

**ENGINEERING & DESIGN QUALITY CONTROL PLAN (E&D QCP)
FOR THE
ASBESTOS ABATEMENT OF BUILDING 401
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK**

PREPARED FOR:



**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, BUFFALO DISTRICT
BUFFALO, NEW YORK
CONTRACT DACW 49-00-D-0007**

Prepared by:



Jacobs Engineering Group, Inc. - Federal Operations
13723 Riverport Drive
Maryland Heights, MO. 63043

September 2001

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1.0 INTRODUCTION

Jacobs Engineering, Inc. is under contract with the USACOE, Buffalo District, to provide Engineering, Procurement, and Construction services tasks including, but not limited to, the development of required work plans for the asbestos abatement of Building 401 at the Niagara Falls Storage Site. As a contract requirement, Jacobs Engineering is tasked to develop a Quality Control Plan of which consists of two sub-plans. The first of which is the Engineering & Design Quality Control Plan (E&D QCP). This E&D QCP has been developed as a written management plan for executing a quality engineering product or service, on schedule and within budget.

1.1 SITE BACKGROUND

Niagara Falls Storage Site (NFSS) is located at 1397 Pletcher Road, Lewiston, New York. The U.S. Department of Energy (DOE) owns the site. The site consists of an engineered Waste Containment Structure (WCS), various buildings, and open areas. The site was originally a part of the Lake Ontario Ordnance Works (LOOW). The primary use of the site from early 1940s through mid 1950s was for storage, trans-shipment, and disposal of radioactive wastes from various sources.

Building 401 was initially the powerhouse for the production of TNT at LOOW, and was used to store radioactive materials in support of Manhattan Engineering District (MED) activities during World War II. The building was used for the production of Boron-10 from 1953 to 1959 and from 1965 to 1971 and then became a waste storage facility by MED. In 1971, Building 401 was gutted and its instrumentation and hardware were disposed of as surplus materials. The building has been inactive since.

Building 401 is steel frame four story structure approximately 100,000 square feet of floor area. The main structural system of the building consists of steel and concrete load bearing walls supporting the roof. There are multiple floors that contain rooms and offices and building service areas. There is a tower area and high bay. The building floor is concrete slab on grade.

2.0 ENGINEERING & DESIGN QUALITY CONTROL PLAN

The following table lists the Work Plans to be developed, their originators, and the Independent Technical Review Team (ITRT) members assigned to review each document. Resumes reflecting the levels of experience for each of the Work Plan originators and ITR members can be found in Appendix 1.

Work Plan	Originator	ITRT
Quality Control Plan	L. Ehrhard	V. Jansen, L. Mann, D. Fleming
Site Operations Plan	L. Mann, H. Kitt, J. Shannon	V. Jansen, L. Ehrhard, A. Everson
Asbestos Assessment and Abatement Plan	L. Mann, B. Ingalls, J. Shannon, M. Mount	V. Jansen, L. Ehrhard, B. Knaus
Safety and Health Plan	B. Knaus, D. Fleming	V. Jansen, T. Briggs, S. Green
Sampling and Analysis Plan	D. Fleming, A. Everson	V. Jansen, L. Mann, E. Litsey
Waste Management Plan	L. Mann, J. Shannon, M. Mount	V. Jansen, L. Ehrhard, A. Everson
Radiation Control Contingency Plan	D. Fleming	V. Jansen, B. Knaus, S. Green

The ITR Team will conduct a QA/QC of the Work Plan project deliverables. The first review is a check of concept suitability, theory applicability, and data, and is performed by technically qualified individuals other than the originator. This process is graphically depicted in Figure 1. Those responsible for the Work Plan document preparation (project team) and the ITR process (ITR Team) will be as follows:

- **Program Manager** – Virgil Jansen, PE
- **Project Manager** – Leo Mann.
- **C.I.H.** – Brian Knaus.
- **C.I.H.** – Terry Briggs.
- **Certified Health Physicist** – Steve Green.
- **Project Chemist** – Ethan Litsey.
- **Environmental Engineer** – Aaron Everson, PE
- **New York State Asbestos Project Designer** – Blair Ingalls.
- **Health Physicist** – Dave Fleming.
- **Professional Geologist** – Lou Ehrhard
- **Cape Environmental Program Manager** – Herman Kitt
- **Cape Environmental Project Manager** – Jeff Shannon
- **Cape Environmental C.I.H.** – Michael Mount

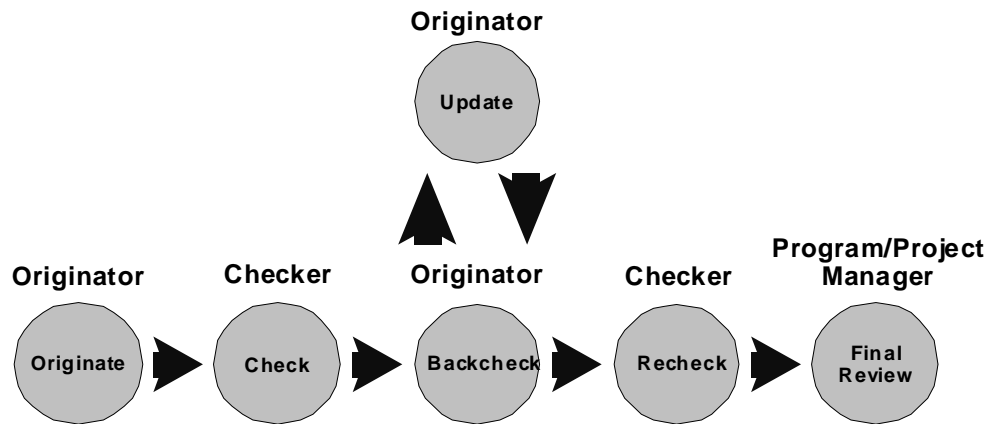


Figure 1

2.1 SCHEDULE

The document preparation and review schedule for the above referenced Work Plans are as follows:

- Notice to proceed (NTP) 8/31/01.
- Final Draft of Work Plans to Project Manager 9/26/01.
- First Check of Work Plans by ITR members 9/26/01 thru 9/28/01.
- Originator back-check and update 10/01/01 thru 10/02/01.
- Recheck by ITR members 10/02/01 thru 10/03/01.
- Final review by Program and Project Manager 10/04/01 thru 10/11/01.
- Work Plan due date (45 calendar days from NTP) 10/15/01.

APPENDIX 1
EXPERIENCE RESUMES

VIRGIL W. JANSEN, P.E.
Program Manager

EDUCATION

MS, Environmental Engineering – University of Illinois, 1972
BS, Civil Engineering – University of Illinois, 1971

LENGTH OF SERVICE

Sverdrup Hire Date: 1996
Other firms/agencies: 24 years (Entered the profession 1972)

REGISTRATIONS/CERTIFICATIONS

Registered Professional Engineer in Illinois (1975)
40-Hour HAZWOPER
Executive Enterprise Environmental Regulations Course
Lion Technology Hazardous Waste Management Workshop

BACKGROUND/EXPERTISE

Mr. Jansen has 26 years of experience in environmental engineering project management, and construction management of remediation work.

PROJECT EXPERIENCE

UST Program, Louisville District, USACE – IN. Senior Project Manager responsible for negotiation, cost estimating, management, and execution of 22 delivery orders at 10 sites in Indiana for this \$12-million contract.

UST Program, Louisville District, USACE – Various Sites, KY. Project Manager responsible for all project management duties for this \$6-million UST program, including oversight of site superintendent, scheduling, and cost control/cost accounting.

Navy Environmental Job Order Contract. Program Manager responsible for management of an indefinite quantity-indefinite delivery order contract for environmental remediation construction at Great Lakes Naval Training Center involving asbestos UST, wetlands restoration, and contaminated soil removal projects.

Philip Environmental Services Corporation – Columbia, IL. Construction Manager responsible for supervision of proposal and project managers in remediation contracting arena. Also, act as liaison between consulting and remediation divisions in the Columbia office. Project Management including proposal preparation, cost estimate review, subcontract negotiations, implementation of corporate special projects team. Major projects included: construction management of interim remedial measures project at former MPG facility; project management of site remediation of former open dump located in Louisville, KY; and project management of source removal action at former MGP facility.

Central States Environmental Services, Inc. – Centralia, IL. Engineering Manager responsible for technical management functions related to LUST and hazardous waste remediation projects, client and regulatory agency liaison, project cost estimation, contract

negotiation and project management for an environmental remediation contractor. Major projects include: project management of LUST projects including investigation, tank removal and soil/water remediation, regulatory agency contact on 20+ sites throughout Illinois; and project management of hazardous waste remediation sites, including engineering evaluations, cost estimation, site specific work plan, health and safety plan, client liaison, and negotiation with regulatory agencies.

Barttelbort Engineering & Excavating, Inc. – Freeburg, IL. Vice President and Project Manager responsible for all management functions, including daily office management, estimating, and overall project planning and management, liaison with project owner and/or engineer for general construction corporation. Involved in subdivision development, residential construction, utility and treatment (water and sewer) facility construction, and storm sewers systems.

Haier Plumbing & Heating, Inc. – Okawville, IL. Project Manager responsible for limited management functions, day-to-day office management, estimating and overall construction project management. Also, acted as a liaison with project owner and/or engineer for a mechanical and municipal utility construction firm.

WORK HISTORY

Jacobs Sverdrup Constructors	1996 to Present
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LEO F. MANN III

Environmental Engineer - Project Manager – Asbestos and Lead Services

EDUCATION

MBA – Lindenwood University, 1996

BS, Marketing and Management – University of Missouri-St. Louis, 1983

LENGTH OF SERVICE

Jacobs/Sverdrup Hire Date: 1993

Other firms/agencies: 6 years (Entered the profession in 1987)

REGISTRATIONS/CERTIFICATIONS

Certificate, Hazardous Waste Operations and Emergency Response

Certificate, EPA AHERA Asbestos Abatement Contractor/Supervisor

Certificate, EPA AHERA Asbestos Course for Inspector Training

Certificate, EPA AHERA Asbestos Project Designer Course

Certificate, EPA Lead Inspector and Risk Assessor

Certificate, NIOSH 582 Sampling and Evaluating Airborne Asbestos Dust

Certificate, Lead Abatement Contractor/Supervisor

Red Cross First Aid/CPR

OSHA 10-Hour Construction Safety Training

License, Asbestos Supervisor, Missouri

License, Asbestos Inspector, Missouri, Illinois, North Carolina, Kentucky

License, Asbestos Project Designer, Missouri, California

License, Certified Site Surveillance Technician, California

License, Lead Inspector, Missouri

PROFESSIONAL AFFILIATIONS/AWARDS

Environmental Information Association (EIA)

BACKGROUND/EXPERTISE

With more than fourteen years of experience, Mr. Mann performs, as well as manages, a staff that provides asbestos/lead/PCB in-buildings surveys and designs, UST removal design and oversight, phase I site assessments, formulates detailed construction estimates, provides contractor project management and project oversight, and performs asbestos/lead/PCB related industrial hygiene services.

PROJECT EXPERIENCE

Parkway School District (\$500K) – St. Louis County, MO Project Principle for a two-year, multi-phase, environmental consulting services contract providing professional services in conjunction with the school districts renovation activities at any of the 31 campuses within the Parkway School District. Responsibilities include survey and design, project construction estimating, contract management, subcontractor oversight, UST removal, asbestos, lead paint, PCB, and mercury-containing fluorescent light abatement services, daily and clearance air monitoring, and project closeout.

Morgan Hill Unified School District (\$2 million) – San Jose, CA. Project Manager for a two-year, multi-phase, modernization project providing asbestos, lead paint, PCB, and mercury-containing fluorescent light abatement services in conjunction with \$30 million renovation activities to the Live Oak High campus. Responsibilities include survey and design, project construction estimating, contract management, subcontractor oversight, daily and clearance air monitoring, and project closeout.

Santa Monica-Malibu Unified School District (\$2 million) – Santa Monica, CA. Project Manager for a two-year, multi-phase, modernization project providing asbestos, lead paint, PCB, and mercury-containing fluorescent light abatement services in conjunction with \$50 million renovation activities to 16 schools in the Santa Monica-Malibu Unified School District. Responsibilities include survey and design, project construction estimating, contract management, subcontractor oversight, daily and clearance air monitoring, and project closeout.

FAA Air Traffic Control Center – Honolulu, HI Project Manager providing asbestos/lead/PCB survey and abatement design in conjunction with the demolition of a 50,000 sf FAA facility located in Diamond Head crater.

Keebler Company – Louisville, KY. Project Manager responsible for providing Keebler a “turn-key” service for the demolition and disposal of an asbestos-containing 200-ft-long baking line unit during a two-week plant shutdown.

Keebler Company – Augusta, GA. Project Manager responsible for providing Keebler a “turn-key” service for the demolition and disposal of three abandoned asbestos-containing baking line units. The work was performed over a weekend while working around the clock in order to meet the facilities startup schedule.

Keebler Company – Elmhurst, IL. Project Manager providing an Asbestos Management Plan for each Keebler facility located in Louisville, Kentucky; Charlotte, North Carolina; Birmingham, Alabama; Cleveland, Tennessee; Marietta, Oklahoma; Lake Bluff, Illinois; Little Rock, Arkansas; and Augusta, Georgia.

Okaloosa County School District – Okaloosa County, FL (\$3 Million). Project Manager for a three-phase, five-year project providing asbestos, lead paint, and PCB abatement services in conjunction with \$140 million renovation activities to 30 schools in the Okaloosa County School District. Responsibilities include: survey and design, project construction estimating, contract management, subcontractor oversight, daily and clearance air monitoring, and project closeout.

FAA Air Traffic Control Center – Oakland, CA. Site Surveillance Technician providing industrial hygiene services for asbestos and lead during abatement activities in the occupied air traffic control center.

Concorde Brands – St. Louis, MO. Project Manager performing asbestos-containing building material abatement design for the removal of friable and non-friable materials in the single-story office building damaged as a result of fire.

Pet Building – St. Louis, MO. Project Manager performing asbestos-containing building material, lead paint, and PCB inspection of the 15-story building. Provided asbestos abatement project design, air monitoring, and oversight for the 15th floor abatement of 4,000 square feet of friable material.

Survey, Design, Industrial, Hygiene Services

IDO HTRW Contract, U.S. Army Corps of Engineers – Nashville District (Ohio River Division), KY.

- *Fort Campbell Facility, Old Hospital Complex Demolition, Fort Campbell, KY* – Project manager for a three-phase project providing industrial hygiene services for monitoring asbestos abatement work at the Old Hospital Complex (OHC) Demolition. The project includes the abatement of asbestos-containing materials from and demolition of the 54 buildings that comprise OHC.
- *Fort Campbell Facility, Demonstration Project, Fort Campbell, KY* – Developed project design, supervised the field activities of the asbestos and demolition contractors, provided environmental and clearance air monitoring, formulated the project's final report, and consulted the Fort Campbell Environmental Office in their communications with Kentucky Department of Air Quality. Project involved demonstrating the feasibility of removing and disposing of drywall and joint compound as a non-ACM homogeneous material, with no significant fiber release.

Survey, Design

DFAS – San Bernardino, CA. Project Manager performing asbestos-containing building material and lead paint inspection, and project design of two three-story, 70,000-sq-ft office buildings.

Building 5500 – Edwards AFB, CA. Project Manager performing asbestos containing building material and lead paint inspection of the three-story hospital building.

29 Palms Marine Base – 29 Palms, CA. Project Manager performing asbestos-containing building material, lead paint, and PCB inspection of nine warehouse buildings.

Pentagon Navy Annex – Arlington, VA. Project Manager performing asbestos-containing building material surveys in an occupied office building.

NASA Goddard Space Flight Center – Greenbelt, MD. Project Manager performing asbestos-containing building material surveys in six occupied buildings totaling over 500,000 square feet.

Los Angeles World Airport – Los Angeles, CA. Project Manager performing asbestos/lead/PCB/mercury containing lamps survey and abatement design for two 80,000-sq-ft air freight building.

Abatement, Project Management

Brand Environmental Services, Inc. – St. Louis, MO. Project Manager and estimator covering a territory that includes Missouri, Illinois, Kansas, Iowa, and Nebraska. Responsibilities included: coordinating subcontractors and defining their scope of work; creating job scheduling using time line software; and managing commercial and industrial jobs ranging in price to \$5 million.

May Company – St. Louis MO. Project Manager for all asbestos removal work for the May Company facilities located throughout Missouri, Kansas, and Illinois.

Lambert International Airport – St. Louis, MO. Project Manager/Estimator for a one-year asbestos removal project at the main terminal of Lambert International Airport.

Union Electric – St. Louis, MO. Project Manager/Estimator for asbestos removal and insulation projects located at various Missouri power plant sites.

Monsanto Company – Sauget, IL. Project Manager for a second shift asbestos removal crew that worked seven days per week in order to complete scheduled project during Monsanto Krumrich Plant process shutdown.

Monsanto Company – St. Louis, MO. Asbestos Project Manager performing asbestos in buildings survey at the Monsanto Queeny Plant.

State Farm Regional Headquarters – Columbia, MO. Asbestos Project Manager performing asbestos in-buildings survey in an occupied office facility covering 200,000 square feet.

OMNITRANS – San Bernardino, CA. Project Manager performing an asbestos survey of a 30,000-sq-ft bus maintenance and office facility scheduled for demolition.

TECHNICAL PAPERS/PUBLICATIONS

EIA National Conference, 1995 – Presented the project design and results of the U.S. Army Corps of Engineers – Nashville District's Fort Campbell, Kentucky Demonstration Project

WORK HISTORY

Jacobs Engineering Federal Programs 1993 to Present

Brian W. Knaus, CIH, CSP
Regional Manager, Health and Safety

EDUCATION

MS, Industrial Hygiene – Central Missouri State University, 1982
BS, Chemistry and Biology (Minor) – St. Louis University, 1968

LENGTH OF SERVICE

Jacobs/Sverdrup Hire Date: 1990
Other firms/agencies: 18 years (Entered the profession in 1972)

REGISTRATIONS/CERTIFICATIONS

Certified Industrial Hygienist, 1989 (4264)
Certified Safety Professional, 1977 (5115)
Certificate, Program in General Insurance, Insurance Institute of America
Certificate, Blasting and Explosives Safety, DuPont
Certificate, Industrial Hygiene Engineering (551) NIOSH
Certificate, Sampling and Evaluating Airborne Asbestos (582) NIOSH
Certificate, Hazardous Waste Operations and Emergency Response
Certificate, Manager/Supervisor Hazardous Waste Operations and Emergency Response
Certificate, Asbestos Abatement Contractor/Supervisor, Inspector, Management Planner, Designer
Certificate, OSHA Competent Person
Red Cross First Aid Certified/CPR Certified
Licensed, Certified Asbestos Consultant, California, 1993 (93-1022)
Licensed, Asbestos Consultant, Florida, 1993 (IA0000054)
Licensed, Asbestos Abatement Project Monitor, Massachusetts, 1993 (PM02160)
Licensed, Asbestos Abatement Site Supervisor, Minnesota, 1993 (2302)
Licensed, Industrial Hygienist, Illinois, 1992 (5319042002)
Licensed, Certified Missouri Safety Consultant, Missouri 1995
Licensed, Certified Asbestos Hazard Abatement Specialist, Ohio 1997 (26418)
Licensed, Asbestos Project Manager, Illinois, 1998 (100-7548)
Licensed, Asbestos Project Designer, Illinois, 1998 (100-7548)
Licensed, Air Sampling Professional, Missouri, 1994 (7050394MOAS4)

PROFESSIONAL AFFILIATIONS/AWARDS

American Industrial Hygiene Association
Diplomat – American Board of Industrial Hygiene
Professional Member – American Society of Safety Engineers
Certified Member – Board of Certified Safety Professionals

BACKGROUND/EXPERTISE

With more than 28 years of experience, Mr. Knaus, as a Health and Safety Regional Manager, assesses site operations; conducts in-plant and environmental surveys; collects air and bulk samples to characterize of physical and chemical hazards; evaluates physical, chemical, and material handling procedures; and recommends corrective actions. He is knowledgeable concerning TSCA, RCRA, and OSHA regulations. Mr. Knaus enforces the Jacobs Health and Safety Program and performs safety and industrial hygiene services. His unique background

combines occupational health and safety with construction safety. Representative experience includes:

PROJECT EXPERIENCE

U.S. Army Corps of Engineers Nashville District (Ohio River Division) \$9-million IDO HTRW Contract. Health and Safety Manager responsible for assembly of site-specific hazardous waste health and safety plans, site health and safety audits and personal air monitoring during task order assignments. To reduce the time and cost of assembling a site-specific health and safety plan for each delivery order, a comprehensive health and safety plan was developed for the program. As delivery orders were received, a site-specific addendum to the comprehensive health and safety plan was developed. These tasks included:

- Monitoring well installation at Detroit Arsenal - Detroit, MI
- Industrial hygiene services as part of asbestos abatement during the Old Hospital Complex demolition - Ft. Campbell, KY
- Site investigation at a battery burial area, Bluegrass Facility - Richmond, KY
- Phase II remedial investigation at the dry acid pond, Bluegrass Facility - Richmond, KY
- Phase II remedial investigation at the lagoon area, Bluegrass Facility - Richmond, KY
- Lead assessment for Building 4899 - Ft. Campbell, KY
- Lead assessment for the family housing units - Ft. Campbell, KY
- Pesticide sampling as part of the Old Hospital Complex buildings demolition - Ft. Campbell, KY
- Weapons shop soot analysis - Ft. Campbell, KY
- Demonstration project to abate asbestos containing drywall during the Old Hospital Complex buildings demolition - Ft. Campbell, KY
- Remedial design of contaminated soils at the CF area - Savanna, IL
- Pesticide sampling at the family housing area - Ft. Campbell, KY
- Study at the old and new landfill areas - Richmond, KY
- Study at the mustard burn and mustard trench areas - Richmond, KY
- Study at the former waste ammunition detonation area - Richmond, KY
- Remedial design at Group I site, area B/B, plating area and industrial waste lagoons - Lexington, KY
- Remedial design for pipeline system - Ft. Knox, KY

U.S. Army Corps of Engineers Tulsa District \$15-million IDO HTRW Program

Longhorn Army Ammunition Plant, NM - Health and Safety Manager responsible for developing safety and health work plans. Mr. Knaus trained the site manager and site safety officer to perform air monitoring and site auditing to effectively control costs on the project.

U.S. Environmental Protection Agency, Alternative Remedial Contracts Strategy (ARCS) Program Regions VI, VII, and VIII. Mr. Knaus developed the overall health and safety plan for the ARCS Program, and then developed the site-specific hazardous waste health and safety plan for a RI/FS study at PAB Oil and Chemical Service, Inc. Superfund Site and Gulf Coast Vacuum Services, Inc. in Abbeville, Louisiana. He also performed personal air monitoring at Gulf Coast Vacuum Services, Inc., in coordination with the site safety officer. He conducted site health and safety meetings at all sites, and developed a decontamination plan for employees and equipment. During the site investigation at Gulf Coast Vacuum Services, Inc., personal air

monitoring was performed during simulated remedial action activities, such as the excavation of contaminants. This data was used to demonstrate to the remedial action bidders the acceptable level of personal protection required for remediation. Additional delivery orders included:

- *Midvale Slag Superfund Site, Midvale, UT.* Health and Safety Manager responsible for the assembly of the site-specific hazardous waste health and safety plan. To effectively control costs, the project's health and safety monitoring was performed by a trained site safety officer. This cost control mechanism helped the project remain under budget.
- *Denver Radium Superfund Site, Denver, CO.* Health and Safety Manager responsible for the assembly of the site-specific hazardous waste health and safety plan for the remediation of heavy metals and radium wastes. Air monitoring for heavy metals, alpha and gamma radiation was performed to verify the correct engineering controls were implemented to minimize potential exposure.
- *Cleburn Street Well Superfund Site, Grand Island, NE.* Health and Safety Manager performing on-site air monitoring and auditing. The project consisted of an RI/FS and the installation of groundwater monitoring wells, as well as an investigation of an aquifer contaminated with dense chlorinated solvents that originated from a dry cleaning operation.

Confidential Food Processing Client – Jersey City, NJ. Health and Safety Manager providing medical surveillance, personal air monitoring, and a site-specific health, safety, and emergency response plan to identify and control workplace hazards.

Times Beach Superfund Site, I-44 Corridor Remediation and Site Demolition – Times Beach, MO. Health and Safety Manager for dioxin-contaminated site. Asbestos-containing materials work included an identification survey, abatement specification preparation, environmental air monitoring, abatement contractor pre-qualification, and documentation package assembly. Because Sverdrup provided design-build services on this project, Mr. Knaus worked closely with construction personnel to verify their understanding of site conditions. He monitored subcontractors' compliance with the health and safety plan by making a number of periodic site audits/visits. He applied our experience on other projects to develop a confined space entry plan for use on this project, which addressed oxygen deficiency, combustibility, and toxicity concerns.

Stamina Mills Superfund Site Remediation – North Smithfield, RI. Health and Safety Manager responsible for monitoring site demolition and remediation activities. Assembled the health and safety plans and performed personal air monitoring and health and safety job-site audits during remediation and demolition. Responsible for development of a plan for decontamination of employees and equipment.

Bee Cee Manufacturing NPL Site – Malden, MO. Health and Safety Manager responsible for the assembly of the site-specific hazardous waste health and safety plan for remedial investigation. Performed personal air monitoring to characterize contaminant concentrations.

Demolition and Site Restoration, Lockheed Aerospace and Engineering Company – Burbank, CA. Health and Safety Manager responsible for the site health and safety for the demolition and restoration of 76-acre site for a former aerospace manufacturing facility. The project was on a fast-track schedule including demolishing existing buildings, and removing soils contaminated with metals and solvents. This project's health and safety challenge was to

maintain adherence to health and safety procedures on a site with demolition activities and hazardous waste operations proceeding simultaneously.

Motorola, Inc. – Phoenix, AZ. Health and Safety Manager responsible for developing the site-specific health, safety, and emergency response plan. Performed personal air monitoring to characterize employee exposure to site contaminants and verify the correct level of protection was worn. Assembled the hazardous waste health and safety plan for a groundwater treatment plant and assembled a design to store flammable and toxic chemical stock and chemical waste products.

United Scrap Lead/Arcanum Superfund Sites, U.S. Army Corps of Engineers, Omaha District – Troy, OH. Health and Safety Manager responsible for developing site specific health, safety, and emergency response plan and performed personal air monitoring to characterize employee exposure to site contaminants and verify the correct level of protection was worn.

Opus Dei – New York, NY. Health and Safety Manager responsible for developing site-specific health, safety, and emergency response plan, developed and performed personal air monitoring to characterize employee exposure to site contaminants and verify the correct level of protection was worn.

World Color Press, Spartan Printing Division – Sparta, IL. Health and Safety Manager responsible for developing site-specific health, safety and emergency response plan and performed personal air monitoring to characterize employee exposure to site contaminants and verify the correct level of protection was worn.

General Services Administration – Chicago, IL. Asbestos Project Manager responsible for identifying asbestos-containing building materials, assembling an asbestos abatement specification, performing environmental air monitoring, and managing asbestos abatement for 19 months during asbestos abatement in a ten-story occupied office building. Mr. Knaus conducted informal meetings with building tenants to explain the asbestos abatement process. These proactive meetings established a level of communication that helped facilitate the remodeling and remediation tasks.

U.S. Army Corps of Engineers – Philadelphia District – New Jersey. As a Certified Industrial Hygienist and Certified Safety Professional, performed monthly audits on Helen Kramer Landfill Superfund Site, Lapari Landfill Superfund Site, and Bridgeport Rental and Oil Service Superfund Site in New Jersey. The audits verified the remediation contractors were complying with health and safety contract requirements, state and federal requirements, and interpretations of the USACE health and safety questions generated by the remediation contractors. Responsible for the identification of unsafe acts and conditions that caused injuries and illnesses, and for the recommendation of controls to reduce such injuries. Mr. Knaus increased compliance with Federal and USACE health and safety regulations, reduced the number of physical hazards, and increased control over the causes of injuries.

Frankford Elevated Reconstruction Project, Southeast Pennsylvania Transportation Authority – Philadelphia, PA. Provided industrial hygiene services to characterize the inorganic lead, cadmium, and arsenic exposures during the Frankfort Elevated Reconstruction

Project six-mile bridge renovation. Assisted Philadelphia Transit Consultants in resolving a construction claim involving federal lead regulation 29 CFR 1926.62.

Environmental Services Delivery Order Contract, World Color Press – Various Locations.

As a Certified Industrial Hygienist and Certified Safety Professional, provided health, safety, and environmental audits at printing press locations nationwide. Conducted personal breathing zone air monitoring to determine employee exposure to a series of contaminants. Mr. Knaus successfully identified and recommended controls to minimize contaminant exposure.

Metrowest Water Supply Project – Boston, MA. As a Certified Industrial Hygienist and Certified Safety Professional, provided confined space entry guidance during the design of a water tunnel.

Asbestos Surveys, General Services Administration – Kansas City, MO. Asbestos Project Manager responsible for performing asbestos surveys to identify asbestos-containing materials. Prepared asbestos abatement specifications.

Asbestos Surveys, Washington National Records Center – Suitland, MD. Asbestos Project Manager responsible for performing asbestos surveys to identify asbestos-containing materials. Prepared asbestos abatement specifications.

Asbestos Survey, McMillon Reservoir, CEASA Building – Washington, DC. As Asbestos Project Manager, performed an asbestos survey to identify asbestos-containing materials. Also prepared an asbestos abatement specification.

Asbestos Management/Abatement, Kraft General Foods, Inc. – Springfield, MO. Asbestos Project Manager responsible for performing asbestos surveys, preparing asbestos abatement specifications, performing environmental air monitoring, and managing asbestos abatement.

Asbestos Management, Maxwell House Coffee Company – Jacksonville, FL. Asbestos Project Manager responsible for preparation of an asbestos abatement specification and environmental air monitoring for a roof demolition.

Asbestos Management, Rockwell International – Palmdale, CA. Asbestos Project Manager prepared an asbestos abatement specification, and performed as the environmental air monitor.

Asbestos Abatement Specification, U.S. Navy – Bremerton, WA. Asbestos Project Manager responsible for assembly of an asbestos abatement specification to remove 1,200 feet of asbestos containing building materials from a pier.

Federal Aviation Administration – Nationwide

Project executive responsible for performing asbestos containing building materials, lead containing paint and polychlorinated biphenyl (PCB) surveys, and assemble abatement specifications in Air Route Traffic Control Centers (ARTCCs) and Control Towers nationwide. Responsible for asbestos, lead, and PCB abatement monitoring and environmental air sampling during abatement projects at the Chicago ARTCC, Cleveland ARTCC, Minneapolis ARTCC, Oakland ARTCC, Los Angeles ARTCC and Indianapolis ARTCC. Abatement projects at the

ARTCCs include chiller upgrade, initial sector suite system expansion (ISSS), display system area modification (DSR), and automation wing rehabilitation (AWR).

Asbestos Containing Building Material Surveys, NASA Goddard Space Flight Center – Greenbelt, MD. Asbestos Project Manager performing asbestos-containing building material surveys in six occupied buildings.

Asbestos Containing Building Material Surveys, Pentagon Navy Annex – Arlington, VA. Asbestos Project Manager performing asbestos-containing building material surveys in an occupied office building.

United States Postal Service, Processing and Distribution Center, – Miami, FL. Certified Industrial Hygienist and Certified Safety Professional monitoring the environmental activities during installation of a Tray Management System. As the result of a potential exposure to inorganic lead, welding fume and dust during the facility renovation, Mr. Knaus was assigned to monitored the renovation activities to verify compliance with federal regulations and contract documents, and communicated hazards and controls to Postal Service employees.

McDonnell Douglas Corporation – St. Louis, MO. Industrial Hygiene Specialist responsible for the identification, evaluation and control of physical chemical, and ergonomic stresses; revising the Outside Contractor Asbestos Exposure Control Program; and monitoring all contractors performing asbestos containing materials abatement activities. Responsible for a series of environmental impact projects to reduce the volume of hazardous waste generated from aircraft production and to comply with the Clean Air Act. These projects included identifying and facilitating the elimination of lead paints used in aircraft production. As a member of a team, reviewed substitutes for 1,1,1 trichloroethane and freon as aircraft degreasing processes. A related objective was to identify a degreaser that could be regenerated or reused with minimal reprocessing. Worked as part of a team to collect, segregate and recycle aluminum and titanium metals from production processes. As a member of the F15 program and the F15 research and testing laboratories, reviewed material safety data for existing aircraft corrosion coatings, performed personal air monitoring to characterize tasks exposure to corrosion coatings during mixing and application onto aircraft and implemented engineering and personal protective equipment controls to minimize employee exposures to the coatings.

TECHNICAL PAPERS/PUBLICATIONS

NA

WORK HISTORY

Jacobs Engineering Federal Programs 1990 to Present

Office: 071

Dept.: 018

254 Code: 0300

Experience Codes:

Foreign Language(s): None

TERRY BRIGGS, PhD, CIH
Corporate Health and Safety Manager

EDUCATION

Ph.D., 1977, Industrial Hygiene with a Minor in
Environmental Management, College of Medicine,
University of Cincinnati, Ohio

M.S., 1972, Environmental Engineering,
University of Cincinnati

B.S., 1965, Chemical Engineering,
McGill University, Montreal, Canada

CERTIFICATIONS

Certified Industrial Hygienist

AFFILIATIONS

American Industrial Hygiene Association
Past Chair of Engineering Committee of American
Industrial Hygiene Association

SPECIAL TRAINING

OSHA Hazardous Waste Training (29CFR1910.120)

EXPERIENCE SUMMARY

Dr. Briggs is the Jacobs Corporate Health and Safety Manager with 20 years of experience in environmental & health & safety project and program management for industrial and remedial programs. He also has an additional ten years of experience in chemical process design, air pollution control and health and safety assessments.

Dr. Briggs developed and implemented the Jacobs Environmental Health and Safety Program Plan applicable to all phases of field environmental projects. He develops health and safety program plans for major environmental contracts, approves all contract program plans and all major site health and safety plans. He oversees environmental safety and health program implementation; and audits site procedures to ensure compliance with OSHA, and other applicable federal, state, and local regulations. Dr. Briggs is also responsible for Jacobs health physics and medical monitoring program. Contracts for which he developed health and safety programs plans include: Comprehensive Long-Term Environmental Action Navy (CLEAN) contract (Southwest), Air Force Installation Restoration Program (IRP) hazardous waste contract, Mason & Hanger & Corp of Engineers contract for DOE's Pantex plant, RI & RA programs, US Army environmental contract at Rocky Mountain Arsenal, for CERCLA RI & RA and EPA's Alternative Remedial Contracting Strategy (ARCS) contract. He has also conducted detailed health and safety audits at DOE Weldon Spring site, Fernald site, UMTRA sites and Oak Ridge project sites.

Dr. Briggs was project manager at DOE Hanford for Battelle, developing health and safety program requirements for CERCLA and RCRA projects.

He has presented an 8-hour program at the American Industrial Hygiene Conference for the past 5 years, entitled, "Chemistry & Toxicology of Petroleum Hydrocarbons".

In previous employment with Roy F. Weston, Dr. Briggs served as Regional Manager for a major EPA Superfund emergency response and removal program for EPA Region III. He provided overall program management and managed 60 professional and technical staff members. Services included hazardous waste major removal action support and emergency response, site inspections, EE/CA's, engineering design, major removal action support, health and safety services, and SARA Title III preparedness planning and training.

Previously, he was a Department Manager for Roy F. Weston. Projects managed by Dr. Briggs included three large asbestos assessment and abatement projects, including an evaluation of over 90 industrial and commercial structures and management of asbestos removal from a major shopping mall complex. Other projects included management of a large air impact evaluation and litigation support associated with a major fuels pipeline spill. He also managed a facility safety and risk analysis project for new chemical warfare weapons facilities for the U.S. Army.

While Corporate Manager of Industrial Hygiene for A.E. Staley Manufacturing Company, Dr. Briggs initiated the company-wide industrial hygiene program. He developed company procedures, instituted hazardous communication programs, and performed routine health and safety audits. He developed asbestos abatement procedures and initiated an abatement program.

Dr. Briggs served as Corporate Industrial Hygienist for Occidental Chemical Company. In this capacity, he was responsible for industrial hygiene program development, facility assessment, and for product safety for 20 plastics and specialty chemical plants. He conducted industrial hygiene audits of major company facilities and was also responsible for evaluation of all new engineering control systems and provided health and safety program development for hazardous waste disposal projects.

For the University of Cincinnati, Dr. Briggs was an Assistant Professor/Program Coordinator. He instituted a new university program in industrial hygiene and safety. He developed the curriculum and taught courses in industrial hygiene and industrial operations. He served as Coordinator and Lecturer of a National Institute of Occupational Safety and Health (NIOSH) short course on industrial process risk evaluation. Previously, he was assistant project manager for a prospective epidemiology research project, evaluating waste water disease transmission.

While Group Leader, and Senior Environmental Engineer for PEDCO-Environmental, Dr. Briggs was responsible for environmental and health and safety project management. Among the projects Dr. Briggs managed were an industrial-wide environmental assessment of the microelectronics industry, a diesel vehicle emission impact analysis, an evaluation of dioxin health effects and control technology, a control technology assessment of the carbon black industry, development of a coke oven emission control model and development of a community indoor air pollution impact evaluation manual.

Dr. Briggs was a Senior Engineer for UOP Process Division of Allied-Signal Corporation responsible for process design of new petroleum and petrochemical processes. Processes designs include HF alkylation, sulfolane, catalytic reforming, visbreaking, and salicylic acid production. He specialized in computer applications for special engineering design problems. He was also a

Technical Services Engineer responsible for construction inspection and start-up of new oil refinery and petrochemical processes. He was responsible for commissioning the following processes: catalytic reforming, fluid catalytic cracking, HF alkylation, and aromatics production. He also served as Pilot Plant Engineer responsible for evaluation of new petroleum processes and catalyst technology evaluation.

EMPLOYMENT HISTORY

Jacobs Engineering Group Inc. Manager of Environmental Health and Safety	1989 to date
Roy F. Weston Inc. Regional Manager & Department Manager	1986 - 1989
A.E. Staley Manufacturing Company Corporate Manager of Industrial Hygiene	1983 - 1985
Occidental Chemical Co. Corporate Industrial Hygienist	1981 - 1983
University of Cincinnati Assistant Professor and Program Coordinator	1980 - 1981
PEDCO - Environmental Inc. (now IT) Senior Environmental Engineer & Group Leader	1973 - 1980
UOP Process Division (now Allied - Signal) Senior Process Design Engineer	1965 - 1970

STEVEN GREEN
CHP

EDUCATION

MS Safety Management December 1999 University of Tennessee
ME 1983, Engineering/Radiological Health, College of Engineering, University of Florida
BS 1982, Environmental Engineering, College of Engineering, University of Florida

SPECIAL TRAINING

Current OSHA HAZWOPER
8-week Health Physics Training, Brookhaven National Laboratory, 1983
40-hour EPA Risk Assessment Course, 1988
Asbestos Hazard Emergency Response Act (AHERA) Training for Supervisors, 1993
4-hour NEPA Training, 1993
24-hour RCRA Training on Waste Characterization, Advanced Topics, and Land Ban, 1993

CERTIFICATIONS

Certified in the Comprehensive Practice of Health Physics by the American Board of Health Physics, October 1989, Recertified October 1997

AFFILIATION

National and Local Health Physics Societies

Mr. Green is an effective Project Manager. He has directed the work of professionals on five remedial action projects. He actively interfaces with EPA, DOE, and state officials and effectively interacts in public meetings. He manages cost and schedule for multiple tasks performed at several corporate offices.

Mr. Green has 17 years total experience, 15 of which have been in the remediation of sites contaminated with radioactive, chemical, and mixed radioactive/hazardous wastes. This experience spans all phases of site remediation from site characterization through NEPA/CERCLA/RCRA environmental compliance documentation to final site cleanup. Key projects include the Oak Ridge Management and Integration Contract, Comprehensive Plume Response Project at Massachusetts Military Reservation, Oak Ridge Operations Environmental Management Technical Support Contract, the Weldon Spring Site Remedial Action Project, the Anniston Army Depot, and the Uranium Mill Tailings Remedial Action (UMTRA) Project.

Mr. Green is currently the Radiological Protection Manager for the Oak Ridge Management and Integration Contract. The scope of work on this \$2.5 billion project is to transition the existing Management and Operations direct hire staff to subcontracts to perform Remedial Action at Oak Ridge sites of K-25, Y-12, and Oak Ridge National Laboratory as well as the operating uranium enrichment plants in Paducah, Kentucky and Portsmouth, Ohio. Mr. Green has ultimate responsibility for radiation safety for approximately 2000 workers on this contract. He is fully responsible for daily implementation of the Bechtel Jacobs Company Radiation Protection Program in complete compliance with 10 CFR 835.

To date Mr. Green has:

- Developed the subcontract packages for Radcon technician support, instrumentation, radiological engineering, and radiation dosimetry. These subcontracts were bid and awarded one year ahead of schedule.
- Streamlined the radiological control procedures and technical basis documents achieving a reduction in command media of 40 percent. This was done by aligning the existing program solely with the requirements of 10 CFR 835, Occupational Radiation Protection, and eliminating costly, redundant, and unnecessary requirements.
- Revised the technical basis for the internal dosimetry program to allow a more accurate and sensitive determination of internal dose resulting from transuranic radionuclides, shift uranium urinalysis from more expensive alpha spectroscopy to less costly total mass determination by kinetic phosphorescent analysis, and eliminate routine urinalysis for uranium where the technical basis showed that workers were not likely to receive dose equivalents in excess of 100 mrem per year.
- Reduced the number of routine radiological contamination surveys by 50 percent by eliminating those surveys in contamination areas that historically revealed contamination routinely above the surface contamination limits and focusing on those surveys that document that contamination is not being spread to non-radiological areas.
- Introduced higher technology instrumentation that improved measurement accuracy, data collection and storage, and time required to complete the measurements.
- Implemented a program to better characterize the locations of transuranic radionuclides so that those areas could be separated from areas contaminated primarily which eliminated redundant and painstaking surveys for alpha contamination when not required.

Prior to working on the Management and Integration Contract, Mr. Green was the Director of Projects for the Oak Ridge Operations Office. He is responsible for successful execution of multiple projects with government and commercial clients and responsible for identifying and proposing on new business opportunities. Projects include Environmental Compliance at Air Combat Command bases, Technical Support to the DOE Savannah River site, remedial investigations at several air force bases under a nationwide contract with the Air Force Center for Environmental Excellence (AFCEE), and environmental sampling in a corporate alliance with Owens Corning.

Mr. Green also served as the Field Services Department Manager and Radiological Control Manager for the DOE Environmental Management Technical Support Contract

Before that, Mr. Green was the Remedial Investigations Manager for the \$60 million Comprehensive Plume Response Project, the highest priority cleanup program in the Department of Defense. This full service remedial action project is being conducted for the Air Force Center for Environmental Excellence under the Jacobs Nationwide Remedial Action Contract. Work involves collecting sufficient environmental data to support remedial design and construction of five water treatment systems to contain billions of gallons of hydrocarbon-contaminated groundwater.

As Remedial Investigations Manager, Mr. Green was part of the project start up team that procured the needed equipment and supplies, awarded the subcontracts, and staffed the project from scratch to over 150 hydrogeologists, engineers, scientists, and construction personnel. Mr. Green was

directly responsible for a staff of 50 personnel involved in drilling, sampling, data management, and report preparation. He had direct management responsibility for six task orders totaling \$15 million while at the same time managing a \$1.5 million time and materials delivery order.

During his eight month assignment he:

- met 12 Federal Facility Agreement deliverable deadlines on or ahead of schedule;
- personally prepared the Quality Program Plan which included the Sampling and Analysis Plan, Quality Assurance Program Plan, Health and Safety Plan, and Construction Quality Plan;
- implemented an ecological sampling program, a basewide groundwater monitoring program, prepared a RI/FS work plan, and developed the scope of work for a supplemental site investigation in an active military firing range where unexploded ordnance clearing was required; and
- routinely met with affected members of the public, regulators from the EPA and Massachusetts Department of Environmental Protection, and the AFCEE Team Chief to resolve issues and chart strategy.

Prior to this assignment Mr. Green was the Deputy Program Manager for the Oak Ridge Environmental Management Technical Support Contract. This \$91 million task order contract is established to achieve compliance with CERCLA, RCRA, and NEPA for the Oak Ridge sites at Y-12, Oak Ridge National Laboratory, K-25, Oak Ridge Associated Universities, and off-site contamination resulting from operation of these facilities. Also included are the uranium gaseous diffusion plants at Portsmouth, Ohio and Paducah, Kentucky, as well as the Center of Energy and Environmental Research in Puerto Rico. Work scope involves remedial investigations; integration of CERCLA/RCRA/NEPA requirements into regulatory decision documents including feasibility studies, proposed plans, and records of decision; treatability studies; general regulatory support; related environmental studies; administrative support; engineering studies and design; risk assessment; and remedial action verification.

Mr. Green was responsible for daily operations on this contract with a staff of over 230 personnel. At any one time there were over 60 active tasks ranging from \$25,000 to over \$3 million. He assured these tasks remained on schedule, within task scope of work, and under budget by performing task order cost/schedule reviews, making staffing decisions, allocating work among three project offices and the corporate offices of the six companies with which Jacobs has teaming agreements to execute the contract, and providing technical guidance.

Mr. Green had focused responsibilities for the two satellite offices in Portsmouth and Paducah and played a particularly key role in staffing the Portsmouth office. He took a leadership role in establishing field services capabilities including establishing subcontracts with laboratories and drillers as well as developing procedures.

For the Weldon Spring Project, Mr. Green was promoted from Radcon Manager to Manager of Environmental Safety and Health (ES&H) and then to Jacobs Senior Site Representative. This

Superfund remedial action program is being conducted to address cleanup of approximately 750,000 cubic yards of mixed radioactive and chemical waste and demolition of 44 contaminated buildings containing asbestos, radioactive, and chemical residues.

As, ES&H Manager, he had direct management responsibility for a staff of 70 professional health physicists, industrial hygienists, environmental engineers, hydrogeologists, statisticians, geologists, biologists, ecologists, and technicians. He was involved daily and directly as hazardous chemicals were drained from tanks and consolidated, over 2000 cubic yards of uranium-contaminated asbestos was abated and stored, an entire uranium refinery was decontaminated and demolished, over 5000 tons of metal was surveyed and free released, two water treatment plants were designed and operated to treat over 10 million gallons of water, over 100,000 cubic yards of radioactive mixed waste and building debris were excavated from an abandoned quarry, and facilities to store wastes in compliance with regulations were constructed and operated. He was responsible for designing and implementing a comprehensive worker safety program for several hundred subcontract workers and environmental monitoring program that included surface water, groundwater, air, soil, and biota. This involved:

- A fully DOE and OSHA compliant program for industrial hygiene including asbestos, noise, heat stress, hazardous chemicals, and hazardous atmospheres. It included programs for HAZCOM, Respiratory Protection, Hearing Conservation, Chemical Hygiene, and Bloodborne Pathogens.
- A fully DOE compliant Radcon Program including ALARA, contamination control, dosimetry, training, records, and instrumentation.
- Specification of appropriate personnel protective equipment and safety approval of subcontract design specifications.
- Surface water monitoring and management within the site confines and at seven NPDES outfalls.
- Groundwater monitoring including well installation, development, and abandonment.
- Monitoring airborne contaminants within the site confines, at the site perimeter, and at critical receptors.
- Biological monitoring including mammals, fish, water fowl, benthic invertebrates, crops, and other flora.

In his dual role as Jacobs Senior Site Representative, he oversaw administration of the \$100 million Jacobs subcontract at the Weldon Spring site. He was responsible for the administrative functions of employment, personnel, expense reporting, and client invoicing. He successfully negotiated a \$76 million work scope addition for Jacobs.

As Radcon Manager, he personally developed all required plans and procedures on project startup. He designed and directed the radiological characterization of soil, air, and building structures. This

involved preparation of remedial investigation sampling plans; soil sample collection; and radon gas and radon daughter working level measurements; radioactive air particulate measurements; and field radiation surveys for beta, alpha, and gamma radiation. Mr. Green directed the operation of a radiological laboratory where gamma and alpha spectrometry were performed and radiation detectors were maintained for field operation. He wrote the computer software for an NaI gamma spectrometer spectrum stripping routine. He had oversight of worker internal and external dosimetry.

In addition to his experience with radioactive materials and mixed waste, Mr. Green assisted in the preparation of the RI/FS work plan and field-sampling plan for the National Priorities Listed southeast industrial area of the U.S. Army Depot at Anniston, Alabama. This site contained 29 solid waste management units comprised of sanitary landfills; trenches; building sumps, and disposal pits contaminated with organic chemicals such as trichloroethene, phenol, PCBs, and heavy metals; and disposal pits containing sodium, asbestos, metal-contaminated abrasive dust, and other unknown wastes. Work involved interpretation of groundwater, surface water, soil, and air monitoring data in order to formulate a remedial investigation field sampling plan and feasibility study strategy.

In previous employment with Roy F. Weston on DOE's UMTRA Project, Mr. Green was promoted from Staff Health Physicist to Deputy Manager of Radiological Services. In this capacity, he was responsible for the technical accuracy and overall quality for all documents produced by a staff of nine health physics professionals. These documents included EISs, EAs, Site Characterization Reports, Remedial Action Plans, and Remedial Action Audit Reports.

As staff health physicist on UMTRA, Mr. Green designed and directed site characterizations of two low-level radioactive /mixed waste tailings sites, prepared one EIS, three EAs, four Site Characterization Reports, three Remedial Action Plans, and several Remedial Action Audit Reports. Mr. Green provided expertise in health risk assessments, statistical data analysis, radioactive source term and waste volume estimation, and radon barrier cover design for waste embankments.

Mr. Green has performed health risk assessments via use of the NRC MILDOS computer code, the NRC IMPACTS computer code, and the DOE RESRAD computer code. He wrote software for a computer-assisted design package for waste disposal embankments, and developed a computer program for calculating internal dose from inhalation of radionuclides.

Prior to his involvement in site remediation projects, Mr. Green served as Staff Engineer for the Safety and Environmental Protection Division of Brookhaven National Laboratory. His responsibilities included preparation and instruction of radiation safety training for all occupationally exposed laboratory personnel and administration of a 10-week health physics program for 20 graduate students. He also conducted reliability testing of the radiological monitoring equipment at the Brookhaven High Flux Beam Reactor, and assisted in a QA check of personnel radiation dosimeters.

EMPLOYMENT HISTORY

1987 to date

Jacobs Engineering Group, Inc.

Radiological Control Manager

Director of Projects

Remedial Investigations Manager

Deputy Program Manager

Senior Site Representative

Manager, Environmental Safety and Health

Radcon Manager

1984 - 1987

Roy F. Weston

Deputy Manager Radiological Services

Staff Health Physicist

1984-1984

Brookhaven National Laboratory

Staff Engineer

Ethan C. Litsey
Chemist

EDUCATION

BS, Chemistry, 1987

LENGTH OF SERVICE

Jacobs/Sverdrup Hire Date: 1994

Other firms/agencies: 5 years (Entered the profession in 1989)

BACKGROUND/EXPERTISE

Mr. Litsey specializes in environmental chemical analysis, data interpretation, and evaluation of hazardous waste projects, including those involving contaminated soil, sludge, groundwater, surface water, sediment, and other environmental samples. His background also includes environmental chemistry sampling and data quality assurance protocols and procedures.

PROJECT EXPERIENCE

U.S. Army Corps of Engineers - Tulsa District \$15-million Indefinite Delivery Order Contract

- *Longhorn Army Ammunition Plant, Phase II RCRA Facility Investigation, Karnack, TX* - Project Chemist providing data interpretation and validation, lab coordination, and subcontracting for a RCRA Facility Investigation including soil gas surveys, surface geophysical investigations, monitoring well installation, soil borings, down-hole geophysics, and exploratory excavations.
- *Lackland Air Force Base, UST Site Investigation, San Antonio, TX* - Project Chemist responsible for data validation and interpretation, research on fate and transport and degradation of volatile organic compounds, and review of field testing protocol.

U.S. Army Corps of Engineers - Nashville District (Ohio River Division) \$9-million Indefinite Delivery Order Contract. Project Chemist for Nashville District Indefinite Delivery Order Contract, responsible for chemical data interpretation, validation, and quality evaluation. Additional responsibilities include preparation and submittal of final specifications, compilation of data for Risk Assessments, cost estimating, sample coordination, and lab coordination, as well as the preparation of technical work plans (SAP) and reports. Mr. Litsey has served in this capacity for delivery orders such as:

- *Lexington-Bluegrass Army Depot, Group I Sites, Lexington, KY* - Project Chemist for Remedial Design Investigation for RCRA cap and cover system for Old Landfill, New Landfill, and Industrial/Sanitary Waste Landfill.
- *Lexington-Bluegrass Army Depot, Industrial Waste Lagoons, Lexington KY* - Project Chemist for Remedial Design Investigation.
- *Bluegrass Facility, Combined Sites, Richmond, KY* - Project Chemist for Site Investigations at the Temporary H Storage Site, Paint Filter Disposal Site, Electrolyte Storage Area, DRMO Storage Facility and the Former Shell Washout Facility.

- *Bluegrass Facility, Battery Burial Site, Richmond, KY* - Project Chemist for a Site Investigation and Remedial Design Investigation at a site where batteries reportedly were buried prior to 1970.
- *Bluegrass Facility, Dry Acid Pond, Richmond, KY* - Project Chemist for a Phase II RCRA Facility Investigation.
- *Bluegrass Facility, Old TNT Lagoons, Richmond, KY* - Project Chemist for a Phase II RCRA Facility Investigation
- *Bluegrass Facility, Old and New Landfill Sites, Richmond, KY* - Project Chemist for Interim Remedial Action Plan studies involving the evaluation of groundwater contamination from landfill operations.
- *Savanna Army Depot, CF Area, Savanna, IL* - Project Chemist for Remedial Design on an explosives contaminated site. Remedial Design focused on composting TNT-contaminated soils with horse manure, alfalfa hay, and horse feed using windrow composting technology based on results obtained at the Umatilla Depot Activity in Oregon.
- *Detroit Arsenal, Drum Storage Area, Warren, MI* - Project Chemist for the Remedial Action Plan at this site.
- *Fort Campbell, World War II Buildings and Family Housing Areas, Fort Campbell, KY* - Project Chemist for pesticide sampling.

Omaha District USACE \$20-million Indefinite Delivery Term Contract – Various Locations. Project Chemist responsible for cost estimating and subcontracting of labs, as well as preparation of Chemical Data Acquisition Plan.

U.S. EPA ARCS Program, Regions VI, VII, and VIII

- *Midvale Slag Superfund Site, Midvale, UT* - Researched sources of potential contamination resulting from processing of metal ores.

World Color Press – Various Locations. Project Chemist providing lab coordination for soil remediation and groundwater and soil investigation.

Cummings Gateway, Inc. – St. Louis, MO. Project Chemist providing data validation and interpretation, as well as lab coordination and subcontracting.

TECHNICAL PAPERS/PUBLICATIONS

NA

WORK HISTORY

Jacobs Engineering Federal Programs	1994 to Present
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AARON J. EVERSON, P.E.
Environmental Engineer

EDUCATION

BS, Geological Engineering – University of Missouri - Rolla, 1994

LENGTH OF SERVICE

Jacobs/Sverdrup Hire Date: 1994

Other firms/agencies: 0 years (Entered the profession in 1994)

REGISTRATIONS/CERTIFICATIONS

Professional Engineer – MO, 2001

OSHA Hazardous Waste Health and Safety Course (29 CFR 1910.120)

OSHA 8-Hour Annual Updates

AHERA (TSCA Title II) Building Inspector Course (40 CFR 763)

AHERA EPA Approved Inspector Refresher

AHERA EPA Asbestos Contract/Supervisor Course (40 CFR 763)

AHERA EPA Approved Asbestos Contract/Supervisor Refresher

AHERA EPA Asbestos Project Designer (40 CFR 763)

AHERA EPA Approved Asbestos Project Designer Refresher

Certified Contractor/Supervisor – Various States

Certified as an Asbestos Inspector – Various States

Lead Risk Assessor

Lead Inspector

BACKGROUND/EXPERTISE

Mr. Everson has experience in inspection, assessment, abatement, and design development in dealing with eliminating asbestos hazards encountered in a construction environment and has experience dealing with contaminated soil and groundwater.

PROJECT EXPERIENCE

Okaloosa School District – Okaloosa County, Florida. Environmental Engineer responsible for services dealing with asbestos, lead-based paint, and PCB abatement at multiple schools in Okaloosa County, Florida. Responsibilities included survey and design, contract management, subcontractor oversight, daily and clearance air monitoring, and project closeout.

St. Louis Development Corporation – St. Louis, MO. Project Manager responsible for the survey and design to remediate an 11-acre site including 14 different buildings. Responsibilities include the site inspection to check locations and quantities of ACBM, lead containing paint, PCB's, unknown chemicals, UST, to develop specifications and drawing to remediate the site, specification and drawings for the demolition of 4 building and various structures on the 11 acres, and to coordinate the plans and specifications to meet state requirements to qualify for state reimbursement funds.

Federal Aviation Administration – Nationwide. Project Manager responsible for surveys to identify ACBM, lead containing paint and PCB's at 19 Air Route Traffic Control Centers throughout the United States. The project includes developing technical specifications and drawings for the removal and disposal of these materials.

Federal Aviation Administration – Nationwide. Project Manager responsible for surveys to identify ACBM, lead containing paint and PCB's at various Air Traffic Control Towers throughout the United States. The project included developing survey reports and technical specifications and drawings for the renovation of the Air Traffic Control Towers.

Federal Aviation Administration - Aurora, IL. Environmental Engineer responsible for oversight of asbestos abatement contractor at an Air Route Traffic Control Center allowing the facility continual uninterrupted operation and meeting the stringent requirements of the FAA concerning asbestos hazards.

Federal Aviation Administration – Kansas City, KS. Project Manager responsible for oversight of asbestos abatement contractor at an Air Route Traffic Control Center allowing the facility continual uninterrupted operation and meeting the stringent requirements of the FAA concerning asbestos and lead hazards.

Kiel Auditorium - St. Louis, MO. Deputy Project Manager for conducting an inspection for the identification and spread of lead containing paint during the renovation of the Kiel Center.

General Services Administration, Federal Building - Chicago, IL. Project Manager for overseeing the abatement of asbestos containing floor tile and pipe insulation during a floor renovation of a 10-story office building.

Venture – Nationwide. Environmental Engineer responsible for conducting surveys at various department stores to detect for the presence of asbestos before renovation of the stores. Oversight of asbestos contractors using heat methods to remove asbestos containing floor tiles during renovations allowing the owner to reduce abatement cost and meet the strict time schedules required for the project.

Keebler Company – Nationwide. Environmental Engineer responsible for conducting Phase I investigations and performed asbestos abatement contractor oversight at various facilities throughout the country.

US Corps of Engineers - Lexington-Bluegrass Army Depot. Environmental Engineer responsible for performing surface water, groundwater, and soil sampling, and groundwater pumping tests at an army ammunition base to determine the extent of contamination.

US Corps of Engineers - Richmond-Bluegrass Army Depot. Environmental Engineer responsible for performing surface water, groundwater, and soil sampling at an army ammunition base to determine the extent of contamination.

US Corps of Engineers – Former Glasgow Air Force Base – Montana. Environmental Engineer responsible for performing sampling, isolation, and identification of unknown substances in unidentified drums.

WORK HISTORY

1994 to Present

Jacobs Engineering Federal Programs

BLAIR L. INGALLS

Senior Project Manager, Building Sciences

CURRENT ROLE

- Performs environmental consulting to include risk assessment and facilities management programs
- Responsible for implementation and overseeing of hazardous materials risk assessment and environmental monitoring of hazardous materials remediation projects
- Develop and provide OSHA compliance training and NYSDOL/DOH asbestos related disciplines
- Develop and implement hazard communication and Respiratory Protection Programs
- Prepare Asbestos Specifications and cost estimates

EXPERIENCE

Prior to starting at Chopra-Lee, Inc. Mr. Ingalls had a 30 year career as a Chemical Engineer specializing in asbestos formulation, usage and properties. His career has seen him work for a fortune 100 corporation for 22 years as a research providing technical support to specialty minerals research and product development groups, conducted feasibility studies for new business ventures representing potential commercial sales, developed new test method that provided recurring cost savings, presented technical and sale presentation to clients and professional trade associations, supervised laboratory research and development investigations. Additional experience saw him manage a cosmetic production facility and manage environmental field service activities for a newly formed analytical light optics laboratory.

EDUCATION

State University of Maine – Bachelor of Science in Chemical Engineering

PROFESSIONAL TRAINING

OSHA 40 hours Hazardous Waste site Worker
OSHA 10 hour Construction Safety
NYS Restricted Asbestos Handler II Air Sampling Technician (16 hours)
NYS Restricted Asbestos Handler III Building Inspector (24 hours)
EPA NYS asbestos Handler and Abatement Worker (24 hours)
EPA NYS Approved Instruction/Training Programs
EPA NYS Asbestos Management Planner
EPA NYS Asbestos Project Designer
Red Cross First Aid and CPR

DAVID L. FLEMING
Health Physicist

EDUCATION

Coursework Completed for MS Environmental Engineering, Health Physics Emphasis,
Northwestern University, Evanston, Illinois
BS, 1986, Physics, Bradley University, Peoria, Illinois

EXPERIENCE SUMMARY

Mr. Fleming has over thirteen years of experience in environmental health physics. He has worked at the DOE Weldon Spring Site Remedial Action Project for twelve of these thirteen years. He is currently the ES&H Department Worker Protection Group Supervisor responsible for all programmatic aspects of WSSRAP radiation protection and industrial hygiene programs, including the site 10 CFR 835 PAAA Coordinator position. He is also the Jacobs corporate radiation safety officer, providing advice and guidance on radiation protection issues to Jacobs offices as needed.

Mr. Fleming has prepared environmental documents in support of the NEPA/CERCLA process, has developed project documents as required by DOE Orders and federal regulations, and has participated in numerous health physics field activities in support of WSSRAP project needs. Mr. Fleming had previously held the ES&H Field Operations Supervisor position for over three years. He was responsible for ES&H oversight and support for the WSSRAP radioactive/mixed waste disposal cell, and was active in all phases of site remediation including initial characterization, building demolition, asbestos abatement, contaminated soils removal, and disposal cell operations. He supervised a staff of up to 20 ES&H technicians during various phases of the project.

Mr. Fleming's WSSRAP experience in technical report writing includes:

- Development and revision of the WSSRAP Radiological Control Manual
- Development of the WSSRAP Radiation Protection Program required by 10 CFR 835
- The WSSRAP Internal Dosimetry Technical Basis Manual
- The Weldon Spring Quarry Radon Emissions Modeling Report
- The Weldon Spring Chemical Plant Buildings Radiological Characterization Report
- Soil contamination sections of both the Weldon Spring Site and the Weldon Spring Quarry Remedial Investigation reports
- Technical review of subcontract documents, NEPA/CERCLA related documents, health and safety plans, characterization reports, and standard operating procedures.

His operational health physics experience at Weldon Spring includes:

- Former Field Operations Group Manager. Managed a staff of 20 environmental safety and health technicians providing field support of remediation activities
- Preparation of radioactive material shipments in accordance with DOT requirements

- Radiation protection health and safety support
- Radiological data acquisition for soils, buildings, and equipment characterization, as well as environmental monitoring data acquisition
- Radiation Protection Training Instructor
- Currently providing technical guidance and support to ongoing remediation activities as required.

Mr. Fleming's experience also includes one year as Project Engineer at the DOE Argonne National Laboratory in Argonne, Illinois, where he was responsible for field oversight of a radioactive decontamination and decommissioning project. This work involved removal and disposal of radioactively contaminated water, mixed waste sediment, activated metal objects, and radioactively contaminated cast iron pipes and concrete.

Mr. Fleming's duties included developing and implementing sampling plans for characterization of the various waste streams, reviewing work plans, daily field oversight of subcontractor work activities, coordination with other Argonne National Laboratory departments to accomplish support tasks for the project, and ensuring compliance with work procedures and health and safety plan requirements.

EMPLOYMENT HISTORY

1994 to date

Jacobs Engineering Group Inc.
Health Physicist

1993 - 1994

Espo Engineering
(Subcontractor to Argonne National Laboratory)
Project Engineer

1988 - 1993

Jacobs Engineering Group Inc.
Health Physicist

Name: LOUIS E. EHRHARD, PG

Title: Project Manager

Education: M.S., 1986, Geochemistry, State University of New York, Stony Brook
B.A., 1982, Geology and Environmental Studies, Macalester College, St. Paul, Minnesota

Special Training: OSHA 40-hour Health and Safety with Annual Refresher
OSHA 8-hour Health and Safety Training for Managers
RCRA Corrective Action Management Unit Workshop, 1993
RCRA Toxicity Characteristic Workshop, 1990
RCRA Land Disposal Restrictions Workshop, 1990
Total Quality Management Training, 1990
Environmental Site Assessments for Property Transfers, 1989
Revised Hazard Ranking System Scoring, 1989
Leak Detection Methods for Underground Storage Tanks, 1988
Superfund RI/FS Workshop, 1988
Hazard Ranking System Scoring for Federal Facilities, 1987
Red Cross Standard First Aid and Adult CPR with Annual Refresher

Registration: Licensed Professional Geologist, Illinois No. 196-00976
Registered Professional Geologist, Tennessee No. 3560

Certification: Certified DOE Radiation Worker II

Affiliations: American Institute of Professional Geologists
Association of Engineering Geologists

Mr. Ehrhard has 18 years of experience in geology, hydrogeology and geochemistry. His primary areas of expertise include RCRA and CERCLA site investigations and remediation, hydrogeologic investigations, RCRA permitting and compliance, underground storage tank (UST) removals and remediation, and environmental site assessments (ESAs).

With Jacobs, Mr. Ehrhard is a Project Manager for commercial and government hazardous waste management projects nationwide. He is responsible for client contact, preparing proposals, work plans and cost estimates, tracking project schedules and budgets, scheduling field personnel for on-site field activities, reviewing deliverables, and preparing monthly status reports and manpower forecasts. Mr. Ehrhard also served as the Deputy Program Manager for the Air Force Center for Environmental Excellence (AFCEE) Remedial Action Contract (RAC) at Chanhute AFB, Technical Services Manager for Jacobs' Chicago office, and managed a basic ordering agreement for environmental investigation, permitting, and remediation support at DOE's Argonne National Laboratory.

Mr. Ehrhard has taken a lead technical role in over ten RI/FSs and RFI/CMSs in the Midwest, and has made significant technical contributions to several others. As a function of these projects he has prepared and reviewed work plans, Sampling and Analysis Plans (SAPs) and various technical reports for EPA and state approval, assisted in consent order negotiations, and participated in various EPA-required public meetings. Mr. Ehrhard has extensive knowledge of monitoring well network design, drilling, sampling and field investigation techniques, and analytical methods. He has designed groundwater monitoring systems and implemented multimedia sampling programs at sites under a variety of federal and state regulatory authorities. He has an extensive understanding of RCRA/HSWA regulations and has presented several RCRA training courses to regulators and the regulated community.

Mr. Ehrhard's project assignments and activities with Jacobs have included the following:

- AFCEE RAC at Gentile AFS, Kettering, Ohio, Project Manager of \$3M delivery order for non-time critical removal actions at an unpermitted disposal area and creek to facilitate property transfer. Performed waste characterization of the 1.5 acre disposal area mass, excavated over 25,000 CY of soil and material, segregated soil for reuse based on characterization and screening, transported approximately 4,500 tons of waste and contaminated soil to industrial, RCRA, and TSCA landfills. Performed post-excavation soil sampling to ensure remaining concentrations of contaminants are below risk-based levels and backfilled footprint with clean fill. For the creek, removed and stabilized PAH, pesticide and lead contaminated sediments from up to 6-foot depth along 1,600 feet of creek. Transported the stabilized sediment to an industrial waste landfill for disposal, collected post-excavation samples for risk assessment, and back-filled the creekbed with clean fill. Prepared reports for both removal actions for regulatory agency approval
- AFCEE RAC at Chanute AFB, Rantoul, Illinois. Deputy Program Manager of \$20M base-specific contract and Project Manager for remedial activities at several sites on the base. Attended BCT meetings and advised the Air Force regarding regulatory requirements, investigative strategies and remedial alternatives, oversaw development of proposals, project quality program plans and reports, and performed quality reviews. Projects included:
 - time-critical removal actions at a fire training area: removed above-ground control tower, pumphouse and support structures, as well as 4,600 feet of underground fuel distribution piping, prepared OSC report
 - EE/CAs and non-time critical removal actions of soils at a fire training area and fuel handling facility: conducted site characterization using CPT/UVF and immunoassay screening techniques, DPT soil sampling for laboratory analyses, and geotechnical and hydrogeologic testing; prepared EE/CAs and received approvals from regulatory agencies for removal and off-site disposal of 70,000 CY of impacted soil; prepared planning documents for the non-time critical removal actions
 - UST groundwater plume remediation: determined extent of contaminant plume, designed/constructed/operated a groundwater collection and treatment system, and prepared annual O&M reports and closure documentation
 - closure of a RCRA storage area: performed historical review, closure sampling, and prepared documentation required for RCRA closure

- AFCEE RAC at Whiteman AFB in Missouri, Project Manager for the soil and groundwater investigations and remediations at a fire training area, an UST site, a landfill, and two firing ranges. Under the AFCEE Installation Restoration Program (IRP II) contract, managed the groundwater monitoring program for 12 sites at the base. This program consisted of collecting soil and groundwater samples to investigate the nature and extent of contamination at recently identified sites, and quarterly groundwater monitoring at sites with documented groundwater contamination. As on the RAC, provided technical interface with the Air Force and regulators, and managed the development of the sampling and analysis plan, construction quality plan, and the health and safety plan
- DOE Argonne National Laboratory in Illinois. Technical Manager for an interim action, part of an RFI, at the 319 area landfill that was leaching radioactive and chemical constituents into a nearby stream. Supervised the design and construction of a slurry wall and leachate/groundwater collection and discharge system to contain and control this discharge. The system consisted of a 275-foot long by 30-foot deep bentonite slurry wall, an 80-foot long by 5-foot deep leachate collection trench, four shallow groundwater recovery wells, an above-ground contaminated water piping and discharge system, and three shallow groundwater monitoring wells. In addition, over 100 cubic yards of contaminated debris from a disposal trench extending from the landfill were excavated, characterized, consolidated by placing into the landfill, and capped. Interfaced with the client and managed Jacobs and subcontractor resources to keep this fast-track project on schedule through system start up and submittal of the final interim action report
- Stoughton City Landfill RI/FS, Wisconsin. Project Manager for a post-ROD groundwater investigation to further characterize site geology, hydrogeology and contaminant fate-transport and supplement the RD/RA for the groundwater operable unit. The investigation focused on defining the off-site concentrations of halomethanes and other volatile organic contaminants, and determining whether the contaminants were discharging to the adjacent Yahara River or threatening nearby municipal supply wells just across the river. Supervised the completion of the groundwater investigation work plan and the QAPP. Upon EPA approval of the plans, directed the two-month field program including construction of access roads; drilling of soil borings using dual-wall reverse-circulation techniques; management, sampling, and discharge of drilling-generated groundwater to a POTW; sampling of groundwater from soil borings with 24-hour analysis to identify zones of contamination; and placement and installation of monitoring wells. Following two rounds of groundwater sampling for TAL, TCL, and halomethanes, oversaw preparation of a report summarizing the analytical results and detailing the off-site groundwater flowpaths
- Reserve Environmental Services (RES) RFI/CMS in Ashtabula, Ohio. Managed technical oversight of the project for the EPA. RES treated and disposed of high and low pH inorganic liquids and sludges, as well as organic sludges, in surface impoundments and landfills. Soil, groundwater, surface water, and sediments were contaminated with DNAPLs and dissolved organics and inorganics. Responsibilities included reviewing and providing detailed comments on all technical plans and documents for compliance with the consent order and EPA guidance; providing field oversight of all investigative activities including soil borings, contaminant-source area borings, monitoring well installation, slug tests, and multimedia sampling; assisting EPA during negotiations with RES; and reviewing data and providing recommendations for a phase II RFI and interim measures. As part of an

enforcement action against the facility, provided critical review of RCRA compliance issues and worked with ORC and DOJ attorneys developing the case. Also oversaw development of a community relations fact sheet and participated as the RFI technical expert during two public meetings. As a subject matter expert under a subsequent sole-source contract with EPA, provided additional historical, technical, and regulatory support during review of the RFI report

- Koppers facility in Carbondale, Illinois. Managed the technical oversight of the RFI/CMS for the largest wood treating facility in the nation. Through past operations, the soil, groundwater, surface water and sediments at the Koppers facility became contaminated with DNAPL and dissolved creosote, pentachlorophenol, and inorganic constituents. Responsible for: technically reviewing the RFI report, CMS, interim measures work plan, interim groundwater monitoring program, and QAPP; coordinating field oversight of drilling, well installation and sampling activities; and providing technical and regulatory support to EPA during negotiations. Assigned as a subject matter expert for EPA to provide technical and regulatory evaluations of a proposed corrective action management unit, DNAPL remedial alternatives, groundwater cleanup objectives, and to assist in the preparation of the statement of basis (SOB) and the proposed alternative public meeting
- General Electric RFI/CMS in Coshocton, Ohio. Provided technical support to the EPA for the CMS and during CMI negotiations. Operations at the GE electromaterials facility, which produced laminated circuit boards, resulted in polynuclear aromatics contamination of the soils, and phenols and arsenic in the groundwater. Evaluated the CMS and RFI which argued that elevated concentrations of arsenic in the groundwater were from reduction and mobilization associated with aerobic biodegradation of the phenols. Assisted in the preparation of the SOB for attenuation of arsenic via natural re-oxidation of the aquifer and presented technical and regulatory background during the proposed alternative public meeting. Upon approval of the SOB, participated in negotiations of the first CMI consent order signed in Region V
- Weldon Spring Site Remedial Action Project, Missouri. Participated in several contaminant characterization studies of the former DOE/DOD weapons facility. Managed the field investigation of the primary offsite surface water drainage from the site, including radiological surveys and soil/sediment sampling for chemical and radioactive parameters. Conducted the initial soil boring and sampling program at the site identifying areas with elevated concentrations of nitroaromatics and radioisotopes. As part of the groundwater investigation, supervised the installation of shallow and bedrock monitoring wells at the site. Also performed groundwater and surface water sampling activities
- DOE Fernald Environmental Management Project, Fernald, Ohio. Reviewed RCRA waste stream characterizations for this DOE mixed waste (hazardous/radioactive) Superfund site. The review process included conducting process knowledge research, reviewing analytical data, incorporating applicable exemptions and exclusions, identifying applicable treatment standards and technologies, providing narrative support for determinations, and revising material evaluation forms. Other tasks at the site, which is undergoing an RI/FS under joint CERCLA/RCRA authorities, included researching and developing treatment technologies currently used for some of the TC-hazardous mixed wastes prior to shipment off-site

- Amoco Oil Company refinery in Wood River, Illinois. Technical Manager for the preparation of a RCRA Part B post-closure permit application. Reviewed facility's operational and regulatory history and local hydrogeologic conditions, and Amoco's groundwater remediation activities, and provided technical and regulatory guidance to Amoco on technical elements of the permit application. Prepared the groundwater monitoring plan and sampling and analysis plans for post-closure groundwater monitoring at the facility, and technically reviewed, edited, and assembled the permit application for submittal to the Illinois EPA (IEPA). Upon submittal of the original permit application, assumed the role of Technical Manager on the project and was responsible for permit application revisions, client contact, and assisting Amoco during negotiations with IEPA
- U.S. Silica Corp. Performed phase I ESAs at mining operation across the nation. Entailed reviews of operational and regulatory histories, title searches and site inspections followed by a report summarizing the findings. Conducted investigation of a past oil pipeline release at the plant area of the Millville, New Jersey sand mine. Soil borings were hand auger due to the multitude of underground utilities present, monitoring wells installed, and soil and groundwater samples collected for select chemical analyses, in accordance with New Jersey Department of Environmental Protection (NJDEP) requirements. Prepared a report for "no action" required for the site
- Southeast Industrial Center, Gary, Indiana. Project Manager for an UST removal and remediation project. Five USTs at the property required removal; two of these were 50,000-gallon oil tanks under more than three feet of reinforced concrete. The USTs were removed and excavations sampled for the required parameters. Installed monitoring wells and implemented a groundwater investigation at two excavations where releases to the shallow groundwater were observed. To remove the source of the groundwater contaminants, 2,600 cubic yards of contaminated soil were dewatered, excavated, and stockpiled. Contaminant concentrations in the stockpiled soil were reduced after a year of passive bioremediation/aeration and the leaking UST remediation was completed and approved by the Indiana Department of Environmental Management (IDEM)
- Hawthorne Works site in Cicero, Illinois, a former telephone switchboard manufacturing facility. Conducted ESAs at two properties as part of real estate transactions. After negotiating the scope of the investigations with the buyer, seller and their contractor, conducted a surface and subsurface soils investigation, as well as lead dust and PCB oil spills assessments. Reviewed the analytical data, prepared a report, and represented the seller during further negotiations with the buyer. As a result of these discussions, elevated levels of lead dust in one room were remediated. For an adjacent property, previously remediated by another contractor, technically reviewed the site remediation and represented the current property owner during discussions with lending institutions and attorneys
- EPA Regions V and VII. Identified releases from solid waste management units. Performed 16 RCRA facility assessments (RFAs) at TSD facilities throughout the regions. The RFAs, the first phase of RCRA corrective action, were conducted on a variety of interim status facilities including solvent recyclers, petroleum refineries, secondary smelters, paint and automobile manufacturers, government installations, and various types of hazardous waste land disposal facilities. Developed and implemented multimedia sampling

programs to verify releases to the environment. Upon review of the analytical data, proposed further investigative and remedial measures as necessary

- Regulatory inspections. Performed over 50 RCRA compliance inspections in EPA Regions V and VI. Performed inspections at both generator and TSD facilities, including compliance evaluation inspections (CEIs), land disposal restrictions (LDR), minimum technological requirements and toxicity characteristic inspections. Additionally, participated in development and presentation of EPA-sponsored RCRA training courses presented in EPA Regions V, VI, VIII, and IX. Technical Editor of the RCRA sampling procedures handbook and the RCRA comprehensive groundwater monitoring evaluation (CME) handbook. Also contributed to training programs as an Instructor at the CME, CEI, and RCRA sampling procedures training courses for state and federal inspectors, and provided technical support for an LDR seminar presented to the regulated community
- Hazard ranking system (HRS). Scored five DOD facilities for inclusion on the National Priorities List (NPL) using HRS. Facilities included Edwards AFB in California and Bangor Naval submarine base in Washington. Determined aquifers and populations potentially threatened by on-site contamination. Under a contract with the Florida Department of Environmental Regulation (FDER), developed the HRS II reporting requirements and format used for scoring hazardous waste sites in the State of Florida.

Prior to joining Jacobs, Mr. Ehrhard was a Staff Geologist with the New York Geological Survey (NYSGS). He participated in the DOE-funded crystalline rock project in the Adirondack Mountains, New York. The purpose of the project was to identify a geologically suitable location for construction of a nuclear waste repository. Mr. Ehrhard's responsibilities included identifying and evaluating petrologic and structural characteristics of a large area of the central Adirondacks, mapping the surficial and bedrock geology, and presenting the findings to NYSGS and DOE staff.

EMPLOYMENT HISTORY

1987 to date

Jacobs Engineering Group Inc.

Project Manager

Senior Hydrogeologist /

Technical Services Manager 1992-1995

Geologist /

Regional Health and Safety Coordinator 1987-1992

1984

New York State Geological Survey, Albany

Staff Geologist

HERMAN KITT

Program Manager, Industrial Hygiene Abatement

EDUCATION

- BS, Science Biology (Environmental Science), Auburn University, GA, 1983

PROFESSIONAL REGISTRATIONS

- EPA/AHERA Abatement Supervisor (expires 12/30/00)
- EPA/AHERA Asbestos Inspector/Management Planner (expires 9/22/00)
- Lead Abatement for Supervisors and Contractors, 1992

CERTIFICATIONS/SPECIALIZED TRAINING

- Environmental Compliance Audits/Site Assessments, 1989
- NIOSH 582 Sampling and Evaluating Airborne Asbestos Dust, 1984
- RMDs LPA-1 Lead Paint Inspection Systems, 1996
- Lead Abatement Supervisor: EPA Target Housing and Child-Occupied Facilities, 1997
- Construction Management, 1983
- Contract Review & Revision/Professional Liability, 2000
- Interactive Planning Workshop, 1989
- Hazardous Materials and Waste Management for Project Environmental Managers, 1998
- 40-Hour OSHA HazWOPER Training, 1999
- 8-Hour OSHA HazWOPER Refresher Training, 2000

SUMMARY OF EXPERIENCE

Herman has 17 years of hazardous materials experience including 14 years of management experience. His primary focus in industrial hygiene has been in construction management with additional experience in bulk sampling, air sampling and analysis, project administration, and program management. He is familiar with all phases of construction activities including submittal approvals and final clearance inspections and approvals. Herman provides oversight and direction as needed on bulk sampling, air sampling and analysis, and construction-related tasks. Herman has also co-authored a technical paper on Asbestos Final Clearance Using Transmission Electron Microscopy. Herman has a bachelor's degree in science biology (environmental science) from Auburn University.

EXPERIENCE

1992–present

CAPE, Atlanta, GA

As Program Manager of Industrial Hygiene Abatement Services, Herman provides oversight and direction as needed on bulk sampling, air sampling and analysis, and construction-related tasks. He has managed multiple DOs totaling in excess of \$11M.

SOUTHDIV, ID/IQ Remediation, NAS Cecil Field, FL, Mar 99 –Sep 00. Project Manager. Projects at Cecil Field, associated with the BRAC effort, involved identifying suspect, damaged friable ACM at multiple facilities, and required that materials either be removed as necessary or repaired where feasible. Some replacement of materials was also required where removal was performed.

SOUTHDIV, Friable Asbestos Abatement, NAS Jacksonville, FL, May 98 –Mar 99. Project Manager for the abatement of damaged friable asbestos materials in nine buildings throughout the base. Materials included pipe insulation on steam lines, duct insulation, floor tiles, ceiling tiles, window glazing, and contaminated soil. More than 100,000 sf of soil was removed and disposed of in an approved landfill. The project required working closely with the ROICC, Navy Environmental Department, and the building's tenant to coordinate the work schedules in an effort to minimize disruptions to building operations and activities. CAPE's work assisted SOUTHDIV in meeting its client's needs.

SOUTHDIV, Damaged Friable Asbestos Abatement, NAS Cecil Field, FL, Oct 99–Dec 99. Project Manager for a site that was on the base closure list (BRAC); therefore, damaged friable ACM was required to be removed and/or brought into good repair before transfer. As part of this project, five buildings were included and involved materials such as thermal system insulation and vinyl floor tile/mastics. Re-placement materials were installed where complete abatement was required. The project scheduling was particularly challenging as old tenants moved out and new ones were scheduled to move into spaces as they became available.

SOUTHDIV, Charleston Housing Units X and W, Charleston Naval Shipyard, SC, Jun 99–Jul 99. Project Manager for project involving six historical houses (formerly officers' quarters) identified as containing LBP. The LBP was present throughout the interior walls, ceilings, wood trim, and around windows. Herman served as PM to remove LBP where it was flaking and peeling and on chewable surfaces. The exterior of the buildings also contained LBP. The project was challenging in that historical preservation of the structures was paramount. Therefore any materials replaced would have to be replaced with like substitutes subject to approval. The houses ranged in size from 8,000 sf to 15,000 sf. The abatement process generated some hazardous waste, thus a temporary hazardous waste storage facility had to be established. The client benefited because the scheduled base closure process was facilitated through our efforts to effectively meet the project objectives.

SOUTHDIV, Asbestos Abatement Building S-241, Millington TN, Oct 99–Jul 00. Project Manager. Direct interface with SOUTHDIV Headquarters as well as the field office. This project involved the removal of asbestos materials such as vinyl asbestos tiles (VAT), pipe insulation/fitting, transite wallboard and duct insulation. Project challenges included working around the needs/requirements of the tenants and in some instances the HVAC system could not be completely isolated. Some phased shutdowns of the system during off-peak times were allowed. The desired abatement was completed as planned to allow for building upgrades that were long overdue.

LANTDIV, DTA Harvey Point (Oct 97–Nov 97) and NSGA Chesapeake (Oct 99–Nov 99). Project Manager. Managed two DOs in LANTDIV's footprint. Both projects involved complete removal and replacement of ACM in designated areas. Abatement services performed in sensitive areas of facilities required close coordination with building occupants and unique phasing requirements associated with removing ACM from a plenum.

GSA Region IV, Asbestos Surveys, Atlanta Area, GA, Aug 90–Jun 92. Project Manager. Conducted baseline surveys for the presence of suspect ACMs in the Metro Atlanta area. He generated the final deliverables to the client that outlined the survey findings.

GSA Region IV, Asbestos Surveys, Southeastern US, Aug 90–Jun 92. Project Manager. Herman served as PM for a comprehensive asbestos survey of 11 GSA buildings in the Southeast region.

BellSouth Telecommunications, Southeastern US, Apr 92–Jul 99. Project Manager. Served as PM for a variety of environmental services procured via three contracts. Services were provided throughout the nine-state footprint for BST. As PM, Herman was responsible for interacting and coordinating with BST environmental managers, the facility manager, and approved contractors. Tasks included developing SOWs, designing projects, and documenting project activities.

BellSouth Telecommunications, Asbestos Survey of Georgia and North Carolina Buildings, May 95–Aug 96. Project Manager. Served as PM for 3-year reinspections as well as baseline surveys of selected buildings for BST. He provided reports for generation of asbestos databases to include drawings illustrating the location of ACM in building with the corresponding ACM quantities. The reports allowed BellSouth to more effectively track and plan renovation projects throughout the region.

Tuskegee University, Environmental Services Contract, AL, Jun 92–present. Program Manager for multiple TOs over an 8-year period. Projects include asbestos demolition surveys, lead paint abatement, asbestos abatement, and cost estimating. Projects involve facilities that registered as National Historical Sites thus preservation of these facilities is critical.

VA Hospitals, GA, NC, AL, WY, IL, and IA, Mar 92–Sep 95. Project Manager for abatement projects for VA Hospitals in Dublin, GA; Salisbury, NC; Tuscaloosa, AL; Sheridan, WY; Marion, IL; and Iowa City, IA.

Lufthansa Airlines, Atlanta, GA, Aug 90–Feb 92. Project Manager responsible for developing air sampling strategy at headquarters building during 3-year asbestos abatement program. Also served in a construction management role.

1990–1992 Cavin Analytical, Norcross, GA

Managed and staffed asbestos and lead abatement projects. Responsible for allocating and managing resources necessary to complete industrial hygiene services during abatement projects.

1983–1990 McCrone Environmental Services, Norcross, GA

Conducted asbestos abatement industrial hygiene surveillance during abatement of more than 150 schools in Alabama and Georgia. Responsible for performing inspections and documentation throughout completion of abatement.

REGULATORY EXPERIENCE

Herman has extensive experience in working with federal and state regulators in performing industrial hygiene services in accordance with EPA/AHERA, OSHA, and state and local asbestos and lead regulations. He has performed work in GA, IL, FL, TN, TX, LA, SC, NC, AL, WY, MD, as well as Washington, DC.

PUBLICATIONS

- Kitt, Herman, and Nicks, Matthew R. Asbestos Final Clearance Using Transmission Electron Microscopy. Georgia Tech Asbestos Symposium, Atlanta, GA.

REFERENCES

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JEFF SHANNON

Project Manager

EDUCATION

- BS, Environmental Health, University of Georgia, GA, 1987

PROFESSIONAL REGISTRATIONS

- Licensed Asbestos Abatement Contractor in GA (1996), FL (1997), MS (1997), AL (1998), KY (1997), NC (1997), SC (1997), TX (1996)
- Licensed Lead Supervisor, 1997
- EPA Management Planner, Lead Abatement Supervisor, Inspection and Assessment, 1998
- Ohio-Certified Asbestos Hazard Abatement Specialist, 1999

CERTIFICATIONS/SPECIALIZED TRAINING

- NIOSH 582 Sampling and Evaluating Airborne Asbestos Dust, 1987
- 40-Hour OSHA HazWOPER Training, 1999
- 40-Hour OSHA Respiratory Protection Training, 1997
- 8-Hour OSHA HazWOPER Supervisor Training, 1999
- 8-Hour OSHA HazWOPER Refresher Training, 1999

SUMMARY EXPERIENCE

Jeff has 13 years of experience in managing industrial hygiene, asbestos, and lead surveys and abatements. He has experience managing multitask remediation projects ranging in value from \$100K to \$9M. He is responsible for scheduling, staffing, coordinating, and overall managing field staff activities for asbestos and lead abatement projects. Jeff has a bachelor's degree in environmental health and is a licensed asbestos abatement contractor, a licensed lead supervisor, and is an EPA-certified management planner, lead abatement supervisor, inspector, and assessor.

EXPERIENCE

1994–present

CAPE, Atlanta, GA

As PM, Jeff manages multitask remediation projects ranging in value from \$100K to \$9M. He is responsible for scheduling, staffing, coordinating, and overall managing field staff activities for asbestos and lead abatement projects.

SOUTHDIV, Naval Weapons Industrial Reserve Plant, McGregor, TX. PM for asbestos abatement of mechanical systems insulation throughout the facility.

SOUTHDIV, Naval and Marine Corps Reserve Center, Bessemer, AL, 1998 – 1998. PM for the cleanup of lead dust from the facility firing range. He received a commendation letter for this project.

SOUTHDIV, Asbestos Abatement, NAS Jacksonville, FL. Project Manager. Managed a large-scale asbestos abatement project that encompassed the removal of TSI and VAT, as well as the cleanup of asbestos-contaminated crawl spaces and soil from various buildings throughout the installation. He received a commendation letter for this project.

SOUTHDIV, Marine Corp Reserve Center, Rome, GA, 1998 – 1998. Project Manager.

Managed an abatement team for the cleanup of lead dust from the firing range at the facility.

SOUTHDIV, Navy Exchange Consolidation, Orlando, FL. Site Superintendent for asbestos abatement and air monitoring services at this facility.

SOUTHDIV, Defense Testing Activity, Harvey Point, NC, 1997 – 1998. Project Manager. Managed an asbestos abatement team for abatement of designated asbestos-containing TSI throughout the facility. Project included unique phasing requirements associated with asbestos removal while maintaining normal base operations. He received a commendation letter for this project.

SOUTHDIV, NAS Cecil Field, Jacksonville, FL. Project Manager for abatement of TSI at Buildings 617 and 626 of the installation as part of BRAC process.

SOUTHDIV, Lakeside Naval Support Facility, Pascagoula MS, 1997 – 1997. PM for large-scale removal of VAT and associated mastic in this multistory, occupied facility. The project was undertaken as part of extensive renovations being performed at the facility. Asbestos abatement was successfully coordinated with renovation efforts and caused no disruptions to the flow of services provided to fleet sailors. Jeff received a commendation letter for this project.

SOUTHDIV, NAS Jacksonville, FL. PM for asbestos abatement and the subsequent demolition of five small buildings to facilitate the expansion of a golf course at this installation.

SOUTHDIV, NAS Dallas, TX. PM of an asbestos abatement team for work performed at several sites on this facility.

North Carolina Federal Center, Charlotte, NC, 1999 – 2000. PM for asbestos abatement at this facility. The abatement consisted of interior demolition, removal of spray-applied fireproofing, and the subsequent reapplication of new fireproofing in this multistory high-rise occupied facility. The project consisted of abatement of 14 floors and was valued at \$3.5M. The project was completed on schedule and with a high degree of client satisfaction.

Polk General Hospital, Cedartown, GA. PM for an asbestos abatement team for an abatement performed in conjunction with the replacement of a boiler and associated renovations.

Tuskegee University, Tuskegee, AL. PM for a removal project performed in conjunction with renovations of the Chiller Plant.

Alabama Department of Transportation, AL, 1996 – 1997. PM for removal operations performed in buildings scheduled for demolition in various DOT work zones throughout the state.

U.S. Postal Service, ACM Abatement, Dover, DE, 1997–1997. Site Supervisor for removal of asbestos-containing floor tile. Saved client time and money on subsequent floor tile abatement by performing an NEA associated with core drillings through the floor tile. Results of the NEA allowed USPS personnel to conduct drilling with minimized setup, reducing costs associated with hiring an outside contractor. Also provided onsite training for USPS employees associated with the core drilling through asbestos-containing floor tile.

1990–1994 MCT Catalytic Corporation

Managed and staffed asbestos and lead abatement projects. Supervised 35 employees and managed the activities of 10 subcontractors.

1987–1990 McCrone Environmental, Atlanta, GA

Conducted lead and asbestos surveys. Responsible for managing air monitoring/industrial hygiene projects. Supervised 3 employees.

MIKE MOUNT, CIH, OHST
Safety and Health Manager

EDUCATION

- BS, Environmental Science, Troy State University, Troy, AL, 1982

PROFESSIONAL REGISTRATIONS

- Certified Industrial Hygienist #CP7228, ABIH, 1996
- Occupational Health and Safety Technologist #963, ABIH/BCSP, 1989
- Licensed Florida Asbestos Consultant, Certification # AX-0000039, 1997

CERTIFICATIONS/SPECIALIZED TRAINING

- EPA/AHERA Abatement Supervisor, 1994 and 1999
- EPA/AHERA Building Inspector & Management Planner, 1997 and 2000
- NIOSH 582 Sampling and Evaluation Airborne Asbestos Dust, 1984
- TEM Asbestos Analysis, McCrone Research Institute, October 1993
- Lead Paint Inspector Training, 1998
- Lead-Based Paint Risk Assessor Training, 1998
- 40-Hour OSHA HazWOPER Training, 1992
- 8-Hour OSHA HazWOPER Refresher Training, 2000
- Comprehensive Review for Industrial Hygiene Professionals, 1994
- Radiation Safety Training—XRF Instrumentation, 2000
- Indoor Air Quality Diagnostics, 1987

SUMMARY OF EXPERIENCE

Mike has developed several corporate health and safety programs including programs for PPE, medical monitoring, confined space, and respiratory protection. He has also developed, reviewed, and implemented SSHPs, sampling plans, and monitoring programs for a variety of hazardous waste projects. Mike reviewed safety plans for a UST tank replacement project at approximately 100 sites in five states.

Mike has 7 years of experience with RCRA, TSCA, AHERA, and OSHA regulations. He has managed the safety and health aspects of three SOUTHDIV contracts for CAPE. These contracts had no safety violations or accidents during fieldwork. He is also familiar with EPA Region 3, 4, and 5 requirements having worked across the Eastern and Southeastern U.S., predominately in NC, SC, FL, GA, and AL. He has also worked in IL, PA, VA, IN, IA, OH, and Washington, DC.

EXPERIENCE

Feb 95–present

CAPE Environmental

Mike's duties include developing, implementing, and enforcing all elements of SSHPs; training and supervising field staff and specialty subcontractors; interfacing with clients and regulators; reviewing daily reports and S&H programs; and preparing safety and health management reports.

Department of State, Building 646 Demolition Project, Charleston Naval Complex, Jun 2000. Mike supervised the removal and repair of a submerged pump on a project involving the remediation of a building containing hazardous and toxic waste.

Southeastern Pennsylvania Transportation Authority, General Engineering Contract (GEC). Mike has performed as the consulting CIH for the hazardous materials management services under the GEC. Work on this contract has included coordination of multiple asbestos, lead-containing paint, PCB and underground storage tank management projects.

Southeastern Pennsylvania Transportation Authority, Girard Avenue Light Rail Infrastructure Renewal Project. As the consulting CIH on this contract, Mike is responsible for the successful management of hazardous materials investigation and design services. Services have included the survey, assessment and design for lead-containing paint, asbestos, contaminated soils and surface coating materials. This contract also included manhole and duct bank investigations.

Southeastern Pennsylvania Transportation Authority, Broad Street Subway. Mike provided consulting CIH services for this renovation contract. Projects involve the investigation, assessment and abatement design for hazardous materials including asbestos, lead-containing paint, PCB, and mercury at various Broad Street Subway Stations.

Southeastern Pennsylvania Transportation Authority, Wayne Avenue Station Rehabilitation. Mike consulted with the Project Manager who was responsible for the coordination and management of the field investigation for asbestos, PCBs and lead-containing paint. He also provided an abatement design, cost estimates, and specifications.

SOUTHDIV, Navy Marine Corps Reserve Center, Rome, GA. Mike served as Safety & Health Manager for an air monitoring and clearance sampling project during and after lead abatement. His responsibilities included developing the site safety plan; overseeing air and hazardous waste sample collection; final air, wipe, and TCLP data interpretation; and developing the written final report.

SOUTHDIV, Navy Marine Corps Reserve Center in Bessemer, AL. As Safety & Health Manager, Mike managed an air monitoring and clearance sampling project during and after lead abatement. His responsibilities included developing the site safety plan; overseeing air and hazardous waste sample collection; final air, wipe, and TCLP data interpretation; and developing the written final report.

SOUTHDIV, NAS Jacksonville, FL. As Safety & Health Manager, Mike managed an asbestos survey. His responsibilities included developing a site safety plan, and overseeing sample collection, cost estimating, and data interpretation. He developed written reports and established the O&M Program.

SOUTHDIV RAC. Mike currently acts as CAPE's CIH for the Navy SOUTHDIV contract that includes work across the Great Lakes region. For this contract, he developed, implemented, and now monitors SSHPs that address confined space, shoring and trenching, heavy equipment, electrical, solvents, heavy metals, organic vapors, asbestos, lead, and PCBs. Personnel protection on this contract has varied from Level B to Level D.

SOUTHDIV, Charleston Navy Shipyard Family Housing, Charleston, SC. As S&H Manager, Mike managed an exposure assessment with air monitoring, clearance sampling, and hazardous waste characterization activities during a lead abatement project in residential housing. The abatement was performed using chemical removal and wet scraping procedures.

Metropolitan Atlanta Transit Authority, Atlanta, GA. As Safety & Health Manager, Mike supervised site safety during inspections of buildings with suspect ACM and LBP. There were no safety violations or accidents during fieldwork.

BellSouth Telecommunications, Headquarters Building, Atlanta, GA. Performed indoor air quality investigation to determine source of intermittent foul odor in multi-story high-rise building associated with abandoned plumbing lines. Managed project throughout investigation and Remediation.

BellSouth Telecommunications, Executive Park, Building No. 7 Asbestos Abatement, Atlanta, GA. As Safety & Health Manager, Mike developed and managed an air-sampling program during an asbestos abatement project that occurred over a communication system that was enclosed within the work area. The communication system was kept in operation throughout the 4-week project. Mike also reviewed site safety plans for an ongoing tank replacement program for more than 100 sites located throughout the Southeast.

General Service Administration, GA and SC. As Safety & Health Manager, Mike performed supervised safety requirements for CAPE personnel during GSA facility surveys across the Southeast region. The surveys included interviewing building occupants, collecting air samples, documenting environmental conditions, and inspecting HVAC systems. To date, no safety violations or accidents have occurred on the project.

USACE, Ft. Stewart Fire Pit Remediation, GA. Mike developed all SSHPs including atmospheric monitoring with OVA-FID, combustible gas meters, and emergency medical stations. He conducted daily tailgate safety meetings, and reviewed and prepared reports of chemical exposure collected during the project.

General Services Administration, Indoor Air Quality Survey, Orangeburg, SC, Apr 97. General Service Administration. Performed indoor air quality survey at a GSA facility housing social security and IRS offices. The survey included interviewing building occupants, collecting air samples, documenting environmental conditions, and inspecting HVAC systems. The data was analyzed and a report written with recommendations to correct the differences noted in the HVAC system.

USACE, Mobile District, MacDill AFB, FL. Mike served as Site Safety & Health Officer for the MacDill AFB UST Removal and Replacement Project. He prepared an approved SSHP. The primary health and safety concerns were confined space entry, explosion hazards, and chemical exposure. He conducted daily tailgate safety meetings, and reviewed field data and laboratory reports for chemical exposure.

Institute of Paper Science and Technology. Mike's responsibilities for the Institute of Paper Science and Technology included development of sampling plans for formaldehyde, data interpretation, and final report preparation

Federal Republic of Germany, Washington, DC, German Embassy. As Safety & Health Manager for various asbestos removal projects, Mike oversaw safety and health activities for the removal of ACM from this embassy. He selected the SSHO for the project, and reviewed and approved the site safety and health plan.

GSA Region IX, Western U.S. Performed indoor air quality surveys at federally operated offices for GSA throughout the southeast.

Institute of Paper Science and Technology, Atlanta, GA. Project Manager for worker exposure survey of a bulk paper plant. Developed sampling plans, oversaw field execution, evaluated data, and prepared the final report.

Beaulieu of America, Noise Survey, Bridgeport, AL, July 1997. Performed a noise survey and sound frequency analysis at a nylon manufacturing operation to determine feasibility of abatement and selection of noise reduction techniques and materials.

Mar 92–Feb 96 MVA, Inc., Norcross, GA

Duties included sampling and analysis of hazardous and toxic materials during to determine chemical composition, and the sampling of toxic chemicals.

Private Client, 1994. Responsibilities included sample collection of settled dust from indoor environments at a USEPA Superfund site contaminated with lead arsenate.

Bell and Pannell, PC, 1993. Developed and executed sampling plan to determine extent of contamination of fly ash containing heavy metals throughout a residential indoor environments that surrounded a hazardous waste site.

BellSouth Telecommunications, Inc, 1994. Performed indoor air quality survey at a telecommunications switching office. Scope included ventilation system inspection and measurements, VOC sampling, and particle sampling in settled dust and air.

Laboratory Safety Manager, MVA Inc., 1992-1996. Responsibilities included developing, implementing, and managing the safety program of an analytical microscopy laboratory that utilized high voltage electron microscopes for determining molecular composition of known and unknown materials.

Laboratory Analyst, MVA Inc., 1992-1996. Performed light microscopy and transmission electron microscopy analysis on various asbestos air and dust samples to quantification purposes.

August 90–March 92Azimuth, Inc., Norcross, GA

Managed Atlanta office for a Charleston, SC-based industrial hygiene consulting firm. Responsibilities included performing industrial hygiene monitoring and safety surveys, environmental audits, indoor air quality surveys, and asbestos surveys; managing and supporting field staff during abatement projects; and analyzing asbestos air samples using phase contrast.

Winter Environmental Services, 1991-1992. Managed industrial hygiene services during a multi million-dollar renovation/asbestos abatement project of a public mall located in Atlanta, GA.

Emory University, 1990-1992. Managed asbestos abatement projects in various campus buildings (Biology, geology, and psychology). Services included asbestos-containing materials survey, design of asbestos abatement project and construction management/air monitoring services during asbestos abatement.

February 84–August 90 McCrone Environmental Services Inc., Norcross, GA

Performed industrial hygiene monitoring and safety surveys, environmental audits, indoor air quality surveys, and asbestos surveys; managing and supporting field staff during abatement projects; and analyzing asbestos air samples using phase contrast microscopy.

Furman University, Greenville, SC, Mar 87. Responsibilities included collection of suspect asbestos-containing bulk samples, documentation of the condition and location of the samples, recommended response actions and cost estimates.

United Telephone of Florida, Naples, FL, Apr 87–Aug 1987. Industrial Hygienist. Responsibilities included developing a sampling plan and supervised air monitoring during asbestos abatement of a multi-story office building.

Southern Bell Telephone Company, 1987–1990. Various indoor air quality investigations in small office buildings.

REGULATORY EXPERIENCE

Mike has 14 years of experience with RCRA, TSCA, AHERA, and OSHA regulations and has worked extensively in US EPA Regions III and IV.

PUBLICATIONS

- Millette, J. R. and Mount, M. D. Many Non-School Projects Adopting AHERA Guidelines, Council Currents, Vol. 1, No. 4, p. 3, 1988
- Millette, J. R., Brown, R. S., Barnett, J., and Mount, M.D., Scanning Electron Microscopy of Post-it TM Notes Used for Environmental Sampling, NAC Journal, pp. 32-35, Spring 1991
- Millette, J. R., Mount, M.D., A Study determining Asbestos Fiber Release During the Removal of Valve Packing, Appl. Occup. Environ. Hyg., Vol. 8(9), pp. 790-793, September 1993
- Brown, R. S., Millette, J. R. and Mount M. D., Application of Scanning Electron Microscopy for Pollution Particle Source Determination in Residential Dust and Soil. Scanning, 17(5):302-305, 1995
- Millette, J. R., Mount, M. D., Hays, S. M., Releasability of Asbestos Fibers from Asbestos-containing Gaskets. EIA Technical Journal, 3(2):10-15, 1995
- Millette, J. R., Brown, R. S. and Mount, M. D., Lead Arsenate. Microscope 43(4):187-191, 1995
- Millette, J. R., Mount, M.D. Hays, S. M., Asbestos-containing Sheet Gaskets and Packing. Chapter 6. In: Sourcebook on Asbestos Diseases, Vol. 12 Asbestos Health Risks. G. A. Peters and B. J. Peters, Eds., Michie, Charlottesville, VA. pp. 153-188. 1996

PROFESSIONAL LIABILITIES

- Member of Local and National American Industrial Hygiene Association since 1990

SECURITY CLEARANCE

- Not Applicable