vapor extraction systems, structural decontamination, large earth moving projects, lagoon dewatering and emergency response projects. Mr. Price was the Senior Projects Manager for a City of Columbus Environmental Services Contract, a State of Ohio Level of Effort Contract and an Army Corp of Engineers UST Removal Contract.

From 1983 to 1990, Mr. Price worked for a major environmental remediation company and managed large-scale and small multifaceted environmental projects involving response to oil, PCB and other hazardous material incidents. He functioned as Project Manager on over 60 hazardous waste cleanups. Through the management of these projects, he demonstrated advanced management skills, cost accounting, and sound scientific strategies. He supervised a diverse group of engineers, scientists, and hazardous waste technicians in conducting site investigation, design of hazardous waste site work plans, sampling plans, health and safety plans, project management tracking and cost control system implementation.

Key Projects

Senior Project Manager, Scrap Yard and Recycling Facility, Marion, OH, October - November '92. Mr. Price managed the facility decontamination in three 25,000 square foot PCB contaminated buildings at a scrap yard and recycling facility. Various waste pits and shredding units were decontaminated by using a penetone solution. All waste sludge was removed and the areas tripled rinsed. All waste sludge were containerized and properly

disposed. Contamination ranged from 350 ppm to 50 ppm in the facility. All PCB waste water was containerized on site.

Program Manager, Environmental Services Contract, City of Columbus, OH, August '91- December '92. The facility decontamination included the cleaning of a 125,000 square foot warehouse that was decontaminated with mercury and lead. A 15 man crew used HEPA vacuum units to remove and containerize the dust. A wet decontamination was used for final cleaning. A sampling plan was developed and wipe samples were taken, one per every 100 square foot area. Once verified as clean, each area was sealed to prevent cross contamination.

Senior Projects Manager, Muskingum County Engineer office, Muskingum, OH, Januar - February '92. Managed the on-site treatment of 3,500 cubic yards of lead contaminated soil. The soil was excavated from a highway construction site and found to have TCLP lead levels of 700ppm. A crew of five people mobilized with a tracked excavator and a rubber tire loader to move the soil to a prescreening area.

The soil was sized down to soil of less than 3" in size with a power screen. Mr. Price

petroleum contaminated soil. Tank closure reports were prepared and submitted to the State.

Operations Manager, Manufacturing and Plating Facility, Newcomerstown, OH, May '91 - September '92. Mr. Price managed a thirty man crew for a multi-task RCRA closure in Eastern Ohio. He also wrote work plans for various tasks and then was responsible for task execution. These tasks included installation of a 1,500 linear foot (LF) work road, excavation of 90,000 cubic yards of lead contaminated

worked within the Ohio EPA to gain an emergency treatment permit with 30 days. Work plans and Health and Safety Plans were submitted and review by the state. The soil was treated on site by a patented acid process at a production level of 700 tons per day. All soil was sampled in 100 ton piles for TCLP lead. The TCLP lead levels were reduced to less than 5 ppm and the soil was then disposed of locally at a special waste landfill. The client realized a $200,000 cost saving and the highway project continued on schedule.

Program Manager, U.S. Army Corp of Engineers, State of Ohio UST Contract. August - December '92. Managed the overall execution of this long term contract which included underground storage tank (UST) removal and installation for government facilities within the State of Ohio. Mr. Price wrote and submitted Accident Prevention Plans, Quality Control Plans and site specific work plans. All plans were approved within two weeks. Additionally, he scheduled and managed multiple crews and removed 25 USTs within a four month period.

Senior Project Manager, Railroad Yards, Various Sites in Pennsylvania, July - August '91. Mr. Price managed underground storage tank removals and site remediations for a large railroad at six different locations in the state. Twenty tanks were removed, ranging in size from 1,000 gallon to 30,000 gallon capacity. Arranged for the transportation and disposal of over 10,000 cubic yards of soil, on site soil fixation treatment of 13,000 cubic yards of soil that exceeded TCLP lead regulations, water treatment of 10 million gallons of water to reduce sediment, coordination of transportation and disposal of soils and site restoration. Total project value was $13 million. Mr. Price was also involved in preparation of regulatory reports and negotiations with State agencies.

Senior Project Manager, Air Force Base, Wright-Patterson AFB Ohio, February - June '91. Managed the removal of 15 underground

storage tanks ranging in size from 500 to 10,000 gallon capacity. Responsible for writing and executing and site-specific work plans, safety plans, corrective action plans and site closure plans. Responsible for contract management and negotiation of contract change orders.

Project Manager, Two Railroad Yards, Silver Grove KY and Evansville, IN, November '90 - January '91. Both sites involved the remediation of facilities prior to sale. Site activities included excavation and removal of 5,000 cubic yards of fuel contaminated soil, sampling, overpacking and disposal of 200 unknown drums, abatement of 2,000 linear feet of asbestos containing material, and removal of a 2,000 gallon UST. Work also included confirmatory sampling and final report preparation.

Program Manager, Level of Effort Contract Ohio EPA, various site in the state of Ohio, October '90 -July '91. Mr. Price was responsible for overview and project management of all activities including administration, work plan development, work plan negotiations, final report writing, field operations and accounting. The various projects included a facility decontamination of a plating facility, a phase II investigation of soil and groundwater, overpacking, and disposal of 50 drums and the set-up and monitoring of portable air monitors at an abandoned landfill. Total contract value was $500,000.

Program Manager, Commonwealth of Pennsylvania, Various Locations in PA, June '88 - Oct '90. Responsible for contract and project management for this environmental intern response contract, valued at $10 million. Contract requirements included site visits, development of site-specific work plans, execution of work plans, negotiation of contract changes and submission of final reports. The largest project was an $8 million remediation project in Altoona, PA. The project scope of work included the construction of a poly-lined holding cell for 8,000 cubic yards of volatile organic compound contaminated soil. The cell was constructed with 11 synthetic layers of polyethylene and designed in a triangle configuration to conform to limited space requirements. The contaminated soil was excavated and processed though a screen/crusher unit for volume reduction. The soil was transported 1/2 mile to the cell for storage. The cell was covered and its contents await incineration. Groundwater and purged water was recovered and treated through a stripping tower and carbon filtration unit. The project duration was 13 months. Other projects included overpacking, sampling of 200 unknown drums in an abandoned trailer in Quakertown, PA, overpacking of abandoned drums, venting of unknown gas cylinders in Kittaning, PA, and the detonation of a nitroglycerine contaminated two acre pond. All projects were very high profile to the public and state government.

Project Manager, Seed Manufacturer, Farmingdale, NJ, Aug '89 - July '90. Managed an emergency response of a 6,000 gallon oil spill into the Manasquan River. Crews were able to recover 75% of the product with vacuum truck collection. 2,000 cubic yards of contaminated soil was excavated. All recovered oil was sent to an oil recycler and a permit was applied for and granted by the New Jersey Department of Environmental Protection for on-site exsitu bioremediation. A 20,000 square feet polyethylene lined treatment cell was constructed with a PVC drainage system. The soil was layered in 6"-8" lifts with fertilizers added to enhance the natural bacterial population growth and enhance contaminant argradation. The "bio-cell" was active for 8 months until TPH levels dropped from the highest level of 2,000ppm to all areas less than 100ppm. This on-site treatment was extremely cost effective and minimized future on-site liability.

Project Manager, Railroad Facility, Buffalo NY, September '88. Managed the remediation of soil after 30 PCB transformers were cut

from standing poles and vandalized. Over 1,500 gallons of PCB oil was spilled in different areas of the yard. A ten man crew was mobilized to drain and package all transformers. All PCB transformers were properly wrapped and sent for disposal. An excavation crew then removed and containerized all stained soil in rolloff boxes. A sampling crew then performed confirmatory sampling for PCB. A final report was written and submitted to the state to include a work plan summary and sample results to finalize a clean closure.

References

Gary Moulder
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SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name And Title:
Bruce G. Mack
Manager, Technical Services
Years of Experience: 13
Active Registration
Registered Professional Geologist;
AK, IA, IN, KY, TN
Certified Hazardous Materials Manager

Education: Degree(s)/Specialization/Year:
B.S., Geology, 1985
Health and Safety Training:
40 Hour OSHA 29 CFR 1910.120
8 Hour OSHA Annual Refresher
8 Hour OSHA Manager Training
First Aid and CPR Training

Experience and Qualifications

Mr. Mack is responsible for coordinating all technical aspects and on site activities with respect to design and implementation of remedial measures, permitting, site assessments and closures. He provides supervision of Riedel's Technical Services Department, which is comprised of geologists, hydrologists, and engineers.

Mr. Mack's experience includes work on remedial investigation/feasibility studies, underground storage tank management, in addition to RCRA facility permitting, design and closure. He also has experience with site remediation, groundwater modeling, and aquifer testing.

Specific remediation experience includes soil vapor extraction and both ex-situ and in-situ bioremediation, In addition, Mr. Mack has experience with design and implementation of soil vapor and dual extraction systems in addition to pump and treat systems. He has worked on projects involving RCRA, CERCLA and other regulatory programs and has extensive experience in interacting with regulatory agencies.

He has also provided expert testimony in cases involving groundwater impact and litigation. In addition to his technical

background, Mr. Mack has experience in staff and project management, subcontracting and specification/contract preparation. He has several years of practical experience drilling supply and groundwater monitoring wells, and geo-technical boreholes.

Manager, Technical Services Riedel Environmental Services, Inc., Bensenville, Illinois, March 1990 - Present. Duties include remedial design, field operations and management of RCRA, CERCLA, and LUST remedial projects. Projects include design and installation of soil vapor extraction systems, landfill caps and groundwater recovery systems.

Project Hydrogeologist, Baxter & Woodman, Inc., Crystal Lake, Illinois. October 1986 - March 1990. Designed, supervised and conducted hydrogeologic, hazardous materials and geo-technical investigations. Projects included RCRA permitting, remedial investigation/feasibility studies, groundwater resource and contamination studies, site assessments and well designs ranging from monitoring wells to municipal-industrial high capacity water supply wells.

Staff Hydrogeologist, Ecology & Environment, Inc., Chicago, Illinois, August 1985 - October 1986. Conducted and supervised groundwater contamination-hazardous waste site investigations for the REM/FIT portion of the USEPA CERCLA program.

Hydrogeological Research Associate, Argonne National Laboratory, Argonne, Illinois, January 1985 - August 1985. Reviewed,

assured compliance and summarized . Hydrogeological field data for proposed high level nuclear waste repository site. Developed a ranking system for comparison of dissimilar Hydrogeological regimes.

Driller, Assistant Driller, Resident Project Representative, SMC Inc., Arlington Heights, Illinois, June 1981 - September 1984. Drilled wells, boreholes, sampled and tested soils, inspected and managed construction activities.

Driller and Assistant Driller, George Mack Pump Services, Inc., Ingleside, Illinois, June 1976 - June 1981. Installed and contracted water wells and water systems. Contracted construction services.

Key Projects

Senior Project Manager, US Air Force, Chanute, IL; September 1994 - Present. Responsible for project management for this remediation design/build AFCEE remediation contract. Responsibilities include oversight of remedial design/implementation specifying equipment for installation of 2 soil vapor extraction systems and a 3 acre landfill cap. Serves, as the liaison for Riedel's teaming partner on the contract, an Engineering Consultant. Provides oversite for all phases of remedial construction, including proposal preparation, installation and maintenance of the system(s).

Senior Project Manager, Confidential Client, Harwood Heights, IL; September 1994 - March 1995. Provided project management for the design, implementation and maintenance of a soil vapor extraction system installed at an existing manufacturing facility. Duties included specifying equipment, and coordination of on-site activities.

Senior Project Manager, Confidential Client, Chicago, IL; September, 1993-present. Responsible for overall project management for removal and closure of a 30,000 gallon underground storage tank. Duties included design and implementation of closure plan under Illinois Administrative Code 35, Title 16. Provided regulatory liaison with both City and State officials to attain clean closure.

Design Coordinator, Missouri Department of Natural Resources, Blue Harbor Marina Groundwater Remediation, January 1991 - Present. Designed, planned and specified equipment for remediation of contaminated karstic supply aquifer. Completed design documents, schedules and coordinated all phases of design and specification for the first federally funded UST groundwater remediation in the state of Missouri.

Project Manager, Confidential Client, East Chicago, IN, March 1992- April 1993. Provided project management for the design, implementation and maintenance of dual extraction system at a bulk storage tank facility. Duties included specifying equipment and conducting and carrying out a feasibility study. Following feasibility study, provided oversight on installation and maintenance of the system.

Project Manager, Paint Manufacturer, Chicago, Illinois, August 1990 - Present. Currently managing, planning and conducting a remedial investigation of a paint manufacturing facility which had stored hazardous wastes in several areas. Investigation includes; compilation of a workplan, regulatory negotiations, soil/water sampling, remedial design and submission of final report of investigation.

Project Manager, Confidential Client, Southern, IL; June 1990-1992. Responsible for planning and specifying equipment utilized for installation of both a leachate collection system and cap at a hazardous waste landfill in downstate Illinois. Completed design documents, schedules and coordinated all phases of on-site activities. Developed workplan and soil/groundwater sampling plans.

Project Hydrogeologist, Municipal Water Supply Contamination Litigation, June 1987 - July 1989. Reviewed records, findings and plans pertaining to an operating commercial facility, on behalf of a municipality with a contaminated water source. Presented findings and recommendations, along with cost estimates to remediate contamination. Provided expert testimony regarding findings and costs.

Project Manager, Light Manufacturing Facility, Southwestern Illinois, February 1987 - November 1989. Supervised and conducted investigation of contaminated soils and groundwater at a former RCRA waste storage area. Designed site remediation, prepared regulatory reports and negotiated disposal requirements for contaminated materials.

Project Manager, Light Manufacturer, Western Illinois, July 1988. Conducted site investigation and remediation of a PCB contaminated waste storage area in support of a RCRA closure request. Conducted regulatory negotiations for cleanup goals and future site status. Designed and supervised soil and groundwater remediation resulting in a clean closure site status.

industrial landfill. Duties included: preparing specifications for and management of, the geo-technical investigation, preparation of the groundwater monitoring plan, and all geological/hydrogeological interpretations for the design and permit. Field work included construction of a large number of boreholes and piezometer and a geological/topographical survey of the site.

Project Manager, Abandoned Circuit Board Manufacturing Plant, June 1987. Western Illinois Managed investigation of 15 acre site including records audit, soil and waste sampling, soil gas surveys, and construction of more than 20 boreholes. Coordinated regulatory negotiation and reporting. Worked with former site owner's representatives to

Assistant Project Manager, Electronics Manufacturer, Chicago, Illinois, June 1988 - September 1988. Assistant Project Manager for assessment and remediation of a RCRA storage area. Project involved soil and groundwater testing, and design of remediation. Managed site activities, subcontractors and laboratory services. More than 5300 cubic yards of soil were removed, using six different subcontractors for different remediation tasks.

Project Manager, Heavy Equipment Manufacturer, Northeastern Illinois, July - November 1988. Supervised and conducted soil and groundwater contamination investigation at RCRA regulated facility. Site work included soil and waste sampling at over 100 locations, installation of monitoring wells and construction of boreholes. The project also included investigation and cleaning of a 10,000 gallon underground storage tank and surrounding soils contaminated with over 30 years accumulation of an unknown number of wastes.

Project Hydrogeologist, Foundry, South Central Illinois, October 1989 - June 1987. Conducted Hydrogeological and geological evaluation for design of 60 acre successfully establish a cost sharing agreement for remediation.

Project Manager, Manufacturer, Western Illinois, June 1987. Designed, supervised and wrote specifications for testing, removal and remediation of an underground storage tank farm. Designed and recommended upgrades for UST's not removed. Conducted ongoing groundwater testing and remediation. Wrote protocols for future underground storage tank management.

Project Hydrogeologist, Municipal Well Field Contamination, Northwestern Illinois, January 1987 - November 1988. Project Hydrogeologist for an investigation to identify the extent and nature of chlorinated solvent contamination of a municipal well field. Designed and supervised installation of monitoring wells and aquifer testing. Presented remediation recommendations and cost projections to the municipality.

Staff Hydrogeologist, Abandoned Landfill, Minneapolis, Minnesota, February 1986 - July 1986. Supervised installation and conducted sampling of over 50 groundwater monitoring wells. Compiled a report on groundwater conditions and impact for purposes of inclusion on the USEPA, CERCLA National Priorities list.

Project Hydrogeologist, Municipal Groundwater Supply Contamination, Northern Illinois October 1986 - June 1989. Project Hydrogeologist for groundwater contamination investigation to identify the source of trichlorethylene contamination of a local water supply aquifer. Designed specialized monitoring wells and wrote specifications for subcontractors for installation of wells. Coordinated activities with municipality and acted as interface between the municipality and local business suspected of being the contamination source. Conducted ongoing testing of aquifer and presented recommendation to the municipality.

Staff Hydrogeologist, Various Locations in USEPA Region V, August 1985 - October 1986. Conducted inspections of over 50 locations to determine if each location was a candidate for further investigation under the CERCLA (Superfund) Program. Sampled soils, surface and groundwater, and conducted records searches as a part of this inspection program.

References:

Patrick Dowd, PE,
CHMM AT & T Laboratories
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(708) 979-4649

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Safety Director
Pioneer Paint Products, Inc.
Melrose Park, Illinois
(708) 398-8400

Steven Nimbar
Public Works Director
Huntley, Illinois
(708) 660-1143

SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title
Mark O. Parquette
Project Manager/Project Chemist
Total Years Experience: 9
Registration and Certification
National Safety Institute Forklift Instructor
National Fire Code Institute UST
Decommissioned
Master Level
Certified Hazardous Materials Manager
Other related course work:
Remediation Services Project Management

Education: Degree(s)/Specialization/Year
BS, Northern Illinois University
Natural Environmental Systems, 1985
Health & Safety Training
40 Hour OSHA 29 CFR 1910.120, 3/91
8 Hour OSHA Annual Refresher, 2/87,
3/88, 2/89, 8/90, 10/91, 9/92, 7/93, 11/94
First Aid and CPR Training, 8/91, 7/93
Confined Space, 2/91, 3/94
24 Hour OSHA Emergency Response, 3/91
DOT HM - 181/HM-126 Training, 7/93
Hazardous Waste Driver Training, 10/89, 2/93
Hazardous Categorization Training, 8/89
Hydroblast Training, 7/89
Supervisor Drug Education & Training, 11/93
Project Manager Training, 4/95

Experience and Qualifications

As a Project Manager for Smith Environmental Technologies Corporation's Chicago District office, Mr. Parquette's responsibilities include the management of various multi-disciplined crews, the allocation of resources, and the continual review of the schedules and cost projections for the project. Mr. Parquette also functions as a Senior Technical Resource Manager. Mr. Parquette's activities range from the site investigation, remediation feasibility studies, initial classification of the waste stream, the determination of clean up standards, chemical risk analysis, to coordinating the transportation and final disposal of the waste. During this process, Mr. Parquette works with the generator to evaluate the remedial strategies and the associated costs.

Mr. Parquette has over five years of experience as a Project Manager, and over four years experience as a Project Chemist. He was previously employed by Rollins Environmental Services and International Technology Corporations supervising DOD and DEA activities, and a large petrochemical project. Mr. Parquette also worked for a large west coast solvent recycler, Romic Environmental Technologies, approving waste streams and ensuring environmental compliance. In each position, Mr. Parquette performed numerous emergency response activities.

Key Projects

Project Manager, Illinois Environmental Protection Agency, Forest City, Illinois, December 1994 through July 1995. Mr. Parquette directly supervised and performed a geotechnical and chemical analytical study relating to a historic release from three underground storage tanks at an abandoned gasoline service station. Soil borings to a depth of fifteen feet were performed surrounding the former station and near all USTs and related product lines. Samples of the soil and groundwater were gathered and analyzed on site using two gas chromatographs for polynuclear aromatics, benzene, toluene, ethlybenezene, and xylene. The analytical results showed a large contaminant plume nearby the USTs and underneath the former building.

Mr. Parquette designed and estimated the remedial action plan for the site using the data

obtained in the remedial investigation. Upon approval of the plan and estimate, work commenced to remove the USTs, product lines, and a hydraulic lift. Mr. Parquette directly supervised a crew of two equipment operators and two technicians removing the three USTs, the hydraulic lift, and approximately 1,500 tons of soil. The site was backfilled with 1,200 tons of CA7 and compacted. The site was then restored to the surrounding conditions by placing 100 hundred tons of top soil on top of the backfill and seeded with grass seed.

Project Manager, The Dial Corporation, Montgomery, IL 9/94 to 2/95. Mr. Parquette permitted, mobilized, and conducted operations associated with cleaning and removal of a gasoline, and sulfuric acid tanks. He was also responsible for management of subsequent soils remediation. Mr. Parquette managed and directly supervised two multi-discipline crews of up to four technicians each conducting these project tasks. Approximately 1,500 cubic yards of gasoline and chlorinated solvent contaminated soil had to be excavated using extend-a-hoes, adhering to the current OSHA regulations for trenching and shoring. These soils were stockpiled near the excavation and profiled for disposal. Upon approval of the Illinois Green Sheet, the soils were loaded, transported, and disposed of at a nearby landfill. Continual air monitoring and soil sampling were run to confirm adherence to the IEPA and OSHA regulations. Mr. Parquette also prepared the twenty day, the forty five day, and the laboratory reports relating to the various hazardous materials substance release to the appropriate regulatory agencies.

Project Manager, Lakewood Engineering and Manufacturing, Chicago , IL, 8/94 to 9/94. Mr. Parquette conducted a remedial investigation at seven individual corporate facilities, focusing on potential for leaking underground storage tanks. The tanks contained either gasoline, toluene, xylene or fuel oil. Mr. Parquette measured and mapped each of the USTs location and orientation. He also sampled, profiled, and scheduled transportation and disposal for the various residual hazardous materials. Lastly, he prepared the plans and estimates for further geologic investigations.

Project Manager, Exxon Refinery, Benicia, CA, 7/93 to 5/94. Mr. Parquette managed and directly supervised the construction of two, back-up carbon filtration units, the daily operation of the four individual carbon filtration units, and the maintenance thereafter. These systems were installed to capture and render non-hazardous, all of the refinery's waste water treatment plant air emissions. Mr. Parquette directed a crew of six operators and technicians everyday of the week to perform carbon media replacement and to monitor filtered air emissions, ensuring Exxon's compliance to the NESHAP standards.

Project Manager, Hewlett Packard, Palo Alto, CA, 7/93 to 5/94. Mr. Parquette managed and directly supervised a crew of ten equipment operators and technicians for the installation, operation, and maintenance of six, 8,000 pound, high pressure, carbon filtration units. The system treated the discharge from numerous groundwater wells and a previously installed 300 cubic feet per minute soil vapor extraction system. Three units were used for the treatment of chlorinated solvent contaminated groundwater. The remaining three units were designed and used for the treatment of chlorinated solvents vapor collected from the soil vapor extraction system.

Technical Manager, Alaska Airlines, Seattle, WA, 12/92 to 3/93. Mr. Parquette assisted the Alaska Airlines Environmental Department staff in the preparation and presentation of the 40-hour hazardous waste operations training and 8-hour refresher courses. Mr. Parquette developed a corporate generic hazardous waste profile and disposal system for use at all Corporate locations. Mr. Parquette performed several facility investigations, concentrating on compliance for hazardous materials and hazardous waste storage. Mr. Parquette also managed two emergency responses for punctured or leaking 55 gallon drums of petroleum distillates and oil based products on concrete surfaces and surrounding soils.

Technical Manager, U.S. Coast Guard, Alaska Operations, 12/92 to 6/93. Mr. Parquette developed and directed implementation of the Alaska regional transportation and disposal plan

for the DOD contract. Implementation of the program included program distribution, training, and the supervision of three-two man repackaging crews that prepared hazardous materials for oceanic transportation and mainland disposal of hazardous waste.

Project Manager/Transportation/Disposal Coordinator, IT Corporation, Vine Hill Facility, Martinez, CA, 1/92 to 7/92. Mr. Parquette managed and directly supervised a multi-discipline, eight man crew, to conduct day to day operations at this interim status hazardous waste drum storage facility. Mr. Parquette directed drum sampling and hazardous categorization personnel, and supervised the repackaging/relabeling activities to comply with the final disposal facilities requirements. Mr. Parquette tracked all incoming and outgoing wastes; profiled and shipped hazardous waste to various EPA approved facilities. Mr. Parquette managed and directly supervised larger crews during the two emergency, 2000 drum storage permits, issued during the 1989 earthquake and the 1992 Berkeley fire and ensured compliance to these permits.

Emergency Response Manager, Caltrans, Central California District, 1/92 to 7/92. Mr. Parquette directly supervised an average of two (2) emergency response incidents a month. Mr. Parquette directed a crew of two to eight technicians to contain and cleanup semi-trailer fuel leaks from ruptured lines; or re-containerize, sample, HAZ-CAT, profile and transport abandoned material; or transfer hazardous materials from an over turned tanker truck into another tanker truck; or any number of other smaller emergencies. For each emergency response, Mr. Parquette would prepare a rough quote for Caltrans, order the proper equipment and materials for the cleanup, call in the response technicians, diagnose the situation on site, propose and direct the various containment and cleanup methods, prepare the waste profile(s), prepare the hazardous waste manifest(s), and obtain approval for the waste stream within 24 hours of the incident.

Remediation Manager, Alyeska Pipeline Services Company, Alaska (various sites), 10/89 to 1/92.
Mr. Parquette managed and directly supervised a crew of four to ten technicians performing various remedial activities. These activities ranged from conducting an inventory of all chemicals used at each of the eighteen company owned locations, to dewatering and solidifying the ballast water treatment sludge, via a filter press, to conducting laboratory packaging disposal and recycling programs, to performing emergency responses. The emergency response portion of the contract involved assistance in the collection, containerization, transportation, and disposal in all crude oil spills on land, or in the water. Mr. Parquette and his crew were on call 365 days a year for oil spill drills or actual spills. Two other non crude oil emergency responses occurred during the three year contract. A mercury spill Mr. Parquette's crew responded to, had mercury droplets spread over a twelve foot wide, fifty foot long, hallway and nearby lab. A drum spill occurred in the Alaskan tundra, 20 miles south of Prudhoe Bay. Twenty-two drums fell off of a truck and were rolling into the tundra being pushed by the forty mile an hour winds. Mr. Parquette, and crew, had to respond to this incident at temperatures sixty below zero, and wind chills at one hundred and twenty below zero.

Senior Chemist, American National Can, various locations, California 1/89 to 6/89. Mr. Parquette supervised a crew of two technicians performing hazardous categorization tests on hundreds of unknown materials. He used this information to consolidate waste streams for disposal for this clean up effort. Mr. Parquette also established 15 generic profiles to be used for all generator sites at a later date for various disposal facilities. Each profile optimized the best available disposal technology and limited the liability of the generator at the least cost.

Government Project Supervisor, Lockhead, Sunnyvale, CA, 7/88 to 12/88. Mr. Parquette managed and directly supervised a crew conducting all unknown identification, lab pack, and bulk quantity packaging and disposal programs. He directed a crew of eight team

members five days a week and performed eight emergency responses for paint, epoxies, and hardener releases at various facilities. The releases were all small, from one to ten gallons, and limited to inside the buildings. All releases were immediately contained by Lockhead personnel. Cleanup technologies, and processes were performed by Mr. Parquette and crew.

Government Project Supervisor, DOD, San Fransico Bay Area, CA, 6/87 to 7/88. Mr. Parquette managed and directly supervised eight to sixteen technicians and two foreman under the Defense, Reutilization, and Marketing Office contract for all of the Bay Areas Military facilities. This $2.2 million annual contract concentrated on sampling, analyzing, repackaging, profiling, transporting, and disposing of over seventy-five different waste streams. Each drum of waste was individually sampled and pre-screened to ensure acceptance of the waste profile protocol. Mr. Parquette and crew also excavated and stockpiled soil contaminated with jet fuel and chlorinated solvents from historical spills. Mr. Parquette then profiled the waste for disposal, and arranged the transportation. All loading operations were directly supervised by Mr. Parquette. Two emergency responses occurred during the contract. The first response was for a ruptured poly tank containing nitric acid. The second was for punctured paint drums. Both clean up activities were directed by Mr. Parquette.

roject Chemist, GM Technical Center, Southfield, MI, 12/85 to 5/87. Mr. Parquette performed hazardous categorization test on thousands of unknown chemicals and performed laboratory packaging services each quarter. He also sampled and tested numerous 55 gallon drums containing paint related material for conformance with the waste profiles. Mr. Parquette profiled and arranged transportation of the waste material to a company owned incinerator.

Project Chemist, Proctor and Gamble, Cincinnati, OH, 12/85 to 5/87. Mr. Parquette performed laboratory packaging services, profiled, and arranged transportation of wasted every quarter, for all types of waste streams, for an incineration company.

Project Chemist, IBM, White Plains, New York, 4/86 to 4/87. Mr. Parquette established a turn key service for all chemical waste disposal at six locations in New York. Mr. Parquette assisted in the design of a computer tracking system for the waste at IBM's research and development laboratories. He helped design the waste control service program in use today by IBM.

References

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SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title:
Allen H. Franc, ASP
Health & Safety Manager/Industrial Hygienist
Years of Experience: 6
Registration and Certification:
Associates Safety Professional
Certification #A6874, 1994

Education: Degrees(s)/Specialization/Year:
B.S. Environmental Health, 1989
Health and Safety Training
40 Hour OSHA 29 CFR 1910.120, 10/89
8 Hour OSHA Annual Refresher, 12/94
First Aid and CPR Training, 11/93
Confined Space, 6/89, 1/93
Trenching & Excavation, 6/89
8 Hour Supervisors Training 7/94

Experience and Qualifications

As a health and safety professional for six years, Mr. Franc has direct relevant experience in the development and implementation of site-specific health and safety plans in accordance with OSHA regulations, the activation of hazardous communications programs, maintenance of air sampling equipment, investigation of accidents and enforcement of comprehensive health and safety programs. Mr. Franc serves as a site health and safety officer on hazardous waste sites with responsibilities for heat stress monitoring. Mr. Franc develops contingency health and safety plans and performs industrial hygiene audits on hazardous waste sites including air, illumination and noise surveys. He has developed health and safety standard operating procedures.

Mr. Franc joined Smith Environmental Technologies Corporation Chicago, Illinois office in November 1993 as a Health and Safety Manager. In this capacity, Mr. Franc's responsibilities include the development and implementation of site-specific health and safety plans, development of standard operating procedures, enforcement of hazardous communication programs, the maintenance of air sampling equipment, conducting accident investigations, and performance of medical surveillance actions. As on-site health and safety Manager, he supervises heat stress monitoring, conducts personal air monitoring, directs daily tool box safety meetings to discuss health and safety issues, and performs industrial hygiene audits on hazardous waste sites including air, illumination and noise surveys.

As Health and Safety Coordinator a Chicago Remediation Firm from 1992 to 1993, Mr. Franc performed air monitoring and health audits for hazardous waste sites, developed the corporate health and safety procedural manual, and prepared site-specific health and safety plans. Mr. Franc acted as Health and Safety Officer from 1989 to 1992 at a Midwest remediation firm. In this capacity, he developed health and safety plans, performed air monitoring and conducted site audits for clients in the public and private sectors.

Key Projects

Site Safety Officer, U.S. EPA Region V, Standard Scrap, Chicago, Illinois, Nov. 94 - June 95. Mr. Franc developed and implemented the site health and safety plan for all site activities. The Standard Scrap site was an active recycling facility for metals. During operation, excessive contamination of lead and PCBs were found in the soil and on building interior structures. Smith Environmental was responsible for the excavation and decontamination of contaminated material. Mr. Franc conducted air monitoring for lead and PCBs to comply with OSHA regulations. He also consistently updated the site-specific health and safety plan by writing amendments for operations added to the scope of work. Several site audits for health and safety

were conducted by Mr. Franc to assure health and safety compliance.

Site Safety Officer, U.S. EPA Region V, Harrison Sheet Steel, Chicago, Illinois, Feb. - June 1995. Mr. Franc assisted in the development and implementation of the health and safety plan. Site activities included structural demolition, drum handling and sampling, debris screening, and material bulking. Mr. Franc conducted personal air monitoring for lead to assure exposure below permissible exposure limit (PEL) and conducted several site audits to assure health and safety compliance. Mr. Franc developed a site specific demolition SOP and maintained the health and safety plan by completing amendments for additional work added to the project.

Project Manger/Safety Officer, Waxler Towing/Mobil Oil, Mobil Oil Joliet Refinery, Illinois, March 1995. Mr. Franc was responsible for responding to a diesel oil spill in the DesPlaines River. It was estimated that 200 gallons of oil was released into the river. Mr. Franc and a Smith Environmental crew responded and recovered 85% of the spilled material. Activities included deploying boom and "sweeping" the affected area with boom to recover the product by the use of vacuum trucks.

Project Manager/Industrial Hygienist, Philip I. Mappa Interests, DesPlaines, Illinois, March 1995. Mr. Franc was responsible for responding to a Hydroquinone spill in the interior of an office building. Mr. Franc performed indoor air quality monitoring and assessed the ventilation system to determine the spread of contamination. In coordination with the building engineer, Mr. Franc contained the contamination to a one floor area out of a 20 floor building. The crew activities consisted of demolition of drywall and ceiling material for disposal. Mr. Franc performed air quality monitoring to ensure the building's safety for its employees.

Site Safety Officer, Jackson Drop Forge, Jackson, Michigan, June 1994. Mr. Franc developed and implemented health and safety plan for site activities including sampling, overpacking and staging of 500 drums, excavation of 1,000 semi-buried drums for disposal, removal of 4 USTs, and trenching 20-foot deep test pits for site investigation purposes. He performed air monitoring and heat stress monitoring for site employees. He conducted safety audits of site activities.

Site Safety Officer, U.S. EPA Region V, CJR Processing, DesPlaines, Illinois, April 1994. Mr. Franc assisted in development of the health and safety plan for site demolition activities. The scope of work consisted of drum sampling and handling, tank cleaning and removal, building demolition, and water treatment. He conducted air monitoring on-site and coordinated with EPA regarding health and safety issues. He conducted site audits as needed.

Site Safety Officer, U.S. EPA Region V, Moline Corporation, Moline, Illinois, January 1994. Mr. Franc wrote and implemented health and safety plan for drum removal activities in an abandoned warehouse facility. He also wrote amendments to the health and safety plan for additional site activities and conducted on-site audits of work in progress.

Health and Safety Officer, Clark Marketing and Refining, Gasoline Spill, St. Louis, Missouri, January 1994. Mr. Franc implemented the health and safety plan and performed LEL and organic vapor air monitoring for a 150,000-gallon gasoline spill on the Mississippi River. Crew size reached 30 personnel in which Mr. Franc was responsible for assuring that proper PPE was being utilized and all necessary safety procedures were implemented.

Health and Safety Officer, Park Ridge Fire Department, Hydrochloric Acid Emergency Response, Park Ridge, Illinois, December 1993. Mr. Franc managed cleanup procedures for an overturned truck containing battery acid. The acid spill resulted in the closure of a major intersection. Mr. Franc coordinated the cleanup to reopen the intersection prior to the onset of rush hour traffic.

Health and Safety Officer, Keil Chemical, PCB Line Flushing, East Chicago, Indiana, January 1993. Mr. Franc developed and

implemented the site-specific health and safety plan for this project to clean overhead PCB oil lines. Specific hazards on site were hot steam pipes in the vicinity of pipes to be cleaned. He also performed safety audits during the course of the project.

Health and Safety Officer, Ashland Chemical, Solvent Line Flushing, St. Louis, Missouri, February 1993. Mr. Franc developed and implemented the health and safety plan for flushing and removal of 2,000 linear feet of flammable solvent piping. He performed air monitoring throughout the project for organic vapors and concentration of LEL.

Health and Safety Officer, AT&T Bell Labs, Plating Lab Project, Naperville, Illinois, April 1992. Mr. Franc developed the health and safety plan and performed several safety audits of the project. He performed acid wipe sampling on plating equipment.

Health and Safety Officer/Project Manager, Ashland Chemical, Aboveground Storage Tank Cleaning, Lemont, Illinois, August 1992. Mr. Franc Prepared and implemented the site health and safety plan and supervised site activities including confined space entry for cleaning several aboveground storage tanks.

Health and Safety Officer, Ashland Chemical, Toluene Spill Response, Willow Springs, Illinois, 1992. Mr. Franc prepared the site-specific health and safety plan and performed atmospheric and personal air monitoring for toluene. The spill consisted of 2,000 gallons of toluene being released into the storm sewer. The spill was contained on site and prevented from being released into the waterway.

Health and Safety Officer/Project Manager, GE Plastics, Contaminated Soil Excavation, Marseilles, June 1992. Mr. Franc prepared and implemented the site health and safety plan for excavation and disposal of over 30,000 cubic yards of contaminated soils. Contamination consisted of solvent and petroleum products from the fire training location. He supervised proper benching and sloping procedures during excavation efforts.

***Health and Safety Officer, Tandy Corp., Cyanide Sewer Spill Response, Burlington, Iowa,* March 1992.** Mr. Franc prepared and implemented the site health and safety plan, conducted HCN and air monitoring and supervised confined space entry procedures. One mile of sewer tile was cleaned and flushed to eliminate the cyanide/metal contamination.

Site Safety Officer, EPA Region V, JK Drum Project, Wisconsin, January - March 1991. Mr. Franc performed a health and safety audit during drum sampling and staging procedures. Approximately 2,000 drums containing unknown materials were on site. Mr. Franc conducted air monitoring, inspected drums for stability and overpack integrity. He also performed cold stress monitoring.

Health and Safety Officer, Alcoa, Tank Removal Project, Davenport, Iowa, July 1991. Mr. Franc prepared and implemented the site safety plan and performed safety audits and heat stress monitoring, and supervised benching/sloping and shoring procedures for activities which included the removal of four - 20,000 gal USTs and six - 10,000 gal USTs containing gasoline, diesel, and vinyl chloride.

Health and Safety Officer, U.S. EPA Region V, Burgess Battery Project, Freeport, Illinois, September 1990 - January 1991. Mr. Franc assisted in the preparation of the health and safety plan. He also performed safety audits, heat stress monitoring and air sampling during drum staging, sampling and disposal activities. The Burgess Battery site was an old abandoned battery facility containing unknown drums and containers including picric acid. Material was sampled, bulked and disposed.

Health and Safety Officer, U.S. EPA Region V, Lee's Farm Project, Western Wisconsin, November 1990. Mr. Franc conducted a site health and safety audit and performed personal air sampling for lead during lead fixation activities. Mr. Franc also managed the medical surveillance program for lead for all site personnel.

Project Manager, Indoor Air Quality Survey, Chicago, Illinois, September 1990. Mr. Franc performed air monitoring and assess the HVAC system to determine the quality of indoor ambient air.

References

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Charles Gebien
On-Scene Coordinator
U.S. EPA Region V
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SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title
Sheila Reilly
Staff Engineer
Years of Experience: 2
Registration and Certification
Engineer-in-Training License #061-024308, IL, 10/92

Education: Degree(s)/Specialization/Year
B.S./Environmental Engineering/1992
A.S./Electrical Engineering/1989
Health and Safety Training
40 - Hour OSHA 29 CFR 1910.120, 8/93
First Aid, 8/93
8 - Hour OSHA Annual Refresher, 10/94
DOT HM 181-126F Training

Experience and Qualifications

Ms. Reilly currently serves as Transportation and Disposal Coordinator for all emergency response and industrial run off waste streams generated from Smith Environmental commercial remediation projects. As such, she is responsible for providing guidance to the Project Management staff to ensure samples are properly analyzed for the required disposal parameters. Ms. Reilly is also responsible for selection of off-site disposal facilities and the transport of said materials. She is responsible for preparation of all applicable paperwork, including chain-of-custody, profile sheets, manifests, and labels. She petitions numerous firms for pricing for lab analysis, transportation and disposal in order to develop the most cost-competitive disposal routes possible. Additionally, she schedules shipments of waste for off-site disposal and tracks waste transport vehicles on-site at the time of pick up.

Ms. Reilly initiated, organized and presented the transportation and disposal sequence into a flow chart environment. She developed the Transportation and Disposal Request Form and Transportation and Disposal log for tracking the various waste streams generated. The Transportation and Disposal log is updated and distributed weekly. At any one time, Ms. Reilly manages up to 25 different disposal projects.

Ms. Reilly joined Smith Environmental in August 1993 as a Chemist and Environmental Scientist. Her responsibilities in this capacity include sampling, performing hazardous material characterization and staging compatible materials for both on-site hazardous materials remediation and off-site hazardous materials transportation and disposal.

Over the duration of her relationship with Smith Environmental, Ms. Reilly has gained experience in project management including proposal writing, budgeting, supervising technicians and acting technical liaison between consultants, subcontractors and clients. She has training in water and soil quality control processes, the effect of toxic substances on the environment and liquid and solid waste management. Her experience has elaborated on the importance of regulations and permits, as well as the applications of various processes. She has been involved in hazardous remediation projects exposing her to RCRA, CERCLA, TSCA and other hazardous materials regulations and permitting requirements. Additionally, she has experience writing EPA LUST reports following proper 35 Illinois

Administrative Code and Title 16 requirements.

Key Projects

Transportation & Disposal Coordinator, LTV Steel Co., East Chicago, Indiana, September 1994 - December 1994. As Transportation and Disposal Coordinator, Ms. Reilly was responsible for coordination of off-site disposal of over thirty (30) drums of chrome contaminated solids and debris. The waste streams were generated in conjunction with structural decontamination of a chrome finishing line. Ms. Reilly

Project Chemist, Transportation & Disposal Coordinator, Field Accountant, IEPA; Hoyne Avenue, Chicago, IL, February 1994 - March 1994. Ms. Reilly functioned as Project Chemist and Transportation & Disposal Coordinator at an abandoned chemical recycling facility located in Chicago, IL. Her responsibilities included the sampling and hazard characterization of over 400 containers of miscellaneous wastes. Waste streams included flammable, combustible, corrosive and lead contaminated liquid waste predominately. At the conclusion of the remediation she functioned as field accountant, finalizing the client's invoice for services rendered throughout the duration of the project.

Staff Engineer, Field Accountant, H&H, USEPA Region V, Gary IN, Jan. 1994 - May 1994. Ms. Reilly researched PCB biodegradation processes and then later on in the project served as field accountant on site at a PCB contaminated auto fluff and debris stock pile of approximately ???,000 tons of material. Ms. Reilly was responsible for tracking personnel, equipment, supplies and assisted Project Management staff with waste sampling and characterization. She was responsible for all paperwork, including profile sheets, manifests, land ban certification, and labels, required for off-site disposal.

Project Chemist, Illinois EPA, Daly Drum, Rockford, IL, June 1994-Sept. 1994. As Project chemist, Ms. Reilly was responsible for sampling of wastes located at this former drum reconditioning facility. Duties included the sampling of over-packed drums, ranging from oils to
Cyanide laden waste, acids and metals contaminated sludge liquid streams. subcontractor hours, use and invoice accounting.

Staff Engineer, Children's Memorial Hospital, Chicago IL, Jan. 1994 - Feb. 1994. As Staff Engineer, Ms. Reilly performed the Site Classification sampling and prepared the required EPA reports for the site closure of a 20,000 gallon underground storage tank removal in the basement of the building. Additional to the tank pull and excavation of surrounding soils, Smith Environmental was responsible for any and all closure activities including filing for necessary permits, and all EPA reports. Smith Environmental mobilized a drill rig to the site to obtain a soil boring to a depth of 61 feet. Ms. Reilly performed the sampling and characterization of the subsurface with the assistance of the drill rig and its operators. A split spoon sample was taken and submitted for the appropriate analyses to attain clean closure. Ms. Reilly completed the 20 Day, 45 Day, Site Classification Work Plan and Site Classification Completion Reports, under the direction of a licensed Professional Engineer.

Field Accountant, Wisconsin Power & Light, Portage WI, Oct. 1993 - Dec. 1993 Ms. Reilly served as Field Engineer who's responsibilities included site preparation and mobilization, truck tracking, and personnel, equipment and supplies accounting at a former manufactured gas plant and storage facility. The project consisted of excavating and removing a concrete coal tar separator and any surrounding contaminated soil and a gas holder vault. Excavation, screening, sizing and stock piling of over 3500 tons of coal tar contaminated soil and debris were transported and disposed of at a cement kiln and asphalt plant. Additionally, pre-treatment through a granular carbon absorption system and the aid of a flocculate additive made it possible to discharge approximately 30,000 gallons of organic contaminated water into the POTW with all applicable permits in place.

Project Chemist, Missouri Flood, USEPA Region V, Kansas City Missouri, Aug. 1993 - Oct. 1993. Ms. Reilly joined Smith Environmental as Project Chemist responsible for sampling and analyzing waste materials gathered from various disaster areas stemming from the destruction of the 1993 Missouri Flood. Drums of varying sizes were floating in the river, wedged in trees and homes, banked in various ditches and farm land for miles following the river banks of the Missouri river from Hannibal, Illinois to Kansas City, Missouri. Drums originated from various surrounding industries, farmers, local community services and companies, as well as residential areas. Ms. Reilly managed 2-5 technicians to obtain proper identification of samples and staging of compatible waste streams. She supervised on-site neutralization and stabilization of drum waste and organized data into a manageable form for over 2000 drums.

References

James V. Carnahan
Assistant Professor
Department of General Engineering
University of Illinois-Urbana-Champaign
117 Transportation Building
104 S. Mathews Avenue
Urbana, IL 61801
(217) 333-9623

S. Daniel Thompson
Assistant Professor
Department of General Engineering
University of Illinois-Urbana-Champaign
117 Transportation Building
104 S. Mathews Avenue
Urbana, IL 61801
(217) 333-2457

SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title:
Michelle R. Cullerton
Field Engineer
Years of Experience: 1
Health and Safety Training:
40-Hour OSHA, 29 CFR 1910.120

Education:
Degree(s)/Specialization/Year:
B.S. Environmental Science, 1995
Minor: Chemistry
Transfer Scholarship, Dean's List
Associate of Science Biology, 1993

Experience

Site Supervisor, FC&S Management UST Demolition, Chicago, IL, June 1995. Acted as site supervisor and subcontractor coordinator for this UST demolition project in downtown Chicago. A 10,000 gallon steel UST was located in a sub-basement of a building with extremely limited access. The tank, previously cleaned by Smith Environmental, was cut into small sections and removed via a manway in the alley behind the building. Ms. Cullerton supervised onsite operations and assisted the Project Manager in preparation of a final invoice for the client.

Field Engineer, MagnaFlux Soil Vapor Extraction System Installation, Harwood Hgts., IL, December 1994 - March 1995. Assisted Project Manager with invoice preparation including organization of invoices, accounts payable posting and purchase order preparation, and final invoice preparation and submittal to project consultant, Environmental Science & Engineering.

Environmental Scientist, CILCO, Peoria, IL, July 1994. Assisted Field Chemist with sampling of a PCB contaminated transformer pad. Collected concrete and surface soil samples with a concrete chisel. Followed proper chain-of-custody protocol. Submitted samples to an offsite laboratory for PCB analysis.

Field Chemist, Daly Drum Removal Project, Rockford, IL, June - August 1994. This drum removal project was contracted with the Illinois Environmental Protection Agency and eventually the United States Environmental Protection Agency. Ms. Cullerton's primary onsite duties included waste cataloguing, sampling, and performing hazardous categorization analyses. Onsite activities were performed in Levels B, C, and D personal protective gear. Management duties included report writing and invoice preparation for the Project Chemist.

Teaching Assistant, St. Norbert College De Pere, WI, 1994 - 1995. Ms. Cullerton was a biology teaching assistant for biology laboratory courses at St. Norbert College. She worked together with each course's professor to prepare and supervise laboratory classes. Ms. Cullerton provided tutoring assistance to students enrolled in laboratory courses.

Additional responsibilities included inventory and organization of the biology stock room.

Project Leader, St. Norbert College, De Pere, WI, 1995. Acted as a project leader for a group which assessed differences in nutrient contents of streams located in forested and deforested areas in Panama, Central America. Collected, organized, and analyzed data which was presented at the Wisconsin Academy of Sciences. Also, studied Panama's tropical rain forest, coral reefs, and Indian cultures.

Marketing Assistant, Lake Michigan Federation, Chicago, Illinois, 1992. Provided assistance through marketing information preparation and distribution. Additionally, provided computer assistance through data entry into a mainframe system.

References

Dr. James Hodgson
Chair of the Division of Natural Sciences
St. Norbert College
100 Grant Street
De Pere, WI 54115
414/337-1321

Dr. Phil Cochran
Associate Professor of Biology
St. Norbert College
100 Grant Street
De Pere, WI 54115
414/337-1321

David Klopotek
Professor of Chemistry
St. Norbert College
100 Grant Street
De Pere, WI 54114
414/337-1321

Lanny Moldofsky
USI Industries
Barrington, IL
708/381-1800

SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title
David Lambert
Project Foreman
Years of Experience: 7
Registration and Certification
Indiana and Wisconsin
Site Assessment and Removal/Closure

Education:
Morehead State University,
Morehead, Kentucky
Health and Safety Training
8 Hour OSHA Annual Refresher
8 Hour OSHA Manger Training
40hr., OSHA 29 CFR 1910.120
CPR and First Aid,
Site Safety Officer
Confined Space Instructor

Experience and Qualifications

As Project Foreman, Mr. Lambert's duties include the supervision of emergency response crews, soil and groundwater remediation projects, labpacking, structural decontamination, UST/AST closure and removal projects. He has extensive experience in specifying equipment for use in remediation projects ranging from structural decontamination to soil vapor extraction, in addition to dual extraction remedial systems.

Mr. Lambert has over 20 years' experience operating heavy equipment ranging from excavators to bulldozer to graders and scrapers. Additionally, he is experienced in the preparation and deployment of site specific health and safety plans.

Key Projects

Magnaflux, Harwood Heights, IL, September '94 - March '95. **Site Foreman.** Responsible for on-site supervision of field personnel for the installation of a soil vapor extraction system. Provided oversight and assisted with excavation, trenching and installation of 2,600 linear feet of HDPE piping. Coordinated on-site activities associated with construction of treatment facilities.

Confidential Client, Chicago, IL, May '94 - August '94. Site Foreman. Responsible for on-site management of personnel for the cleaning, cutting and demolition of three (3) 22,000 gallon above ground tanks. On-site duties included excavation of petroleum soils, coordination of field personnel for confined space entry, and oversight of disposal of waste streams.

Conestoga Rovers and Associates, Gary, IN, November '93- January '94. Site Foreman. Responsible for the on site coordination of field personnel for structural decontamination at a former chrome plating facility. On site activities included coordination of personnel for entry into confined space, cleaning activities, drilling and backfill operations.

Confidential Client, Chicago, IL January '91-January '93. Project Supervisor. Responsible for specifying equipment for dual extraction systems installed at various sites for this major petrochemical corporation. Duties also included oversight of field personnel for the installation and ongoing maintenance of the remediation systems.

Matsushita Electric Corp. June '91-Jan.'93. Project Supervisor Several Phases, UST

removal, soil remediation, coal tar solidification, tunnel decontamination, site investigation.

Midway Airlines Feb.'93. Project Supervisor UST closure in place.

ITT Bell and Gossett Jan.'93. Project Supervisor for Remediation and closure.

Wisconsin Central LTD. Nov.'92. Project Supervisor UST and AST cleaning, removal, and closure of more than twenty two (22) tanks throughout Wisconsin and Michigan.

Swift Adhesives May '92. Project Supervisor Remediation and closure.

Picatinny Arsenal (US ARMY) Feb.'91. Project Supervisor Removal and replacing two underground storage tanks.

Aberdeen Proving Grounds (US ARMY) May '91. Supervisor and operator. Underground storage tank removal.

E.I. Dupont Oct. '90. Project Supervisor soil remediation and disposal.

Proctor and Gamble Dec.'90. Project Manager, removal and disposal of PCB contaminated concrete.

AT&T Nov.'90. Project Manager, UST removal, permitting and disposal.

Wright College May '89. Project Supervisor and equipment operator Asbestos abatement in steam tunnels and soil remediation.

General Electric March '89. Project Supervisor, of water treatment. Responsible for set-up and operation of carbon treatment system for PCB contaminated waste water.

PPG Dec. '88. Operator, Five million gallon tank cleanout/solidification of sodium silica.

DOW Chemical July '88. Assistant Supervisor, decontamination and decommissioning of chlorobenzene tank.

Chevron Chemical May '88. Supervisor/Operator, contaminated soil remediation, scheduling, loading, and disposal.

U.S. EPA Superfund May '88. Assistant Supervisor/Heavy Equipment Operator, lagoon dredging/water treatment/solidification.

Allied Chemical Feb.'87. Foreman and Heavy Equipment Operator. Multi-lagoon closure/landfill cell construction, dewatering process. Mr. Lambert was directly responsible for operation of carbon treatment system, solidification, and filter press operation.

SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION

Name and Title:
Pete Younger
Project Foremen
Years of Experience: 13

Health and Safety Certification:
40 Hour OSHA 29 CFR 1910.120,
8 Hour OSHA Manager Training,
8 Hour OSHA Annual Refresher,
First Aid and CPR Training, 11/90

Experience and Qualifications

1988 - Present. As Project Foreman, Mr. Younger's duties have included work on Commonwealth Edison's 1988 and 1989 PCB Field Programs and Edison's 1988 Vault and substation PCB Cleanup Program. Mr. Younger has supervised response crews during the 1992 Chicago Flood, at which time RES was responsible for substation vault cleanup of over thirty sites.

Mr. Younger has experience with decontamination and industrial cleaning projects. These projects range from manhole and tank cleanup to structural decontamination of facilities. One such project entailed sampling, characterization and overpackaging of drums of acids many containing cyanides. In addition plating pits were structurally decontaminated.

Emergency response assignments have included underground transformer vault decontamination, level A response to removal of monomethyl amines drum. The transfer of benzene solution from a leaking rail tanker, cleanup of sulfuric acid and sodium hydroxide intermediates.

Experienced in sampling protocol as detailed in the EPA publication SW-846: including sample collection and preservation.

Additional experience includes heavy equipment operation.

Riedel Chicago Employee Training List								
Name	Job Title	Social Sec #	40 Hr.	8 Hr. Ref.	8 Hr. Supv.	Physical	Fit Test	CPR/FA
Bell, Victor	E.R. Coord. Project Mgr.		11/20/92	4/10/95	12/28/87	1/04/95		5/13/94
Berry, Dana	Sales Rep.		N/A			10/07/91	N/A	
Buck, Maureen	Proposals		9/90	11/23/94		8/31/94	3/30/94	5/13/94
Bullock, Ed	Project Mgr.		11/18/88	1/09/95		9/12/94	10/14/94	
Byrne, Tom	Tech I-B		9/9/94	N/A		9/01/94	10/18/94	9/09/94
Cullerton, Michelle	Chemist		6/23/94	7/14/95		8/28/94	7/14/95	6/23/94
Davis, Ken	Tech I-A		1/8/93	12/30/94		2/01/95	12/30/94	1/04/93
Doran, Mike	Project Mgr.		3/91	3/31/95	3/27/91	3/30/95		
Douglas, Mark	T & D Ercs Project Mgr.		2/12/90	3/31/95	7/09/93	3/10/95	3/11/94	5/13/94
Eckberg, Tim	Tech I-A		1/29/93	11/23/94		2/03/95	1/24/95	
Everett, Sirvonzell	Tech I-A		2/19/93	12/30/94		2/02/95	1/24/95	
Franc, Allen	H & S Mgr.		10/30/89	12/30/94	7/20/94	1/09/95	11/30/93	11/23/93
Gackowski, Len	Project Mgr.		11/08/91	4/10/95		6/22/95	3/11/94	
Gillespie, Dennis	Tech II		5/27/88	10/26/94	10/12/89	1/17/95	10/26/94	7/06/93
Herbert, James	Tech I-B		10/13/94	N/A		10/07/94	10/13/94	10/14/94
Horne, Ken	Tech I-B		10/13/94	N/A		10/07/94	10/13/94	10/14/94
Jackson, Anthony.	Tech I-A		10/15/93	10/26/94		12/28/94	10/26/94	10/15/93
Kober, Andy	Tech II		6/23/89	1/09/95	1/09/95	8/12/94	1/09/95	9/27/93
Kober, Pete	Tech I-A		9/20/93	10/26/94		1/18/95	10/26/94	5/13/94
Koentop, Robert	Program Mgr Ercs.		5/08/87	3/31/95		4/28/94	1/17/95	
Kolanda, Dave	Tech I-B		9/09/94	N/A		8/18/94	9/14/94	9/09/94
Lambert, Dave	Foreman		2/23/90	1/09/95	1/11/91	1/19/95	11/23/94	5/13/94
Lewis, Lee	Tech I-A		2/19/93	3/31/95		2/22/95	3/11/94	7/17/93
Lewis, Reginald	Tech I-A		9/208/93	10/26/94		1/31/95	10/26/94	

Mack, Bruce	Tech Serv Mgr.		1/11/88	10/26/94	12/18/90	10/01/93		
Marshman, Ken	Warehouse		6/23/94	N/A		6/02/94	6/22/94	6/23/94
Marshman, Kurt	Warehouse		4/19/93	5/24/94		4/28/94	5/24/94	7/17/93
Medchuck, Paul	Tech 1-B		03/02/95			2/16/95	3/10/95	
Moore Terry	Tech I-B		5/20/94	7/14/95		5/24/95	7/14/95	5/20/94
Myers, Curtis	Tech I-B		10/13/94	N/A		10/05/94	10/13/94	10/14/94
Parquette, Mark	Project Mgr.		3/28/91	11/23/94	7/23/93	8/08/94	11/23/94	7/26/93
Paytosh, Joe	Tech I-A		1/08/93	12/30/94		2/17/94	1/18/95	7/17/93
Pietron, Ted	Tech I-A		6/08/90	11/23/94		1/13/95	11/23/94	7/17/93
Price, Tony	Dist. Mgr.		1983	12/30/94		2/09/95		
Reilly, Sheila	T&D Coord		8/07/93	10/26/94		1/20/95	10/26/94	8/07/93
Ritsema, Todd	T&D Coord Ercs.		12/13/91	3/31/95	11/11/92	10/05/93	7/16/93	5/13/94
Starks, Milton	Tech I-B		9/09/94	N/A		8/19/94	9/08/94	9/09/94
Thelan, James	Tech 1-B		03/02/95			2/10/95	3/24/95	
Ware, Charlie	Tech I-A		3/15/93	4/10/95		4/13/95	3/28/94	3/15/93
Wilson, Willie	Tech I-B		10/13/94	N/A		10/06/94	10/18/94	10/14/94
Younger, Pete	Foreman		4/21/89	10/26/94	10/12/89	1/30/95	10/26/94	7/06/93

Programs

"The job was completed on time, within budget and without any personal injury, but these bottom-line measurements do not reflect other perhaps more important efforts, such as good safety practices, well trained personnel and excellent housekeeping. Numerous innovative ideas and suggestions were made by the crew, making this difficult job almost easy."

George L. Howland
Project Administrator
International Paper

Quality Assurance/Quality Control Program

Quality Assurance/Quality Control is an integral program at Smith Environmental designed to ensure that all work activities are compliant with the program and project requirements of regulatory agencies and our clients. The Smith Environmental Quality Assurance/Quality Control Program is intended to be the primary guide to the integration of quality functions into all project organization activities. The program is applicable to all company personnel, direct suppliers, and subcontractors and is incorporated throughout the company.

Smith Environmental has established a company-wide Quality Assurance Program (QAP). This program identifies procedures which provide the controls and sound management practices necessary to execute contractual obligations. The QA/QC program plan is designed to use monitoring, audit, and surveillance functions as tools of management to ensure that all project organization functions are executed in a manner that will protect public health and safety, work toward the success of the project, and meet or exceed contract requirements.

The key to assuring compliance with this directive is the professional approach of utilizing the quality system in all areas of activity and generating a personal commitment on the part of all company personnel toward providing quality service.

The plan provides policy, guidance, and direction to our employees. Company policies, program-specific manuals, and standard operating procedures are developed. Item specific procedures, tracking and reporting procedures, checklists, inspection sheets, and other forms of task specific documentation are developed.

The QA/QC Program Plan reflects a major commitment to quality assurance and addresses:

- Provision for and scheduling of an independent review and audit of all technical products to assure that documentation provides accurate and acceptable responses.
- Coordination of quality assurance and quality control (QA/QC) procedures which provide a documentable, appropriate level of quality for environmental measurements.
- Coordination of QA/QC project plan development as an integral part of the work plan. Plans are designed to ensure the adequacy of the technical product as required by the client both to technical content and document control procedures that ensure its integrity.
- Development, implementation, and modification of standard operating procedures (SOPs).
- Identification of QA/QC deficiencies and coordination of expeditious resolutions.
- Assurance of systematic, timely revisions of QA/QC procedures as needed.
- Responsibility for documentation of all data collected, stored, reported, or used as scientifically valid, defensible, and of known, documented, precision, accuracy and origin, to ensure that data and/or information limitations are not exceeded in any use.

The QA/QC program is reviewed annually by senior management to assess the effectiveness of standard operating

procedures, identify recurring QA/QC problems, implement corrective action, and monitor the status of corrective actions in progress.

QA/QC Organization

The organization consists of a Corporate Quality Assurance Department (CQAD) whose staff is comprised of trained professionals with broad-scope capabilities. The CQAD reports directly to senior management within the organization and consists of a **QA/QC Manager, Alan Robinson**, and Regional QA/QC Managers. This assures that quality-affecting activities are reviewed impartially and that corrective actions are implemented and documented where appropriate.

The **QA/QC Manager** is responsible for development and maintenance of a comprehensive program. He/she audits and or reviews all work performed and issues recommendations concerning quality to technical staff and management.

Regional QA/QC Managers have the overall responsibility for the implementation of the QA/QC program at the regional level. They give guidance and structure to the overall program. They report through their respective regional manager for QA/QC activities.

Site Project Managers have the overall responsibility for the implementation of the QA/QC program plan at the project site. They are responsible for the audit and/or review of all work performed to ensure that all QA/QC program requirements are met.

Procedures/Audits

The CQAD develops field procedure manuals for hazardous waste work. The manuals are revised on a regular basis and cover project preparation, analytical, field quality assurance activities, field preparation operations, drilling operations, field sampling procedures, field analysis SOPs, field instrument maintenance/calibration procedures, and laboratory deliverables. The CQAD also assists the regions and districts with the development of programs. This assistance includes training, seminars, internal auditing activities (project, field and laboratory), internal or regional SOPs, new program QA/QC planning, and business development activities.

Standard operating procedures are prepared and in continual development and revision as a part of the program activities; they are dynamic and are developed and/or revised to meet changing requirements of the regulatory programs.

Routine audits of laboratory activities, field operations, field notes and documentation, and laboratory audits of subcontracted laboratories are conducted.

Data validation services are performed on numerous projects. Data deliverable packages are reviewed, in accordance with project requirements, using the following guidelines:

- "Laboratory data validation functional guidelines for evaluating organics analysis," U.S. EPA, February 1, 1988
- "National functional guidelines for organic data review," multi-media, multi-concentration (OLMO1.0) and low concentration water (OLMO1.0), U.S. EPA, December 1990, Rev. June 1991, draft
- "Laboratory data validation functional guidelines for evaluating inorganics analyses," U.S. EPA, June 13, 1988

Health And Safety Program

Smith Environmental's health and safety program is an aggressive, multi-faceted program. We consider the health, safety, and well-being of our employees to be of utmost importance and it is a company policy to provide a safe and healthy work environment. The prevention of occupational injuries and illnesses is a top priority in all phases of our operations.

Our program was developed to comply with the federal OSHA standards, 29 CFR 1910 and 1926, the U.S. Army Corps of Engineers' Safety and Health Requirements Manual and the U.S. Department of the Interior, Bureau of Reclamation's Construction Safety Standards. The overall program incorporates an organizational structure, requirements for site-specific work plans and safety plans, employee training, and medical surveillance. In addition, the program has more than forty standard operating procedures addressing issues of hazard communication, decontamination, respirators, personnel protective equipment (PPE), confined space entry, drum handling, accident prevention plans, incident reporting, fire prevention, and emergency action plans.

Our program is based upon the belief that occupational illnesses and injuries are preventable, and that it is a moral obligation and a sound business practice to identify and eliminate the cause of injuries and illnesses. This principle makes safety, industrial hygiene, and loss control the direct responsibility of all employees.

Our commitment to the health and safety of our employees includes:

- A leadership role by top management, including the assembly of a professional health and safety staff with extensive experience
- Documented health and safety programs, standard operating procedures, and site-specific project health and safety plans
- An in-house safety training program
- An upgraded inventory of state-of-the-art equipment for air sampling, environmental monitoring, and protection of personnel
- Thorough accident and injury investigations and reporting
- Comprehensive medical surveillance of all field personnel
- Safety awards issued for individuals, projects, and managerial personnel

Site Specific Plans

Site specific health and safety plans (SHSPs) are developed for each project location by a Certified Industrial Hygienist (CIH) and a site health and safety officer with input from the project manager. These plans are submitted to the client for review and approval prior to initiating on-site activities. SHSPs contain the project organization and assignment of safety responsibilities, work description, task specific hazard analyses and control measures, chemical and physical hazards present on-site, project related training, and medical monitoring. They also describe site zones, access control, task-specific safe work practices, respiratory and PPE requirements, air monitoring and sampling, decontamination, on-site emergency equipment, and contingency plans.

Training

We provide an initial 40 hour training class to all personnel prior to assignment to any field projects involving hazardous materials. The course is designed to meet the OSHA 29 CFR 1910.120 and the U.S. EPA Orders

1440.2 and 1440.3. Key elements of the class are the evaluation of chemical hazards; selection/maintenance and decontamination of protective clothing; respiratory protection; use and interpretation of results from air monitoring instrumentation; hazards and precautions necessary for working in hot or cold environments; safe working procedures for confined spaces; emergency responses/evacuations; explanation of applicable standard operating procedures; and how to interpret a site-specific safety and health plan. This classroom training is followed by three days of field experience under the direct supervision of a trained and experienced supervisor.

All on-site supervisors and managers receive an 8 hour specialized training which emphasizes regulatory compliance issues, implementation of health and safety plans, site management, accident prevention, and liability, legal, and insurance considerations.

All employees receive an annual 8 hour refresher course which is designed to reinforce and update current health and safety practices and requirements for personnel engaged in hazardous waste operations. The training includes regulatory review and updates, hazard recognition, respiratory protection, personal protective equipment, site controls, and work zones. Additionally all employees receive training in CPR and First Aid.

Our field staff receives ongoing specialized training in hazards that are unique to a job prior to the initiation of the project. Classes are site or hazard specific. Typical specialized training classes includes:

- Asbestos
- Handling medical waste
- Oil spill cleanup hazards
- Handling contaminated wildlife
- Low level radiation
- Explosives
- Fall protection
- Lead, dioxin, PCBs etc.
- Fire fighting techniques
- Special handling techniques for shock sensitive/compressed cylinders
- Confined space ventilation/entries

Medically Qualified Personnel

The Smith Environmental program includes pre-employment, annual, and employment termination medical exams for field hazardous waste and construction personnel. These exams result in selection of employees physically qualified to perform their assigned work. They focus on occupational health questionnaires, vital signs, vision, hearing, spirometry, blood chemistry, heavy metal screens, and specific tests of organs sensitive to various groups of hazardous chemicals. They also identify incipient health problems that may impact individual safety and project assignments.

Smith Environmental has a well-established drug and alcohol screening program to assure a drug and alcohol-free work force. Pre-employment, annual, random, and for-cause screening are performed.

Health and Safety Organization

The Smith Environmental **Director of Health and Safety, Cheryl Grede, CIH,** is responsible for developing, implementing, and enforcing the overall health and safety policies and procedures. The Director reports directly to the Vice President of Administation. The staff includes board certified industrial hygienists (CIH), safety professionals (CSP), and site health and safety officers.

Company **CIHs** are responsible for implementation and oversight of the project site specific health and safety plans. They perform periodic audits of safety compliance on-site. Audit results and any corrective actions are discussed with the project manager and are documented in the project files.

The **Site Health and Safety Officer** assigned to a project, presents daily safety meetings, performs air monitoring and sampling, maintains on-site safety supplies and emergency equipment, and verifies daily compliance with the site specific health and safety plan. They have the authority to immediately notify management of unsafe conditions identified on-site and have the ability to stop all work on site until the issues are resolved. They also participate in implementing corrective actions.

Operational Requirements

"[You] showed intensive professionalism in developing our storm water prevention plan ... you are head and shoulders above the crowd."

B. J. Hall
Executive Director
Mississippi Auto
Salvage Association

Insurance / Bonding / Licenses and Permits

Insurance

Smith Environmental Technologies Corporation (Smith Environmental), and its operating and non-operating wholly owned subsidiaries -- BCM Engineers Inc. and Riedel Environmental Services Inc., maintain outstanding insurance coverages for the protection of itself and its clients in the performance of any of its services. The quality of the insurance companies that Smith Environmental avails itself of and the outstanding limits that Smith Environmental maintains are assurance to our clients of the strength of Smith Environmental's insurance program for their benefit. A summary of our coverages is listed below.

TYPE OF POLICY	LIMITS OF LIABILITY	DESCRIPTION
RELIANCE NATIONAL INDEMNITY CO.		
Worker's Compensation **Employers' Liability**	Statutory **$2,000,000**	All States Endorsement
General Liability	**$5,000,000** each Claim/ **$5,000,000** General Aggregate	Commercial General Liability
Automobile Liability	**$1,000,000** Combined Single Limit (bodily injury and property damage)	All Owned, Non-owned, and Hired Vehicles
Automobile Hazardous Waste Transports	**$5,000,000** Combined Single Limit	Covers waste haulers loading, unloading, upset, and overturn
STEADFAST INSURANCE COMPANY		
Umbrella Excess Liability	**$10,000,000** each Occurrence/ Aggregate	This policy is in excess of our underlying General Liability, Employers' Liability, and Automobile Liability policies.
RELIANCE NATIONAL INDEMNITY CO.		
Consultant's Environmental Liability	**$5,000,000** each Claim/ Aggregate	This is a combined Contractors Pollution Liability/Professional Liability policy.

Bonding Capability

$10,000,000 per project $50,000,000 aggregate

Licenses and Permits

SMITH	Corporate Registration	Business License	Hazardous Waste Permit	Professional Services	Contractor's License [Class]
Alabama	888798 46772	014456	PSC 75172	CA-0238-E (Engineering) CA-0238-LS (Land Surveying	17496 20804 [Specialty] ‡
Alaska	92844	92844	Follow EPA Regs		A 18664 AA21047 [G] ‡
Arizona	F-034567	N/A	0332582		078258-003 82962 [B-01, Gen] ‡ 82963 [AE / HAZ] ‡
Arkansas	X	N/A	H-337		034390494 38780685 [HAZ] ‡
California	1282716 1637146	11727 (SF) 530986 (LA)	0201 Cal EPA 93582 CHP		463436 510801 [A-HAZ] ‡
Colorado	9899 891004492	N/A	HMP-10914		Not required
Delaware	0837695			CA 078 (Professional Engineering) PS-004 (Asbestos Abatement Professional Services)	1990008865 [Business] ‡
Florida	P4102 804834	N/A	Follow EPA Regs	EB0000206 (Engineering)	CG C048782 [G] ‡
Georgia	8707255 8901418FP	N/A	Follow EPA Regs		Not required
Hawaii	9052F1	9052F1	Follow EPA Regs		None
Idaho	79442	N/A	631531		11258-AAA-4 X ‡
Illinois	85337318 F5482-204-9	150821 (Chicago)	2043	060-005371 (Professional Services)	Not required
Indiana	85113929	N/A	Follow EPA Regs		1676601 (Indianapolis)
Iowa	C025898	N/A	Follow EPA Regs		23056-93 23993-93 [Regist] ‡
Kansas	F23552	N/A	ORD980980023		Not required
Kentucky	X	None	Follow EPA Regs		None
Louisiana	X 34390039F	101301541-1501	Follow EPA Regs	1664 (Professional Engineering and Land Surveying)	21612 21660 [Haz] ‡
Maryland	F3903481 F3145648	N/A	None		None 03-617050 [G] ‡
Massachusetts	90-149050	—	—		Not required

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† Legal counsel reviewing registration and Contractor's License requirements.

‡ Construction Services Unit License; all others belong to Remediation Services Unit

SMITH	Corporate Registration	Business License	Hazardous Waste Permit	Professional Services	Contractor's License [Class]
Michigan	626263 646302	20616 (Detroit)	Follow EPA Regs		None
Minnesota	32986	N/A	Follow EPA Regs		None
Mississippi	8701193 581146	14349	Follow EPA Regs		7432 7479 [Haz] ‡
Missouri	F00277067	LC0141807- 950520	H-1070		None
Montana	F17522198533	N/A	Follow EPA Regs		6759 [Class A] 6969 [A] ‡
Nebraska	38882	N/A	Follow EPA Regs		32-709005
Nevada	670785	C0121706	NVT-PCB-119		0026310 29389 [A22-HAZ] ‡
New Jersey †	0100-5207-36			GA277078 (Engineering)	Not required
New Mexico	1291038 1588714	N/A	Follow EPA Regs		34068 28948 [GB98, GA02, GA03, GF08, GF09] ‡
New York	622971			AC-95-0116 (Asbestos Handling)	Not required
North Carolina	C-0319459				24586 [G] ‡
North Dakota	12135	N/A	W-155		4287 (Class A) 22496 [A] ‡
Ohio	699781	N/A	79341-HW 79340-EX		None
Oklahoma	X 178702	N/A	ORD980980023	CA 1850 (Engineering)	Not required
Oregon	20253217	030923 (Portland)	940R1052 (PUC) ORD980980023		CCB 69750 85745 [G] ‡
Pennsylvania	2605688 771805	—	—		Not required
South Carolina					B43552 [Heavy] ‡ G12477 [Heavy] ‡
South Dakota	FB010505	N/A	Follow EPA Regs		Not required
Tennessee	6690723	N/A	AA9903; MOD000687418		27141 [HAZ] ‡
Texas	672986 70333	N/A	40842		None
Utah	117189		Follow EPA Regs		None 88-248786-5501 [E100] ‡

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SMITH	Corporate Registration	Business License	Hazardous Waste Permit	Professional Services	Contractor's License (Class)
Virginia	F113345-5 F111758-1	N/A	Follow EPA Regs	0407-00313Z (Engineering and Land Surveying)	None 2701-032468 [A] † 2705-025515A [H/I]
Washington	706036	600590078 T-59572 (Tacoma) 0116249000 (Seattle)	Follow EPA Regs		RIEDEE9144BF CANONES125LN [G] ‡ CANONES13600 [HAZ] ‡
West Virginia	387952 55-0390577-001			C00774 (Professional Engineers)	WV023624 [78] ‡
Wisconsin	X	N/A	11797		Not required
Wyoming	231722	N/A	Follow EPA Regs		Not required

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