

Kirtland Air Force Base – Fuel Spill Remediation

Technical Working Groups Participant Biographies

(as of April 8, 2015)

Multidisciplinary working groups have been established to provide detailed review and analysis of highly technical issues pertaining to the investigation and cleanup of the Kirtland Air Force Base fuel spill. The groups represent technical staff from the regulatory authorities, responsible party, project contractors, and other entities with public responsibility.

The following is a list of working group participants and their biographies. This document will be updated periodically to accurately reflect active participants.

The current technical working groups are Hydrogeology, Biogeochemistry, and Modeling.

List of participants from project partner organizations:

Name	Organization	Working Group
Diane Agnew	CB&I	Hydrogeology BioGeoChem/LNAPL Modeling
Bruce Alleman	Noblis	BioGeoChem/LNAPL
Mike Amdurer	CB&I	Hydrogeology BioGeoChem/LNAPL Modeling
Ludie Wayne Bitner	AFCEC Kirtland IST	Hydrogeology BioGeoChem/LNAPL Modeling
Adria Bodour	AFCEC	Hydrogeology BioGeoChem/LNAPL Modeling
Victoria Branson	AFCEC Kirtland IST	Hydrogeology BioGeoChem/LNAPL Modeling
Kandi Brown	Newfields	Hydrogeology
Scott Clark	AFCEC Kirtland IST	Hydrogeology BioGeoChem/LNAPL Modeling
Megan Duley	Newfields	Hydrogeology
Scott Ellinger	EPA	Modeling
John Gillespie	AFCEC	Hydrogeology Modeling
Kent Glover	AFCEC	Hydrogeology Modeling
Paul Hatzinger	CB&I	BioGeoChem/LNAPL
Steve Huddleson	NMED	Hydrogeology
Phil Hunter	AFCEC	Hydrogeology
Jim Joseph	Intera	BioGeoChem/LNAPL
John Kieling	NMED	Hydrogeology BioGeoChem/LNAPL Modeling
Paul Koster van Groos	CB&I	BioGeoChem/LNAPL

Patrick Longmire	NMED	Hydrogeology	BioGeoChem/LNAPL	Modeling
Eileen Marcillo	Intera		BioGeoChem/LNAPL	Modeling
Dennis McQuillan	NMED	Hydrogeology	BioGeoChem/LNAPL	Modeling
Johnathan Myers	CB&I		BioGeoChem/LNAPL	
Steve Reuter	NMED	Hydrogeology	BioGeoChem/LNAPL	
Katie Roberts	NMED	Hydrogeology	BioGeoChem/LNAPL	
Javier Santillan	Noblis		BioGeoChem/LNAPL	
Mark Sembera	Colorado State U.	Hydrogeology		Modeling
Stuart Shealy	CB&I		BioGeoChem/LNAPL	
Rick Shean	ABCWUA	Hydrogeology	BioGeoChem/LNAPL	Modeling
John Sigda	Intera	Hydrogeology	BioGeoChem/LNAPL	Modeling
Jim Teo	CB&I	Hydrogeology		Modeling
Catharine Varley	AFCEC			
Tom Zondlo	CB&I	Hydrogeology		

Entities Represented

- **Air Force Civil Engineer Center (AFCEC)**
Locations at Kirtland Air Force Base and Joint Base San Antonio-Lackland
 - **AECOM** – contractor to AFCEC
 - **CB&I Federal Services LLC, (CB&I)** - contractor to AFCEC
 - **Colorado State University** – contractor to AFCEC
 - **NewFields Government Services LLC (NewFields)** – contractor to AFCEC
 - **Noblis** – contractor to AFCEC
- **Albuquerque Bernalillo County Water Utility Authority (WUA)**
 - **Intera** - contractor to WUA
- **City of Albuquerque – Environmental Health Division (CABQ-EHD)**
- **New Mexico Environment Department (NMED)**
Resource Protection Division (RPD), Department of Energy Oversight Bureau (DOEOB), Ground Water Quality Bureau (GWQB), Hazardous Waste Bureau (HWB), Petroleum Storage Tank Bureau (PSTB)
- **U.S. Army Corps of Engineers (USACE)** – oversees CB&I contract for AFCEC
- **U.S. Environmental Protection Agency (EPA)**

Individual Biographies of Technical Working Group Members

Diane Agnew (CB&I)

Mrs. Agnew is a hydrologist with ten years of experience in environmental remediation as a scientist and Project Manager. She has supported and managed the drilling, installation, and sampling of groundwater and soil vapor monitoring wells for the characterization of soil, vapor, and groundwater contamination. Most recently, Mrs. Agnew's experience is on RCRA sites to complete RCRA Facility Investigations, Corrective Measures Evaluations, and complete Corrective Actions. She has extensive experience with site investigation, due diligence, and remediation oversight for sites in New Mexico and has worked to successfully achieve clean closure at over twenty sites throughout the state. Additionally, she has experience designing and running groundwater fate and transport models for mining remediation as well as vadose zone fate and transport models for fuel contamination. Mrs. Agnew is currently the Deputy Project Manager on the Kirtland AFB Bulk Fuels Project.

FORMAL EDUCATION:

B.S., Geology; New Mexico Institute of Mining and Technology in Socorro, NM

M.S, Hydrology; New Mexico Institute of Mining and Technology in Socorro, NM

Bruce Alleman, Ph.D. (AFCEC – San Antonio)

Dr. Alleman is an Environmental Engineer with 34 years of experience developing, testing, designing, implementing, evaluating and optimizing remedial technologies for government and private sector clients. His experience includes biological and physical/chemical approaches for remediating soils, sediments, surface water and groundwater, and for treating municipal and various industrial wastewaters. Dr. Alleman's contaminant experience includes petroleum hydrocarbon, chlorinated solvent, PCBs, pesticides, dioxins and metals. He designed environmental laboratories for clients in three countries, conducted numerous laboratory and field treatability studies, and developed innovative sampling systems and analytical methods. Dr. Alleman chaired five international symposia in the Battelle conference series and authored and/or coauthored technology guidance documents for EPA, DoD, SERDP/ESTCP and the petroleum industry. His recent focus has been assisting clients in evaluating innovative technologies and approaches for treating a variety of challenging and emerging contaminants.

FORMAL EDUCATION:

B.S., Hydrology; University of Arizona, Tucson AZ

M.S., Environmental Engineering; University of Arizona, Tucson AZ

Ph.D., Environmental Engineering; University of Arizona, Tucson AZ

Michael Amdurer PG, PhD (CB&I)

Dr. Amdurer has 33 years of experience in project management and remediation technology evaluation. He is the Project Manager for CB&I's Kirtland AFB BFF remediation project, and previously he was PM for the RI/FS at Rocky Mountain Arsenal, a 27-square mile Superfund site contaminated as a result of pesticide, munitions and chemical agent production.

Dr. Amdurer has been an Adjunct Professor at the University of Denver, developing and teaching a graduate-level Solid and Hazardous Waste Management course. He prepared and presented training seminars at all EPA regional offices, as well as state environmental protection departments, on in situ treatment technologies under an EPA Technology Transfer Program. He was also the principal author of one of the first EPA guidelines on in situ treatment of hazardous wastes (Systems to Accelerate In Situ Stabilization of Waste Deposits, EPA/540/286/002) and a co-author of the EPA's "Guidance for Performing Treatability Studies under CERCLA," "Field Operations Methods Manual," and guidance documents on remediating lead battery and wood preserving sites. He has over 35 peer-reviewed publications, focusing primarily on the environmental fate and transport of trace metals and radionuclides.

FORMAL EDUCATION:

B.A., Geology; Columbia University, New York, NY

M.A., Geology/ Geochemistry; University of Texas- Austin, TX

Ph.D., Geology; Columbia University, New York, NY

Ludie Wayne Bitner Jr. (AFCEC – Kirtland)

Ludie "Wayne" Bitner is the Chief of Environmental Restoration and Supervisor for the Air Force Civil Engineer Center (AFCEC) Installation Support Team at Kirtland Air Force Base. He retired from the active duty Air Force after 20 years of service in 1996. Mr. Bitner returned to service as a civilian employee in 2004 and became Chief of the Kirtland Environmental Restoration in 2009. The Environmental Restoration Program oversees DOD contractors during performance of technical field work in addition to preparation of system status reports for regulatory review. Planning and budgeting of projects to maintain environmental integrity at the facility is an integral part of the program. He is also the program point of contact for community planning and public relations.

FORMAL EDUCATION:

A.S., Metals Technology, 1987; Community College of the Air Force, Gunther AFB, AL

B.S., Workforce Education, 1998; Southern Illinois University, Carbondale, IL

ADRIA BODOUR, Ph.D. (AFCEC – San Antonio)

Dr. Adria Bodour is the environmental microbiology and remediation specialist, providing technical and programmatic support for the Air Force Civil Engineer Center (AFCEC) Environmental Restoration Program Management Office, Joint Base San Antonio-Lackland, Texas. Dr. Bodour has over 18 years of experience in environmental research, restoration, and remediation technologies to clean up contaminated sites. She is the

technical lead for the Kirtland Air Force Base, New Mexico, Bulk Fuels Facility leak remediation effort and is spearheading robust interim measures to advance the cleanup of ethylene dibromide associated with the leak. She also serves as the contracting officer representative for Hill Air Force Base, Utah, where she has successfully accelerated the achievement of remediation milestones associated with a \$72 million performance-based remediation contract. Dr. Bodour is the program manager for the AFCEC Broad Agency Announcement and Technology Transfer, a program that demonstrates and validates novel technologies to improve upon restoration and remediation processes and decrease Air Force liabilities. Dr. Bodour facilitates Air Force's communication and partnerships through global distribution of technical relevant information (e.g., Technology Transfer Newsletter, Fact Sheets, etc.) to commands, installations, and contractors. Her doctorate was obtained from the University of Arizona as a Superfund fellow to advanced bioremediation technologies.

FORMAL EDUCATION:

B.S., Environmental Science, Minor Chemistry & Psychology 1995; Univ. of Arizona, Tucson AZ

M.S., Soil, Water and Environmental Science, 1997; University of Arizona, Tucson AZ

Ph.D., Soil, Water and Env. Science / Minor Microbiology, 2002; University of Arizona, Tucson AZ

Air Command and Staff College Online Distance Learning - in progress

Victoria R. Branson (AFCEC – Kirtland)

Victoria R. Branson has worked on Kirtland AFB for the last twelve years, the first six years as an industrial hygienist. During her time as an industrial hygienist, Ms. Branson gathered a vast knowledge on safe drinking water act regulations and policies and gained knowledge on the intricacies of the base drinking water and plumbing distribution systems, earning quarterly award winner. For the last six years, she has worked as an environmental restoration specialist, about three and half of those years working directly on the Bulk Fuels Facility restoration project. Prior to working for Kirtland AFB, Ms. Branson worked for Sandia National Laboratories as a lab analyst in an Environmental Laboratory, she has also worked for New Mexico Environment Department as an industrial hygienist and for the City of Albuquerque as a laboratory analyst.

FORMAL EDUCATION:

B.S., Environmental Science/Biology minor, 1990, New Mexico Tech, Socorro, NM

M.S., Water Resources Program, in progress, New Mexico University, Albuquerque, NM

Kandi Brown (NewFields)

Ms. Brown is the President and Chief Executive Officer (CEO) of NewFields Government Services, LLC. Over the past 30 years, Ms. Brown has a proven record of achievement in executing and evaluating complex environmental restoration projects ranging from site identification through closure under RCRA and CERCLA. With advanced degrees in microbiology and biology, she provides the technical expertise for evaluating laboratory chemical and treatability analyses, MNA, phytoremediation, and in situ and ex situ bioremediation efforts for a variety of contaminants. Building a career from practical knowledge of field implementation constraints, she has continued to expand her capabilities by obtaining certifications in mediation and facilitation. The cutting edge nature of the work NewFields Government Services is

accomplishing was published by Ms. Brown in *Sustainable Land Development and Restoration: Decision Consequence Analysis*.

FORMAL EDUCATION:

B.S., Biology (Chemistry/Sociology Minor), 1985, Tennessee Technological University, Cookeville

M.S., Microbiology, 1987, Eastern New Mexico University, Portales, New Mexico

Scott Clark (AFCEC – KAFB - Kirtland)

Scott has been at Kirtland AFB for 12 years working on a variety of projects. He started in the Air Quality program (where he was nominated for Air and Waste Management Association National Young Environmental Professional of the Year), and has been working in Environmental Restoration for 7 years. He's been a program manager for numerous munitions response sites as well as worked on radioactive waste cleanup sites. He has been working the Bulk Fuels Facility cleanup for about 2 years.

FORMAL EDUCATION:

BS, Environmental Sciences, Northeastern State University – Tahlequah, Oklahoma, 1998.

Megan Duley, PE (NewFields)

Ms. Duley is a Senior Engineer and Partner at NewFields Government Services, LLC. Ms. Duley has a degree in Chemical Engineering and offers 15 years of experience working across project phases in the environmental restoration, compliance, and military munitions sectors. Ms. Duley has worked extensively with the Department of Defense (DoD), United States Air Force (USAF), other Federal and State agencies and private sector clients internationally. Her experience includes project management, cost estimating, technical writing, site analysis using geographic information system (GIS), site investigations (CERCLA and RCRA), design/execution of remedial actions, remedy optimization, as well as technical facilitation, negotiation, and consensus building on behalf of the client. Her experience brings in-depth knowledge of DoD/USAF programs, mandates, and initiatives while leveraging the ability to balance requirements within Federal and State regulatory frameworks. From her experience developing solutions and leading teams in the field, Ms. Duley offers a creative, technical perspective to design and execute site exit strategies; enhance team and stakeholder relationships to support a cooperative environment; and provide neutral facilitation to guide teams to a data-driven solution.

FORMAL EDUCATION:

Bachelor of Chemical Engineering (Chemistry Minor), 2001, University of Minnesota - Institute of Technology
Naval School Civil Engineering Corps Officers, 2010 – Geographical Information Systems (ArcGIS 9.3.1) and Applied Geostatistics and Sampling Design

Scott Ellinger, P.G., (U.S. EPA, Region 6, Dallas, TX)

Scott Ellinger is a licensed professional geologist with 27 years of experience. He works for the U.S. Environmental Protection Agency and is an adjunct faculty member at Richland College in Dallas and the University of Texas in Arlington, teaching geology and groundwater modeling. He has conducted numerous hydrogeological evaluations, developed computer models, performed forensic evaluations, and studied complex groundwater problems related to mining and hazardous wastes sites.

FORMAL EDUCATION:

B.S., Geology; Texas Tech

M.S., Geology; West Texas A&M

Postgraduate studies in Civil Engineering at George Washington University

John L. Gillespie (AFCEC – San Antonio)

John L. Gillespie is the Air Force Subject Matter Expert for geology, hydrology, and hydrogeological issues associated with Environmental Restoration. He has 30 years of experience conducting environmental studies for federal, state, and local governments. At AFCEE he stood up the Remedial Process Optimization Outreach office and worked with the major commands linking technology to cost-to-complete to make the Air Force remediation program transparent. Before coming to the Air Force, Mr. Gillespie was a United States Geological Survey district ground-water specialist. He introduced innovative methods for collecting data on ground-water flow systems that included the first use of environmental isotopes to understand the complex natural infrastructure of a military installation that was dependent on ground water. His work with the Michigan Department of Attorney General's Environmental Division reinforced the value in collecting legally sufficient technical information needed as the foundation to advocate a successful outcome in environmental disputes. Mr. Gillespie's special interest is building the natural infrastructure blueprints, known as "conceptual site model" or CSM, for all Air Force installations.

FORMAL EDUCATION:

A.S., Physical Sciences, 1981; Lansing Community College, Lansing, MI

B.S., Geology/Geophysics, 1983; Michigan State University, East Lansing, MI

J.D., Law, 1996; Thomas M. Cooley Law School, Lansing, MI

Kent C. Glover, Ph.D. (AFCEC – San Antonio)

Dr. Kent C. Glover is the Air Force remedial systems subject matter expert. He has more than 35 years of experience including remediation of non-aqueous phase liquids, or NAPL, vadose zone and groundwater contaminant fate-and-transport modeling, and characterization of complex plumes with high regulatory and public interest. Dr. Glover currently is the lead Air Force consultant for selection, development and optimization of environmental remediation systems. Recent work has focused on sites with large contaminant plumes where complex hydrogeology and persistent NAPL sources provide the Air Force with high remediation risk and liability. He also is active in technology demonstration/validation projects involving emerging contaminants and complex source areas. Before joining AFCEC, Dr. Glover was principal scientist for several

consulting and remediation firms and had significant involvement at several large groundwater plumes with national recognition. A partial list includes chromate plumes at Hinkley, California; mixed pesticide-solvent-nerve agent plumes at the Rocky Mountain Arsenal, Colorado; explosives plumes at the Cornhusker Superfund site in Nebraska; and chlorinated solvents at several private-client sites in the San Francisco Bay area. He also served in the U.S. Geological Survey from 1976 to 1989 as a principal investigator and groundwater specialist for a wide range of water supply, contamination and environmental resources projects throughout the western United States. Dr. Glover holds a Ph.D. and M.S. from Colorado School of Mines, and a B.S. from Colorado State University.

FORMAL EDUCATION:

B.S., Watershed Science; Colorado State University, Fort Collins CO

M.S., Environmental Science and Engineering; Colorado School of Mines, Golden CO

Ph.D., Environmental Science and Engineering; Colorado School of Mines, Golden CO

Paul B. Hatzinger, Ph.D. (CB&I)

Dr. Hatzinger is the Director of Biotechnology Development and Applications Group. He is an environmental microbiologist with more than 20 years of experience in pollutant biodegradation, bioremediation, environmental chemistry, groundwater microbiology, and microbial ecology. His current areas of research include the following: (1) biodegradation and bioremediation of groundwater contaminants, (2) the use of compound-specific stable isotope analysis to determine chemical sources and fate, and (3) the determination of microbial degradation pathways. Dr. Hatzinger has been the principal investigator on 21 funded research grants since 2000, and has authored 56 peer-reviewed papers and book chapters. These articles have been cited more than 2,400 times. His research group has been instrumental in the development and field application of new remedial approaches for several contaminants of concern to the Department of Defense, including 1,2-dibromoethane (EDB), perchlorate, methyl tertiary butyl ether (MTBE), nitramine and nitroaromatic explosives (RDX, HMX, TNT), and *N*-nitrosodimethylamine (NDMA). He is an active member of the Interstate Technology & Regulatory Council (ITRC), and has helped to develop ITRC guidance documents on both perchlorate treatment and the application of molecular tools in environmental assessments.

FORMAL EDUCATION:

B.S., Biology/Environmental Science; St. Lawrence University, Canton, NY

M.S., Environmental Toxicology; Cornell University, Ithaca, NY

Ph.D., Environmental Toxicology; Cornell University, Ithaca, NY

Steve Huddleson, P.G., C.P.G. (NMED – GWQB)

Steve Huddleson is a Professional Geologist (Texas and Wyoming) a Certified Professional Geologist (AIPG) and Corrective Action Project Manager (TCEQ) with 40 years in practice, primarily in New Mexico and Texas. As a consultant with major environmental consultancies, he has been involved in the investigation and remediation of soil and groundwater contaminants including fuel hydrocarbons, PCBs, PAHs, chlorinated compounds, and

metals under CERCLA, RCRA, State, and Oil and Gas oversight. Mr. Huddleson was the lead investigator for the Jones Road (Chlorinated Solvents) and Harkey Road (lead) Superfund Sites in Houston Texas, the Terrero Mine (NMDOT operable unit) Superfund project (New Mexico), and over 300 leaking underground storage tank sites in 23 States. He was the Program Manager for the Remedial Action Section of the NMED Petroleum Storage Tank Bureau and served on an EPA technical committee developing protocols for Monitored Natural Attenuation of Chlorinated Compounds. As an environmental project manager for a major oil and gas company, he managed groundwater cleanups of hexavalent chromium, condensates, chlorides and crude oil. Mr. Huddleson is currently with the Pollution Prevention Section of the Groundwater Quality Bureau, NMED.

FORMAL EDUCATION:

B.S. Geology, Missouri State University

Graduate Coursework Environmental Engineering, University of New Mexico

Philip M. Hunter, P.G. (AFCEC – San Antonio)

Philip M. Hunter is a staff hydrologist and the Air Force Program Manager for Long-Term Monitoring Optimization. As a professional geologist, his areas of expertise include contaminant hydrogeology, hazardous waste cleanup, attainment of environmental standards, spatial and temporal analysis of environmental data, plume dynamics, design of long-term monitoring systems, data mining of large environmental databases, exit strategies to achieve restoration goals using performance based remediation, background metals determination, anthropogenic background levels, field geology and mapping, and remote-sensing. He has more than 30 years of experience conducting environmental studies for federal and state governments, and private industry. In his early career with the Air Force, he managed and helped design the Environmental Resources Information Management System, or “ERPIMS.” Before coming to the Air Force, Mr. Hunter was a hydrologist and recruiter with the United States Geological Survey Water Resources Division. In that position he worked on automated methods to quantify aquifer properties in the field. Mr. Hunter’s special interest is long-term monitoring optimization techniques which reduce samplings costs by eliminating redundancy in well networks and sampling frequencies.

FORMAL EDUCATION:

B.S., Geology with Honors; University of Texas, Austin, TX

M.S., Geology (Hydrogeology emphasis); Pennsylvania State University

Jim Joseph (Intera)

Mr. Joseph has 20 years of experience in the field of environmental services. He has experience in site characterization, groundwater remediation, soil remediation, waste disposal (solid, special, and hazardous), landfill profiling, landfill gas abatement design, remediation design, and other environmental compliance-related areas. He has performed subsurface site characterization of contaminated soil and groundwater, compliance groundwater sampling, soil gas surveying, aquifer testing, and modeling of contaminant distribution. In conjunction with these activities, Mr. Joseph has prepared remediation plans, sampling and

analysis plans, quality assurance project plans, spill prevention plans, storm water pollution prevention plans, and compliance reports. In-situ remediation systems that he has either designed or operated include groundwater extraction and treatment, soil vapor extraction (SVE), air sparging/SVE, enhanced bioremediation, dual-phase extraction, surfactant-enhanced aquifer remediation (SEAR), vacuum-enhanced recovery of light non-aqueous phase liquids (LNAPL), landfill gas collection and destruction, and bioremediation using electron donor injection. Most of his remediation experience is related to petroleum hydrocarbon and chlorinated solvent compounds. His past 17 years of work experience have been in New Mexico with over 8 years of project experience in the Albuquerque and middle Rio Grande basin.

FORMAL EDUCATION:

B.S. Civil Engineering, Environmental Engineering emphasis; 1998. Northern Arizona University.

John Kieling (NMED – HWB)

Mr. John Kieling is the Bureau Chief of the NMED Hazardous Waste Bureau. He has been with the Bureau for 21 years and has served as Bureau Chief for the past four. Prior to becoming Bureau Chief, Mr. Kieling served as manager for the Bureau's Permits Management Program. He currently oversees staff in the regulatory oversight of RCRA hazardous waste management, treatment, storage, and disposal and the associated corrective action at all permitted facilities and all hazardous waste generator sites in New Mexico. Mr. Kieling worked within the NMED Solid Waste Bureau permitting solid waste disposal, transfer and composting facilities and subsequently worked at the Hazardous Waste Bureau as a project leader and staff supervisor for Los Alamos National Laboratory activities prior to becoming the Permits Management Program Manager in 2001.

FORMAL EDUCATION:

B.S Geology, 1991; Central Washington University

M.S. Geological Sciences, 1994; New Mexico State University

Paul G. Koster van Groos, Ph.D. (CB&I)

Dr. Koster van Groos is a Research Scientist, Biotechnology Development and Applications Group. His research interests include the fate and transport of pollutants including emerging contaminants, isotope geochemistry, trace metal chemistry, and environmental forensics. Recent research efforts include work focused on: (1) environmental degradation of 1,2-dibromoethane (EDB), (2) biodegradation of 1,4-dioxane, (3) uranium sequestration in wetland systems, and (4) mercury isotope fractionation by environmental processes. Dr. Koster van Groos has also previously investigated the reactivity and sorption behavior of iron and manganese minerals with chlorinated solvents and trace metals.

FORMAL EDUCATION:

Ph.D. Environmental Engineering; University of California, Berkeley, CA

EPA STAR and Fulbright fellowships

Dr. Patrick Longmire (NMED - DOEOB)

Dr. Longmire DOE Oversight Bureau is an aqueous geochemist with the DOE Oversight Bureau. He has 37 years of experience consisting of groundwater characterization and remediation, experimental and field studies, and reactive transport and geochemical modeling. His specialties include metal geochemistry, stable isotopes, surface chemistry, and oxidation-reduction processes. Patrick is an internationally recognized expert in environmental geochemistry focusing on metals, radionuclides, stable isotopes, and other anthropogenic chemicals detected in soil and aquifer systems. Patrick's experience includes 21 years at Los Alamos National Laboratory, 7 years with the New Mexico Environment Department, 6 years with Roy F. Weston, and a combined 3 years at the University of New Mexico, Los Alamos Technical Associates, City of Albuquerque, and Colorado Geological Survey. During 2011, Dr. Longmire spent six months in Fontainebleau, France at MINES ParisTech conducting reactive transport modeling on aquifer acidification resulting from *in situ* uranium recovery. Patrick has authored numerous geochemistry reports and papers, presented papers at national and international conferences and workshops focusing on environmental geochemistry. Since 1987, he has continuously taught 3 separate geochemistry short courses, in addition to a geochemical modeling class, for the National Ground Water Association. Dr. Longmire currently holds memberships with the American Chemical Society, American Geophysical Union, Association of Groundwater Scientists and Engineers, Geochemical Society, and International Geochemical Society.

FORMAL EDUCATION:

B.S., Earth Sciences, 1975; University of New Mexico, Albuquerque NM

M.S., Aqueous Geochemistry, 1983; University of New Mexico, Albuquerque NM

Ph.D., Aqueous Geochemistry, 1991; University of New Mexico, Albuquerque NM

Eileen Marcillo (Intera)

Ms. Marcillo has 11 years of experience in the environmental and water resources industry. She has performed duties including project planning, budgeting, implementation, and reporting, and has been responsible for collecting, organizing, analyzing, and reporting pertinent data in documents and reports for various commercial organizations and governmental agencies. Ms. Marcillo has served in various capacities including project manager, field team leader, rig geologist, project geologist, groundwater engineer/hydrologist, and health and safety officer on projects involving the investigation and characterization of surface and subsurface contamination. These projects have been completed for a variety of state agencies, municipal organizations, and commercial industries located in New Mexico, Massachusetts, and New Hampshire. Work has been performed on sites where contaminants of concern include petroleum constituents, chlorinated solvents, metals, and polychlorinated biphenyls. Her water resource experience includes overseeing step-drawdown and constant rate aquifer pumping tests, participating in implementing, monitoring, and collecting data for a water quality and sustainability study, and creating a water allocation methodology while insuring that instream flows are maintained to preserved the ecological integrity of the riverine system. Ms. Marcillo is familiar with AQTESOLV, Groundwater Vistas, MODFLOW, HEC-RAS, ArcGIS, ArcHydro, HEC-HMS, Brook90, and Surfer.

FORMAL EDUCATION:

B.S., Hydrology, 2003; University of California at Davis

M.S., Hydrology, 2005; University of New Hampshire

Dennis McQuillan (NMED – RPD)

Mr. McQuillan is a geologist with 36 years of professional experience in the environmental field, both as a regulator for the New Mexico Environment Department and as a consultant, educator and freelance writer. His accomplishments include more than 200 site investigations, dozens of which received corrective action such as provision of safe drinking-water service and cleanup of soil and water pollution. He also launched new initiatives including narrative and numerical standards for toxic organics in water, standardized rules for the abatement of water pollution, public education and outreach, free testing of private domestic water wells, a program to replace dangerous cesspools with modern septic systems at indigent households, rules to promote the safe household reuse of gray water, and research into regional environmental conditions and emerging issues such as pharmaceutical residues in ambient water. He has extensive experience in civil and criminal enforcement of environmental laws, and has testified as an expert witness many times. He has worked with sites in Arizona, Colorado, New Mexico, Ireland, Nova Scotia, Scotland and Wales.

FORMAL EDUCATION:

B.S. Geology; University of New Mexico, Albuquerque, NM

Jonathan Myers, Ph.D. (CB&I)

Dr. Jonathan Myers is a Senior Staff Scientist with 33 years of professional environmental consulting experience. His specialties include environmental forensics, geochemical modeling, natural attenuation investigations, environmental statistics, and radiochemistry. He serves as a senior technical resource at CB&I on a nationwide basis, and is currently supporting site characterizations; remedial investigations; feasibility and treatability studies; waste treatment and disposal system designs; natural attenuation investigations; risk assessments; and fate and transport modeling at DoD, DOE, mining, and commercial Superfund Sites. He also provides litigation support for the mining, and oil and gas industries. He has been involved with environmental issues at Kirtland AFB since 1995 when he was the principal investigator for the facility-wide characterization of background distributions of metals and radionuclides in soil and groundwater. Since then he has performed geochemical evaluations of metals, PAH compounds, fuel constituents, and other contaminants at 16 sites at Kirtland AFB. Dr. Myers has authored over 30 peer-reviewed research papers and book chapters, and teaches short courses on geochemical and environmental forensic techniques.

FORMAL EDUCATION:

B.S., Geology; City University of New York, NY

M.S., Geology; University of Wyoming, Laramie, WY

Ph.D., Geochemistry; University of Wyoming, Laramie, WY

STEPHEN G. REUTER, P.G., C.P.G. (NMED – PSTB)

Mr. Reuter is a professional geologist certified by the State of Wisconsin and the American Institute of Professional Geologists with over 39 years of experience demonstrated in the following areas: Environmental Assessment, Technology Evaluation, Regulatory Negotiation, Remediation Design, Project Management, Computer Groundwater Flow Modeling, Contaminant Fate and Transport Modeling, Aquifer Analysis, and Subsurface Structural Interpretation. Mr. Reuter's professional experience includes providing expertise in conducting hydrogeologic investigations with regard to characterization of various hazardous waste contaminants, program and project management, budget preparation, contractor oversight, design and supervision of soil and groundwater remediation projects, client negotiation, compliance monitoring through environmental sampling (air, water, and soil), aquifer restoration, and regulatory compliance. Since 1981, Mr. Reuter has been involved with various aspects of petroleum underground storage tank (UST) regulation, management, and corrective actions including over 1000 leaking petroleum UST sites within New Mexico. He is with the Petroleum Storage Tank Bureau.

FORMAL EDUCATION:

B.A. Geology, 1976, Montclair State College, Upper Montclair, New Jersey.

M.S. Geology, 1981, University of Texas at El Paso, El Paso, Texas.

Kathryn Roberts (NMED - RPD)

Ms. Roberts is an environmental scientist with 15 years of experience in environmental permitting, regulation and remediation. Her specialties include permitting and corrective action under the Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA) regulations. Ms. Roberts earned her Ms. Roberts' experience includes three years at a private environmental engineering firm in upstate New York, nearly seven years working as an environmental scientist and supervisor at the NMED's Hazardous Waste Bureau (HWB) and almost five years as a project manager and group leader at Los Alamos National Laboratory. Ms. Roberts is now the Resource Protection Division Director for the NMED. She currently oversees the activities of four bureaus: Hazardous Waste (HWB), Solid Waste (SWB), Petroleum Storage Tanks (PSTB) and the Department of Energy – Oversight (DOE-OB).

FORMAL EDUCATION:

B.A., Environmental Geography, 2001; Colgate University

M.S., Environmental Management, 2011; Duke University

Javier M Santillan (Noblis)

Dr. Javier Santillan is currently a Senior Principal Engineer with the Noblis Corporation with 40 years of environmental experience and has provided consultation support in areas that he developed as a member of the Air Force Center for Engineering and the Environment (AFCEE) which included guidance on Optimization, and technical/strategic peer reviews. As the AFCEE subject matter expert, he was responsible for assessing technologies such as bioremediation, reactive walls, Soil Vapor Extraction, Diffusion Samplers, etc.. His expertise includes EPA analytical chemistry methods, emergency response field laboratory operations, and QA

protocol to meet CERCLA, RCRA, CWA, and NPDES. He directs and performs activities such as organizing and summarizing environmental information for multi-disciplinary audiences, and developing guidance documents (Remedial Process Optimization [RPO], PBM, Rapid Site Characterization [RSC], Long-Term Monitoring [LTM]), coordinating Conferences/Hands On Training Workshops, preparing Internet training courses, and participating in the peer review process of guidance documents prepared by other agencies. Dr. Santillan has the ability to identify and recommend implementation of new cost effective technologies or techniques, as well as being able to modify analytical methods and standard practices when required to achieve a specific goal.

FORMAL EDUCATION:

B.S., Chemistry, 1968; University of Arizona, Tucson, AZ

M.S., Ag Chemistry, 1971; University of Arizona, Tucson, AZ

Ph.D., Soils and Irrigation, 1974; Utah State University, Logan, UT

Mark W. Sembera (Colorado State University)

Mr. Mark Sembera provides technical support for the Air Force Civil Engineer Center restoration program. He has over 20 years of professional experience supporting management of environmental programs and environmental analytical chemistry. As a Colorado State University employee, he supports AFCEC on technical initiatives, focused on complex sites and conceptual site models at several installations. While supporting AFCEC, he has managed the Optimization Outreach Office by providing general oversight of the Environmental Decision Information Tracking Tool, a Web-based application, including design, development, operation, training, data collection, and quality review. He has continually provided cohort analysis of the EDITT data, coordinated findings with installation users, and provided graphic representation of the data in numerous presentations. Mr. Sembera has managed the Technical Surveillance Office, which facilitates document workflow and technical surveillance of performance-based remediation, or "PBR," contracts. He has also provided technical oversight of a multi-base PBR contract for AFCEC; provided program management and execution support for the Air Force Real Property Agency; and led project execution support for restoration of former Kelly AFB, Texas. Prior to supporting AFCEC, Mr. Sembera served as an analytical chemist at an environmental laboratory and directed the analyses and coordination of the volatile organic department

FORMAL EDUCATION:

BS, Biology, 1991; University of Texas at San Antonio, San Antonio, TX

MS, Environmental Science, 1997; University of Texas at San Antonio, San Antonio, TX

Stuart E. Shealy, .PE. (CB&I)

Mr. Shealy is a chemical engineer with more than 30 years of experience in the development, design, installation and operation of process systems for treatment of hazardous wastes and contaminated soil and groundwater. He is a senior process engineer providing engineering support to CB&I projects. He has been involved with dozens of treatability studies for hazardous wastes and has experience in selecting and evaluating treatment alternatives, performing and analyzing treatability tests, and providing data for treatment process design. Mr. Shealy is also experienced in the development of design packages and

specifications for implementation of waste treatment processes. He has hands-on experience with full-scale remediation programs and specializes in process troubleshooting. Mr. Shealy has written operations and maintenance manuals for treatment facilities and conducted training of operations personnel. He has provided technical operational support to treatment activities at remedial sites. He has experience in the application of biological, chemical, dewatering, and thermal treatment technologies. He has published over 10 papers and has been a registered professional engineer since 1979.

FORMAL EDUCATION:

B.S., Chemical Engineering; Clemson University , Clemson, SC

Rick Shean (WUA)

Mr. Shean works with the Albuquerque Bernalillo County Water Utility Authority as a water quality hydrologist, monitoring threats to the Water Authority's ground and surface water resources. Rick has worked on groundwater quality issues in the Southwest U.S. for 15 years, specializing in groundwater investigation and remediation project oversight, brownfields revitalization, watershed and erosion studies, water resource planning and water policy. He has also worked with the State of New Mexico Environment Department and the Bernalillo County Water Resources Section, and the University of New Mexico Alliance for Transportation Research Institute.

FORMAL EDUCATION:

B.S., Anthropology and Earth and Planetary Sciences, 1999; University of New Mexico

M.S., Water Resources, 2003; University of New Mexico

John Sigda (Intera)

Mr. Sigda has 30 years of experience in quantitative hydrology working to solve problems in the saturated and vadose zones, groundwater remediation, flow and transport modeling, seawater intrusion, mine hydrology and permitting, field and lab measurement of hydraulic properties, watershed management, and water supply and sanitation in developing countries. He has built modeling tools with the MODFLOW, MODFLOW SURFACT, HYDRUS, MT3DMS, FEFLOW, TimML, and STOMP codes to assess closure impacts from mine wastes and pit lakes, estimate dewatering inflows, design plume capture systems, secure operating licenses and permits for radioactive waste disposal facilities, assess and improve the performance of groundwater protection systems, secure regulatory approval for new mine works and expansions, and develop remediation goals and guide remediation efforts at sites with sediments, soil, and groundwater contaminated by fuels, heavy metals, radionuclides, nitrates, and chlorinated solvents. Dr. Sigda has provided technical expertise to water supply agencies, mining companies, state agencies, law firms, federal agencies, counties, cities, and private companies with projects located in California, Texas, Nevada, New Mexico, Minnesota, Indiana, Massachusetts, Rhode Island, New Jersey, Washington, and Australia. He was educated at He also spent six years promoting improved water supplies, sanitation, and child survival and development in Kenya and Tanzania.

FORMAL EDUCATION:

A.B., 1981; Harvard College

M.S., Hydrology 1997; New Mexico Institute of Mining and Technology

Ph.D., Hydrology, 2004; New Mexico Institute of Mining and Technology

James Teo (CB&I)

Mr. Teo is a soil scientist and modeler with 14 years of professional experience in environmental remediation and litigation projects for local, state and federal entities. Current project work includes groundwater and vadose zone modeling, hydrogeologic assessment, statistical analysis, contaminant characterization, and geochemical analysis.

Groundwater modeling projects range from basin wide hydraulic assessments to small scale treatment system design. Completion of the modeling projects requires assessment and implementation of various modeling components including boundary conditions, aquifer properties, and contaminant transport parameters. Mr. Teo also utilizes 3D stratigraphy modeling to help match the modeling domain to site conditions.

Clients and projects range from large DOD facilities, to the EPA, to groundwater litigation analysis. Previously completed studies and work related activities have included human dosage calculations for radionuclides, assessment of metals bioavailability in fluvial systems adjacent to power generators in France, and hydrocarbon related clean-up activities along seafront locations at Pearl Harbor, Hawaii. Mr. Teo has presented completed studies at numerous conferences and focus groups within the United States and France

FORMAL EDUCATION:

B.A., Environmental Studies/Economics; University of California, Santa Cruz, CA

M.S., Soil Science; University of Hawaii, Manoa, Honolulu, HI

Catharine Varley, PhD (AFCEC – San Antonio)

Dr. Catharine Varley is an expert chemist and toxicologist for the Air Force Civil Engineer Center's restoration program. As a Colorado State University employee, she supports AFCEC at several installations, including both on- and off-base chemistry and toxicology-related tasks for decision support. She also coordinates several AFCEC technical initiatives focused on critical process analyses, complex sites and conceptual site models. Dr. Varley has managed, led, and performed most aspects of chemistry and toxicology projects. She is proficient in analyzing and assessing relationships between exposure and adverse effects of chemical, biological, and physical agents in humans and environmental systems. Her prior work experience includes environmental projects for the U.S. Environmental Protection Agency and the Agency for Toxic Substances and Disease Registry.

FORMAL EDUCATION:

B.A., Biology and Minor in Mathematics; Central Washington University, Ellensburg, WA

M.S., Pharmacology; Central Washington University, Ellensburg, WA

Ph.D., Biophysical Chemistry; Georgia State University, Atlanta, GA

Thomas F. Zondlo (CB&I)

Mr. Zondlo is a senior hydrogeologist with 36 years of experience involving applied environmental hydrogeology, and petroleum exploration. He is a licensed professional geologist in Tennessee, Alabama, and Kentucky. He has managed environmental investigations under CERCLA and RCRA involving soil and groundwater contaminated by VOCs, explosives, perchlorate, and pesticides. Mr. Zondlo has served as technical lead, principal investigator or senior consultant/subject matter expert on multiple large-scale environmental projects in Alabama, Maryland, Texas, New Mexico, and Puerto Rico. Principal areas of expertise include karst and fractured rock hydrology, dense non-aqueous phase (DNAPL) investigations and remediation, surface water/groundwater interactions, innovative subsurface characterization technologies, aqueous geochemistry, borehole geophysics, conceptual model development, and remedial design. He is the corporate subject matter expert for karst hydrogeology. He has served on the Tennessee Board of Professional Geologists Licensing Advisory Board since 2008 (Chairman, 2008-2010).

FORMAL EDUCATION:

M.S., Hydrogeology; University of Tennessee