
STATEMENT OF QUALIFICATIONS

CHEMISTRY CONSULTING



*3203 Audley
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Service-Disabled Veteran-Owned

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For other office locations
please visit www.mecx.net



**A Service-
Disabled
Veteran-Owned
Small Business**

Vision and Mission Statement

MEC^X VISION

To enhance or restore built and natural environments, creating exceptional value for our clients, employees, and families within communities in which we work and live.

MISSION STATEMENT

MEC^X is a team of technology-driven, service-oriented professionals with client success central to our total business approach, from project concept to completion. We continually invest in, develop and empower our results-oriented employees to maximize value while creating innovative solutions that assure project success.



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(Revised: 8/28/2009)

Company Overview



MEC^X, LP, (MEC^X) is a technology-based team of environmental solution providers. MEC^X welcomes the opportunity to listen to your most difficult environmental problems. Press releases providing updated information on our corporate capabilities and hyperlinks to the most current list of our strategic alliance partners can be found on our web site at www.mecx.net.

COMPANY HISTORY

Our company roots go back to 1996, when we operated as ManTech Environmental Corporation (MEC), a subsidiary of ManTech International. MEC was created primarily to serve as a vehicle to implement practical innovative technology solutions being developed by the USEPA Kerr Research Lab in Ada, Oklahoma. In February of 2002, when ManTech International went public, our solution-driven team of dedicated staff members was spun-off to form a new independent entrepreneurial small business (MEC to the "Power of X"). Today, MEC^X is now certified as a disabled veteran-owned small business. This means that our company is lead by a veteran "hands on" management team that designs and executes projects on time, on budget, and most important of all, exceeding client expectations every time. We are unique in our history, our path towards corporate formation, and most of all our approach to client service.

MEC^X SERVICES

- Remedial Investigations / Feasibility Studies (RI/FS)
- RCRA/CERCLA Investigations
- Leaking UST Investigation and Remediation
- Treatability Studies and Pilot Tests
- Remedial Action Plans
- Remedial Design, Engineering Plans, and Specifications
- In-Situ Chemical Oxidation
- In-Situ Bioremediation
- Optimization of Remedial Systems
- Soil Vapor Extraction Systems
- Innovative Excavations
- Pollution Prevention and Waste Minimization
- Environmental Compliance Audits
- Regulatory Permitting Services
- Due Diligence – Phase I Environmental Site Assessments
- Phase II Site Contamination Assessments
- Industrial Hygiene Services
- Indoor Air Quality Monitoring Services
- Asbestos, Mold, Lead Paint, and Radon Gas Monitoring
- Disaster Preparedness and Emergency Planning
- Storm Water Pollution Prevention (SWPP) Plans
- Spill Prevention, Control, and Countermeasures (SPCC) Plans
- Site Characterization, Sampling, and Monitoring
- Geologic and Seismic Hazard Assessment
- Hazardous Waste and Hazardous Materials Management
- Expert Witness and Litigation Support Services



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MEC^X, LP

A Service-Disabled Veteran Owned
Small Business



It is the policy of the United States, as stated in the Small Business Act, to afford all small businesses the opportunity to participate in providing goods and services to the government. In accordance with this policy, the Veterans Benefits Act of 2003 (Public Law 108-183) was enacted on December 16, 2003, thereby amending the Small Business Act (15 U.S.C. 631

et seq.) to establish a procurement program for *Service-Disabled Veteran Owned Small Businesses*.

To ensure that *Service-Disabled Veteran Owned Small Businesses* are given the chance to provide goods and services to the government, the Small Business Administration is responsible for ensuring that the statutory government-wide goal of 3% of prime and subcontracts for *Service-Disabled Veteran Owned Small Businesses* is met.

On May 5, 2004, 13 CFR Parts 121, 125 and 134 were implemented thereby creating a set aside program for *Service-Disabled Veteran Owned Small Businesses*. Therefore, contracting officers may award sole source or set aside contracts to *Service-Disabled Veteran Owned Small Businesses* for contracts of up to \$5.0M for manufacturing or \$3.0M for other contracting opportunities.

MEC^X, LP (MEC^X) is a Service-Disabled Veteran Owned Small Business registered on the following contracting databases: Central Contractor Registration, PRO-Net, Air Force Small Business Environmental Database, United States Environmental Protection Agency and various government contractors' databases.

MEC^X is a technology-based team of solution providers that welcomes opportunities to help solve your most difficult problems. MEC^X offers services to governmental, industrial and commercial organizations. MEC^X has successfully and consistently shown its commitment to excellence, responsiveness, safety and delivery of technically sound environmental solutions driven by client needs. MEC^X provides services and/or products in the following areas:

- ★ Consulting Engineering
- ★ Environmental Remediation
- ★ Indoor Air Quality
- ★ Asbestos Consulting
- ★ Data Validation
- ★ Data Management
- ★ Environmental Due Diligence
- ★ Homeland Security



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CHEMISTRY CONSULTING

MEC^x's environmental chemistry consulting staff have supported environmental site investigations, remedial programs, risk assessments and environmental litigation cases since the mid-1980s. We have direct experience with sample collection, environmental laboratory analyses, project management, and data validation, interpretation and defense. MEC^x environmental chemists have supported a wide range of clients in the following areas:

- **Planning and Development:** site history review, pertinent regulation review, development of data quality objectives (DQOs), field and laboratory method selection, preparation of project plans (FSPs, QAPPs, SAPs, SOPs) and laboratory contracts and SOWs.
- **Project Execution:** laboratory and field measurement program coordination, audits, database development or support, data validation/usability, data quality assessment, contaminant-of-concern assessment and interpretation of results.
- **Additional Chemistry and Data Quality Related Services:** activities following sample collection and analysis of the results, such as risk assessment, report writing, litigation support, third-party review of data quality reports, development of supplemental field and chemical analysis programs and related activities.
- **Laboratory Program Management:** develop customized laboratory programs for clients with single or multiple contract laboratories to standardize procedures, perform laboratory audits and act as the primary laboratory point-of-contact, facilitate laboratory project management and ensure consistent quality and competitive pricing.

PLANNING AND DEVELOPMENT

MEC^x's environmental chemistry staff can help determine potential areas and contaminants-of-concern based on site usage and historical data. Our chemists understand industrial processes and waste composition and can help focus investigation work. Our compliance experts can review the applicable regulations to develop DQOs to meet the final data needs. Our field and laboratory specialists identify potential laboratories, determine the appropriate sampling and analytical methods, direct method development if necessary and, finally, prepare field sampling plans (FSPs), quality assurance project plans (QAPPs), sampling and analysis plans (SAPs), laboratory statements of work (SOWs) and contracts and standard operating procedures (SOPs) for field crews.

PROJECT EXECUTION

MEC^x environmental chemists can serve in a QA role for the life of the project, managing the laboratory contracts and serving as the laboratory point-of-contact. When electronic data deliverables are part of the client's needs, MEC^x chemists work with our database developers to manage the data in existing database formats or develop project-specific database formats to meet the needs of the client.

MEC^x environmental chemists have designed and implemented cost effective field chemistry programs including Triad-based approaches with fixed-laboratory and field screening techniques, frequently conducting on-site chemical analyses and participating in real-time evaluation of field and laboratory generated data to allow rapid, adaptive decision making.

MEC^X chemists review and validate data before the project's risk assessors or decision-makers make critical judgments. MEC^X offers several options for cost-effective data validation depending on agency requirements and planned data usage. Examples include:

- Electronic review
- Definitive review
- Focused review
- Cost-effective blend

MEC^X's data validators investigate when data appear anomalous or inconsistent by thoroughly reviewing field and laboratory records and raw data to find potential errors.

When the data collection phase of the project is complete, MEC^X can provide reviews of the data quality and compliance with DQOs, assess the quality and certainty of the measurement data, assess contaminants-of-concern and interpret results.

ADDITIONAL CHEMISTRY AND DATA QUALITY RELATED SERVICES

Data Quality Training

MEC^X's staff can provide training manuals and course instruction for Data Validation and related QA courses. Training has been provided for data validation of EPA Contract Laboratory Program (CLP) methods, drinking water methods and hazardous waste methods (SW846). Course attendees have included laboratory staff and consultants. Materials have also been prepared to provide guidance for laboratories that are integrating CLP and SW-846 methods and also for the design of laboratory data deliverables.

Environmental Forensics

MEC^X's environmental chemists provide technical support to environmental forensic evaluations involving source identification and allocation, timing of release and contaminant fate and transport. These evaluations can range from qualitative to quantitative pattern recognition methods (e.g., principal components analysis). In addition, they can provide support to laboratories to characterize unknown materials and identify "unknown" compounds present in samples.

Expert Testimony/Litigation Support

MEC^X's environmental chemists have provided technical expertise and litigation support for a wide range of projects. Typical examples include:

- Developing a sampling and analysis program to counter a class action lawsuit alleging health impacts;
- Serving as a technical expert on worker and public health related issues;
- Serving as a technical expert preparing lawyers for litigation; and
- Designing sampling and analysis plans to address specific litigation concerns.

LABORATORY PROGRAM MANAGEMENT

MEC^X's environmental chemists design and manage laboratory programs to streamline laboratory work either within a single organization or between multiple consulting firms. Goals of a laboratory program often include:

- Defining procedures and expectations for consulting firms and laboratories to facilitate project management;
- Leveraging the collective volume of work to establish competitive analytical pricing; and
- Applying good risk management practices by selecting and maintaining quality laboratories to support the laboratory program.

MEC^X offers web-based laboratory programs where information and data are shared through intranet or internet connections.

PROJECT DESCRIPTIONS

DATA VALIDATION AND DATA MANAGEMENT SERVICES

USACE Louisville District- Multiple Sites

MEC^X has provided data validation and data usability assessment services in support of seven U.S. Army Corp of Engineers (USACE), Louisville District projects: Camp Ellis Military Range (CEMR), Former Nike C-72 Site (Nike C-72), Former Nike SL-10 Site (Nike SL-10), Ravenna Army Ammunition Plant (RVAAP), Former Nike Site CD-78 Base Year (Nike CD-78 Base Year), Former Nike Site CD-78 Year One (Nike CD-78 Y1), and Former Nike Site C-44 (Nike C-44). CEMR, a former military training range that provided basic training and advanced training for engineers, medical, signal, and quartermaster corps during World War II, originally had 19 former training ranges identified as potential areas of concern. A Limited Site Investigation, performed in 2007 and 2008, collected more than 1,000 samples analyzed for explosives, metals, polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), polynuclear aromatic compounds (PAHs), volatile organic compounds (VOCs), and perchlorate. MEC^X performed definitive data validation (Level IV) on 10% of the primary and field duplicate samples and the majority of the laboratory split samples and then assessed the usability of the data. RVAAP was established in 1940 to load, store, and demilitarize conventional artillery ammunition, bombs, mines, fuzes and boosters, primers and percussion elements. RVAAP was only occasionally operable between the end of the Korean War and the mid-1970s. Numerous Phase I and several Phase II assessments have already been performed at the site's load lines. MEC^X provided data validation and data usability services for a sampling effort concentrated along three load lines. Approximately 120 samples were analyzed for explosives, metals, PCBs, pesticides, SVOCs, VOCs, and hexavalent chromium. MEC^X performed definitive data validation on 10% of the primary and field duplicate samples and the majority of the laboratory split samples and performed an electronic data review on the remaining data. For Nike SL-10, 10 samples, analyzed for methane, ethane, and ethene, inorganic anions, sulfide, and total organic carbon, MEC^X performed definitive data validation for one sample and the associated laboratory split sample and then assessed the usability of the data. For Nike C-72, 54 samples were collected and analyzed for metals and SVOCs. MEC^X performed definitive data validation on 10% of the primary and field duplicate samples and the majority of the laboratory split samples and performed an electronic data review on the remaining data. All deliverables contained a Data Validation and Chemical Data Quality Report(s) and, except for Nike SL-10 and electronic data deliverable (EDD). Over \$50,000 of services have been provided to the USACE to-date.

Tittabawasee River Flood Plain- EPA Region 5 START III

The EPA and Michigan DEQ requested third party data validation of dioxin and furan samples. Samples were collected in order to characterize contamination of neighborhood soils, determine if contamination existed within the flood plain of the Tittabawasee River including residential neighborhoods, and to evaluate the potential exposure to residents. MEC^X provided definitive data validation service for dioxin and furan analyses for the Tittabawasee River Flood Plain Sampling Project in support of EPA Region 5 and Michigan DEQ investigation of contamination and risk associated with the contamination. The validation included sediment, soil, and dust samples.

MEC^x is currently providing data validation and data management services in support of a RCRA Facility Investigation (RFI) and site characterization/closure activities at Boeing's Santa Susana Field Laboratory (SSFL). SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. MEC^x continues to support the ongoing RFI activities with data validation and data usability determinations. MEC^x chemists have validated over 13,500 soil, water, soil vapor, air, sediment and tissue samples in support of the characterization and risk assessment activities. Recently, MEC^x's data quality assessment and chemistry consulting has extended into the deep groundwater investigation and monitoring program as well as the monitoring of surface water events for the NPDES program. MEC^x chemists managed the data associated with over 12,000 analyses that were incorporated into field decision-making documents, site maps, and risk assessments. MEC^x chemists have been tasked with the review of all associated laboratory and analysis documentation from primary and split laboratories to provide a defensible assessment of the data quality. MEC^x is providing chemical data quality assessments for sections of analytical work as they are completed. MEC^x chemists developed the quality assurance program for the RFI to ensure data quality consistent with U.S. EPA, California Department of Toxic Substances and Los Angeles Regional Water Quality Control Board oversight.

Inner Harbor Navigation Canal (IHNC), New Orleans, Louisiana

The U. S. Army Corps of Engineers (COE), New Orleans District was authorized to replace the existing Industrial Canal Lock, which has been in place since 1921. During construction of the new lock, potentially contaminated sediments will be dredged. Therefore, testing in accordance with the protocols in Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual (USEPA/USACE, 1998) was performed to determine if the sediments were suitable for open water disposal. Evaluation of the sediments as per Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities –Testing Manual (USACE ERDC/EL TR-03-1, 2003) were also performed in the event that the sediments were determined unsuitable for open water disposal. As a cost savings measure, MEC^x suggested that comprehensive data validation be performed on a representative subset of the resulting environmental data and that the remaining data be reviewed using the COE's chosen data review program, Automated Data Review (ADR). Through the data validation process, MEC^x identified two potentially critical discrepancies in the way the laboratories processed the data. Together with the COE, the laboratories and the primary contractor, MEC^x helped negotiate reasonable solutions to these issues which, ultimately, increased the defensibility of the data. As a subcontractor to Weston Solutions, MEC^x data validation professionals performed comprehensive organic and inorganic data validation on water, soils, sediments, elutriates, and tissues in accordance with EPA functional guidelines, Sampling and Analytical Methods of the National Status and Trends Program, in-house validation procedures and project-specific criteria. As part of the final deliverable, the MEC^x database manager worked closely with Weston in order to provide the ADR processed electronic data deliverables (EDDs) and validated EDDs to allow Weston timely use of the critical data. Following the data validation task, MEC^x acted as a technical resource to Weston and the COE, aiding both parties in evaluating the data usability.

Former Hydrodynamic Testing Facility, San Diego, California

In 1945 a 300-foot long, 12-foot wide, and 6-foot deep concrete tank was constructed on land created by filling a portion of the San Diego Bay. The tank was subsequently enclosed by a 13,000 square foot building and was used to test and develop hull designs for submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991 and ownership of the site reverted to the San Diego Port District, which intends to revitalize the parcel for commercial purposes. Remedial investigations revealed the presence of polychlorinated biphenyls (PCBs) in the paint coating the basin and the building surfaces which was likely the source of PCBs in drains, storm-drain catch basins and unpainted surfaces at the site. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. Recently, investigations were conducted to further characterize, delineate, and assess risk within an area of sediment depositions. As a subcontractor to Haley and Aldrich, MEC^x data validation professionals performed comprehensive data validation on PCBs, PCB congeners, petroleum compounds, semivolatile compounds, volatile compounds and metals in sediments in accordance with EPA functional guidelines, in-house validation procedures and project-specific criteria. As part of the final deliverable, the MEC^x database manager provided electronic data deliverables (EDD) to allow Haley and Aldrich the timely use of critical data.

Former MGP Site Sediment Remediation- Commercial Client

MEC^x provided definitive data validation service for multiple methods for a Former MGP Site in Wisconsin. The validation supported a commercial investigation under the oversight of EPA Region 5. The investigation was designed to further delineate contamination and evaluate preliminary risk associated with the contamination. The validation included groundwater, sediment, and soil samples.

Former Automobile Dealership-LU Engineers

The property was developed in 1986 as an automobile dealership. Chemical contamination was discovered at the site in 2002 during an environmental investigation conducted as part of the property transfer. In 2003, the site entered the Voluntary Cleanup Program and conducted a remedial investigation. The remedial investigation indicated that chlorinated solvents, particularly tetrachloroethene and trichloroethene, were present at slightly elevated levels in groundwater, sub-slab soil vapor, and indoor air at the site. MEC^x provided definitive data validation service for metals, volatile and semivolatile analyses. The Data Usability Summary Reports (DUSR) were prepared in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation. The validation included water, sediment and soil samples.

Former Navigation Canal – Natural Resources Technology

The site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Contaminants introduced into the canal from this operation include polycyclic aromatic hydrocarbons (PAHs) and metals (copper, lead, cadmium, nickel, silver and zinc). MEC^x provided comprehensive data validation services for semivolatile organic compounds (SVOCs) and metals.

Former Chemical Manufacturing Site- US EPA Region 9

MEC^X conducted an EPA TBA Phase II Limited Site Investigation designed to determine the extent to which contaminants identified in earlier sampling efforts may be horizontally distributed across the surface of the Subject Site; determine contamination among soil piles situated on the Subject Site; and, if needed, identify possible cleanup options and provide cost estimates for Subject Site remediation that would not adversely affect cultural resources located on the Site.

Historical manufacturing of chemicals for the mining industry at the site included the production and storage of a wide variety of unusual chemical products. Noxious and sometimes irritating odors of unknown origin indicated the potential existence of unidentified chemicals in site soils and soil gas – factors affecting site redevelopment plans. The potential site contaminants based upon historical information included compounds which are not typically included in standard analytical suites.

A sampling strategy and site-specific planning documents were developed following meetings and consultation with tribal officials and EPA. A DMA was implemented to identify optimal methods for collecting and evaluating site soils, soil gas and other unknowns. While previous recommendations called for the laboratory analysis of a large number of samples, the DMA demonstrated that the project objectives could be satisfied with a much smaller suite of analytical methods, while eliminating the majority of the proposed soil gas samples and the need for a mobile field lab – actions that resulted in significant cost savings.

Commercially Developed Land-Baker Botts

The Site is a small tract of land in Texas used as a parking lot since the mid 1980's. A Limited site Investigation was performed in order to determine if potential off-site releases had adversely affected soils and groundwater at the site. MEC^X performed comprehensive data validation following the USEPA Contract Laboratory Program National Functional Guidelines for Organic (1991) and Inorganic (2002) Data Review and the quality assurance criteria of the analytical methods for the evaluation of the analytical chemistry data from Site in Texas. The validation included groundwater and soil samples analyzed for metals, general chemistry, volatile organic compounds (VOC) and total petroleum hydrocarbon (TPH).

Commercially Developed Land -Hines

MEC^X provided Phase II soil profiling including; preparing Investigation Work Plan, Health and Safety Work Plan, Mass Excavation, Reporting and Waste disposal in support of redevelopment efforts of a 1.2 acre site of commercial developed land in Texas. The soil samples were analyzed by metals, volatile organic compounds (VOC) and total petroleum hydrocarbon (TPH) methods. MEC^X chemists evaluated potentially anomalous detections and worked with the site geologist to identify potential sources for the constituents positively identified.

Former MGP Site-AMEC Geomatrix

MEC^x provided definitive data validation service for metals, cyanide, dissolved gases, general chemistry, PCBs, volatile organic compounds (VOC) and semivolatile organic compounds (SVOC) analyses for the Project. The Data Usability Summary Reports (DUSR) were prepared in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation. The validation included water, sediment and soil samples.

KEY PERSONNEL RESUMES



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EDUCATION

B.S., Biochemistry,
Indiana University; 1985

**ELIZABETH WESSLING
DIRECTOR, ROCKY MOUNTAIN OPERATIONS**

SPECIAL QUALIFICATIONS

Ms. Wessling has over 20 years experience in analytical and environmental chemistry in quality assurance, data quality assessment, data validation, project management, and laboratory supervision at the testing level. Ms. Wessling has direct experience in performing laboratory workflow system evaluations, including cost benefit analyses of retention of laboratory capabilities versus outsourcing of testing. Ms. Wessling has designed analytical laboratory layouts to maximize efficiencies following a work-cell concept. She has written quality assurance project plans, data validation procedures, analytical statements of work, laboratory quality control manuals, and analytical portions of sampling and analysis plans. She has extensive experience in laboratory coordination for large-scale analytical programs supporting investigation, remediation and monitoring projects. Ms. Wessling is a Lead Auditor and has performed frequent laboratory audits on behalf of DoD, federal, state, and commercial entities. She has a strong background in method requirements, method development and optimization and performance based method quality demonstrations of environmental testing of both organic and inorganic chemical constituents.

PROJECT EXPERIENCE:

Boeing North America Boeing SSFL RCRA RFI, California. SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. Ms. Wessling is the Program Quality Assurance Manager. Additionally, she is the MEC^X manager supervising data validation in support of the Boeing Program. Her responsibilities include overall project quality assurance, coordinating with the client with respect to cost, scope and schedule, providing technical support to the client, writing technical summaries and ensuring the quality and timeliness of all validation reports and electronic databases. She has written data quality assessments for laboratory data. Ms. Wessling also performs inorganic, radiological and organic data validation and technical reviews on data generated for the Boeing Program. She has performed systems audits of laboratories providing analytical support to the project. She has written standard operating procedures (SOPs) for organic and inorganic data validation. She has helped establish overall data quality objectives for the multiple phases of the project.

U.S. Department of Veterans Affairs, South Central and Heartland VA Health Care System Facilities. Ms. Wessling is the Lead Environmental Compliance Auditor for four facilities and Quality Assurance Manager for an additional eight facilities. The field assessment audit involves walkthrough assessments of the VA facilities, conducting interviews with VA personnel, compiling findings and writing reports based on 14 areas of federal, state, and local regulations.

Inner Harbor Navigation Canal, New Orleans, Louisiana. The U. S. Army Corps of Engineers, New Orleans District was authorized to replace the existing Industrial Canal Lock. During construction of the new lock, potentially contaminated sediments will be dredged; therefore, testing in accordance with

the COE protocols was performed. Ms. Wessling is the manager supervising the data validation.

Tittabawasee River Flood Plain Sampling, Michigan. The EPA and Michigan DEQ engaged MEC^X to performed data validation of dioxin and furan samples collected in to characterize contamination of neighborhood soils, determine if contamination existed inside houses in the neighborhood, and to evaluate the potential exposure to residents. Ms Wessling performed comprehensive data validation of sediment samples for all dioxin and furan samples collected.

Former Hydrodynamic Testing Facility, San Diego, California. The Site was constructed to test and develop hull designs for submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991 and remedial investigations revealed the presence of PCBs in the paint coating the basin and the building surfaces. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. Recently, investigations were conducted to further characterize, delineate, and assess risk within an area of sediment depositions. Ms. Wessling acted as managing supervisor of all data validation activities.

USACE Louisville District, Multiple Sites. MEC^X has provided data validation and data usability assessment services in support of seven USACE project sites. Ms. Wessling acted as managing supervisor of all data validation and quality assurance activities including client interactions and negotiations, and final QA of all client deliverables

Natural Resources Technology, Milwaukee, Wisconsin. The Site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Ms. Wessling acted as managing supervisor of all data validation activities.

Former Automobile Dealership, New York. The property was developed in 1986 as an automobile dealership. Chemical contamination was discovered at the site in 2002 during an environmental investigation conducted as part of the property transfer. In 2003, the site entered the Voluntary Cleanup Program and conducted a remedial investigation. The remedial investigation indicated that chlorinated solvents, particularly tetrachloroethene and trichloroethene, were present at slightly elevated levels in groundwater, sub-slab soil vapor, and indoor air at the site. Ms. Wessling acted as managing supervisor of all data validation activities.

Former MPG Site Sediment Remediation, Wisconsin. Ms. Wessling supervised inorganic and organic data validation on soils and waters and provided Quality Assurance for preparation of the data usability summary reports written in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Former MPG Site, New York. Ms. Wessling supervised inorganic and organic data validation on soils and waters and provided Quality Assurance for preparation of the data usability summary reports written in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Commercially Developed Land-Baker Botts. The Site is a small tract of land in Texas used as a parking lot since the mid 1980's. A Limited site Investigation was performed in order to determine if potential off-site releases had adversely affected soils and groundwater at the site. Comprehensive data validation was performed on groundwater and soil samples analyzed for metals, general chemistry, volatile organic compounds (VOC) and total petroleum hydrocarbon (TPH). Ms. Wessling acted as managing supervisor of all data validation activities.

Former Chemical Manufacturing Site- US EPA Region 9. MEC^X conducted an EPA TBA Phase II Limited Site Investigation designed to determine the extent to which contaminants identified in earlier sampling efforts may be horizontally distributed across the surface of the Subject Site; determine contamination among soil piles situated on the Subject Site; and, if needed, identify possible cleanup options and provide cost estimates for Subject Site remediation that would not adversely affect cultural resources located on the Site. Ms. Wessling acted as managing supervisor of all data validation activities.

Camp Edwards Impact Area Groundwater Study, Massachusetts Military Reservation, Massachusetts. The Camp Edwards training area at the Massachusetts Military Reservation is a 14,000-acre site with unexploded munitions and other environmental issues, as a result of over 60 years of use as a military training facility. Ms. Wessling was the data validation task manager and laboratory coordinator for this multi-faceted groundwater quality study.

U.S. Navy, Comprehensive Long-Term Environmental Action Navy NFESC Honolulu, Hawaii. The Navy CLEAN program was a 10-year 210 million dollar comprehensive remedial investigation at multiple sites throughout the Pacific. Ms. Wessling was the AMEC Denver Project Manager supervising data validation in support of the NFESC Program with projects performed in the Hawaiian Islands, Japan, Midway Island, and Guam. Her responsibilities included writing the quality assurance project plans, overall data quality assessments, and the laboratory technical statement of work. She provided technical support to the client in response to regulatory inquiries, and ensured the quality and timeliness of all data validation reports and electronic database formats of the validated data. Ms Wessling has performed validation and technical review of CLP, SW-846, NOAA Status and Trends, Puget Sound Protocols including but not limited to volatiles, semivolatiles, dioxin/furan, explosives, extractable fuels, purgable fuels, polynuclear aromatic hydrocarbons, organotin, metals, carbamates, pesticide/PCBs, triazines, organophosphorous pesticides, herbicides, and rocket propellant analyses. She has performed systems' audits of laboratories providing analytical. She has written the AMEC data validation SOPs for organic and inorganic data validation as well as the data validation procedures for use by all Pacific Division (PACDIV) data validation subcontractors.



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EDUCATION:

Ph.D., Environmental
Chemistry, University of
Denver; 1997

M.A.T., Science Education,
Boston University; 1990

B.S., Chemistry, Fort Lewis
College, Colorado; 1987

PATENTS:

"Method to Detect Phosphorus,"
awarded U.S. Patent Number
5,702,954

**PATTI MEEKS, PH.D.
ENVIRONMENTAL CHEMIST**

SPECIAL QUALIFICATIONS:

Dr. Meeks has over 20 years of analytical and environmental chemistry experience including laboratory analyses, field activities, research, data validation, laboratory audits and supervision. She has managed large- and small-scale fate and transport research projects, a commercial project to analyze transuranic wastes and data validation projects for large and small investigations. She has performed routine laboratory analyses, technical organic and inorganic data reviews, and laboratory audits and has written technical summaries, quality assurance project plans (QAPPs) and sampling and analysis plans (SAPs) in support of various clients.

SPECIFIC WORK/TASK EXPERIENCE:

Boeing North America Boeing SSFL RCRA RFI, California. SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. Dr. Meeks' responsibilities include data validation quality assurance, providing technical support to the client, writing technical summaries, and data validation of organic and inorganic analyses.

Inner Harbor Navigation Canal, New Orleans, Louisiana. The U. S. Army Corps of Engineers, New Orleans District was authorized to replace the existing Industrial Canal Lock. During construction of the new lock, potentially contaminated sediments will be dredged; therefore, testing in accordance with the COE protocols was performed. Dr. Meeks acted as the data validation coordinator and MEC^X point-of-contact, and performed comprehensive organic and inorganic data validation on water, soils, sediments, elutriates, and tissues in accordance with EPA functional guidelines, Sampling and Analytical Methods of the National Status and Trends Program, in-house validation procedures and project-specific criteria.

Tittabawasee River Flood Plain Sampling, Michigan. The EPA and Michigan DEQ engaged MEC^X to perform data validation of dioxin and furan samples collected in to characterize contamination of neighborhood soils, determine if contamination existed inside houses in the neighborhood, and to evaluate the potential exposure to residents. Dr. Meeks performed secondary reviews of data validation reports.

Former Hydrodynamic Testing Facility, San Diego, California. The Site was constructed to test and develop hull designs for submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991 and remedial investigations revealed the presence of PCBs in the paint coating the basin and the building surfaces. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. Recently, investigations were conducted to further characterize, delineate, and assess risk within an area of sediment depositions. Dr. Meeks performed comprehensive data validation of sediment samples for inorganic methods.

USACE Louisville District, Multiple Sites. MEC^X has provided data validation and data usability assessment services in support of seven USACE: Dr. Meeks acts as the data validation coordinator and the MEC^X point of contact. She reviews project documents to determine appropriate validation guidelines, performs QA checks of electronic libraries, writes data validation and chemical quality assurance reports, and performs comprehensive organic and inorganic data validation on soils sediments, and waters.

Natural Resources Technology, Milwaukee, Wisconsin. The Site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Dr. Meeks performed comprehensive data validation of sediment samples for metals.

Former Automobile Dealership, New York. The property was developed in 1986 as an automobile dealership. Chemical contamination was discovered at the site in 2002 during an environmental investigation conducted as part of the property transfer. In 2003, the site entered the Voluntary Cleanup Program and conducted a remedial investigation. The remedial investigation indicated that chlorinated solvents, particularly tetrachloroethene and trichloroethene, were present at slightly elevated levels in groundwater, sub-slab soil vapor, and indoor air at the site. Dr. Meeks performed organic and inorganic data validation on soils, sediments, and waters.

Former MPG Site Sediment Remediation, Wisconsin. Dr. Meeks performed inorganic data validation on soils and waters and wrote portions of the data usability summary reports in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Former MPG Site, New York. Dr. Meeks performed inorganic data validation on soils and waters and wrote portions of the data usability summary reports in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation



KIMBERLY K. SCHULTZ
DATABASE ADMINISTRATOR

SPECIAL QUALIFICATIONS:

Ms. Schultz has over 20 years of experience in database management and software training for the environmental and educational consulting fields. Her experience includes data management, review of analytical data, budgets, training, planning, scheduling and laboratory coordination. As a database manager she coordinates work between end-users of data, GIS, statisticians, programmers and modelers. Currently, her responsibilities relating to database management include administrative and data management support for the data validation group, electronic data Quality Assurance/Quality Control (QA/QC) review, database design and optimization, data loading, data reporting, QA/QC of data reports, programming, archiving, updating and repairing. Ms. Schultz works in several different database platforms including Microsoft Access, Borland Paradox and Microsoft SQL Server.

Ms. Schultz has been responsible for a variety of database management projects. She has worked with several custom data reporting tools along with Microsoft Access to provide data reports for project managers. Ms. Schultz has experience working with the EquiS, ADR/EDMS and SEDD applications for automated data review and data reporting functions. Her programming abilities include Visual Basic, C, Java and VB.Net.

SPECIFIC WORK/TASK EXPERIENCE:

Boeing North America Boeing SSFL RCRA RFI, California. Ms. Schultz provides data management support services to the RCRA Facility Investigation (RFI) and site characterization/closure activities at Boeing's Santa Susana Field Laboratory (SSFL). SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. Daily responsibilities include translating and verifying electronic data deliverables using a variety of software and database platforms, providing support to the data validation group, tracking of hardcopy analytical data packages and delivering verified data to link with clients using GIS databases.

Inner Harbor Navigation Canal (IHNC), New Orleans, Louisiana. The U. S. Army Corps of Engineers, New Orleans District (CEMVN) was authorized to replace the existing Industrial Canal Lock, which has been in place since 1921. During construction, potentially contaminated sediments will be dredged. Therefore, testing in accordance with the protocols in *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual* (USEPA/USACE, 1998) was performed to determine if the sediments were suitable for open water disposal. Evaluation of the sediments as per *Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities –Testing Manual* (USACE ERDC/EL TR-03-1, 2003) were also performed in the event that the sediments were determined unsuitable for open water disposal. As a subcontractor to Weston

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EDUCATION:

MS, Software and
Information Systems, Regis
University; expected
graduation 2009

Visual Basic.Net and
Microsoft Access course
work, 2002

BS, Psychology, University
of Colorado, Boulder; 1986

Solutions, Ms. Schultz provided database support to facilitate validation by employing partial electronic validation using ADR software. Additional support tasks provided by Ms. Schultz including building an analysis method library, designing custom queries and providing custom deliverables to sync with the clients database.

Former Hydrodynamic Testing Facility, San Diego, California. The Site was a concrete tank enclosed by a 13,000 square foot building and was used to test and develop hull designs for deep submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. As a subcontractor to Haley and Aldrich, MEC^x data validation professionals performed comprehensive data validation in accordance with EPA functional guidelines, in-house validation procedures and project-specific criteria. As database manager Ms. Schultz provided electronic data deliverables (EDD), requiring updating of over 16,000 records, to allow Haley and Aldrich the timely use of critical data.

Former MPG Site Sediment Remediation, Wisconsin. Ms. Schultz provided database support for the preparation of the data usability summary reports written in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Natural Resources Technology, Milwaukee, Wisconsin. The Site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Ms. Schultz provided database support for the data validation of sediment samples for metals.

Commercially Developed Land-Baker Botts. The Site is a small tract of land in Texas used as a parking lot since the mid 1980's. A Limited site Investigation was performed in order to determine if potential off-site releases had adversely affected soils and groundwater at the site. Comprehensive data validation was performed on groundwater and soil samples analyzed for metals, general chemistry, volatile organic compounds (VOC) and total petroleum hydrocarbon (TPH). Ms. Schultz provided database support for the data validation.

Former Chemical Manufacturing Site- US EPA Region 9. MEC^x conducted an EPA TBA Phase II Limited Site Investigation designed to determine the extent to which contaminants identified in earlier sampling efforts may be horizontally distributed across the surface of the Subject Site; determine contamination among soil piles situated on the Subject Site; and, if needed, identify possible cleanup options and provide cost estimates for Subject Site remediation that would not adversely affect cultural resources located on the Site. Ms. Schultz provided database and research support.

USACE Louisville District, Multiple Sites. MEC^x has provided data validation and data usability assessment services in support of seven USACE: Ms. Schultz provided database support to facilitate validation by employing partial electronic validation using ADR software. Additional support tasks provided by Ms. Schultz including building an analysis method library, designing custom queries and providing custom deliverables to sync with the clients database.

Tittabawasee River Flood Plain Sampling, Michigan. The EPA and Michigan DEQ engaged MEC^x to performed data validation of dioxin and furan samples collected in to characterize contamination of neighborhood soils, determine if contamination existed inside houses in the neighborhood, and to evaluate the potential exposure to residents. Ms. Schultz provided database support for the data validation.

Camp Edwards Impact Area Groundwater Study, Massachusetts Military Reservation, Massachusetts. The Camp Edwards training area at the Massachusetts Military Reservation is a 14,000-acre site with unexploded munitions and other environmental issues, as a result of over 60 years of use as a military training facility. Ms. Schultz's responsibilities included data reporting tasks to produce data for validation and reporting. This involved working with several custom data reporting tools, along with Microsoft Access, to provide data reports for chemistry consultants. Ms. Schultz provided support for electronic analytical data consisting of over 22,000 samples and more than 2 million records of data. She also reviewed electronic data deliverables containing analytical results from the laboratories prior to upload into database and worked with data validators to electronically incorporate data validation results.

Navy Clean AIEA Laundry Facility. Coordinated with data validators and project managers to provide accurate QA/QC, reporting, and analysis of data. Primary responsibilities relating to database management included database design, administration, data loading, QA/QC, report design and generation. Ms. Schultz supported data management services for three contract task orders. The majority of the analyses were validated at EPA Level IV for definitive data validation.



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EDUCATION

BA, Lewis and Clark
College; 1976

**LYNN CALVIN
ENVIRONMENTAL SCIENTIST**

SPECIAL QUALIFICATIONS

Ms. Calvin has 24 years of analytical and environmental chemistry experience including laboratory analyses, supervision of personnel within the laboratory, field activities and data validation. She has performed routine laboratory analyses, technical organic data reviews and has written technical summaries and overall data quality assessment reports (QARs) in support of various clients.

SPECIFIC WORK/TASK EXPERIENCE:

Boeing North America Boeing SSFL RCRA RFI, California. SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. Ms. Calvin currently performs organic data validation on analyses of soils and waters in accordance with the EPA functional guidelines, in-house validation procedures and project-specific criteria.

USACE Louisville District, Multiple Sites. MEC^X has provided data validation and data usability assessment services in support of seven USACE: Ms. Calvin performs comprehensive organic and inorganic data validation on soils sediments, and waters.

Natural Resources Technology, Milwaukee, Wisconsin. The Site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Ms. Calvin performed secondary reviews of data validation reports.

Former Hydrodynamic Testing Facility, San Diego, California. The Site was constructed to test and develop hull designs for submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991 and remedial investigations revealed the presence of PCBs in the paint coating the basin and the building surfaces. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. Recently, investigations were conducted to further characterize, delineate, and assess risk within an area of sediment depositions. Ms. Calvin performed comprehensive data validation of sediment samples for organic methods.

Inner Harbor Navigation Canal, New Orleans, Louisiana. The U. S. Army Corps of Engineers, New Orleans District was authorized to replace the existing Industrial Canal Lock. During construction of the new lock, potentially contaminated sediments will be dredged; therefore, testing in accordance with the COE protocols was performed. Ms. Calvin performed comprehensive organic data validation on water, soils, sediments, elutriates, and tissues in accordance with EPA functional guidelines, Sampling and Analytical Methods of the National Status and Trends Program, in-house validation procedures and project-specific criteria.

Commercially Developed Land-Baker Botts. The Site is a small tract of land in Texas used as a parking lot since the mid 1980's. A Limited site Investigation was performed in order to determine if potential off-site releases had adversely affected soils and groundwater at the site. Ms. Calvin provided comprehensive data validation on groundwater and soil samples analyzed for organic methods.

Camp Edwards Impact Area Groundwater Study, Massachusetts Military Reservation, Massachusetts. The Camp Edwards training area at the Massachusetts Military Reservation is a 14,000-acre site with unexploded munitions and other environmental issues, as a result of over 60 years of use as a military training facility. Ms. Calvin performed organic data validation on analyses of soils and waters in accordance with the EPA functional guidelines, in-house validation procedures, project-specific criteria and EPA Region I functional guidelines.

Marvin Windows and Doors, Warroad Minnesota. The Marvin Windows Facility is a 90-acre site affected by contaminants associated with wood preservation. Ms. Calvin performed organic validation on analyses of soils and waters in accordance with EPA functional guidelines, in-house validation procedures, project-specific criteria, and method-specific criteria and has provided overall data quality assessment support.



**KRISTIN T. SHADOWLIGHT
ENVIRONMENTAL SCIENTIST**

SPECIAL QUALIFICATIONS

Ms. Shadowlight has 12 years of environmental chemistry experience including laboratory preparation, analyses, and data validation. She has served as the primary point of contact for data validation projects involving small investigations. She has performed routine laboratory analyses and technical organic and inorganic data reviews in support of various clients.

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EDUCATION

BS, Biology, University
of Oregon; 1990

SPECIFIC WORK/TASK EXPERIENCE:

Boeing North America Boeing SSFL RCRA RFI, California. SSFL is a 2,700-acre facility located northwest of Los Angeles, California, utilized for research by Boeing, NASA, and DOE. Ms. Shadowlight currently performs organic and inorganic data validation on analyses of soils and waters in accordance with the EPA functional guidelines, in-house validation procedures and project-specific criteria.

Former MPG Site, New York. Ms. Shadowlight performed inorganic data validation on soils and waters in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Former Automobile Dealership, New York. The property was developed in 1986 as an automobile dealership. Chemical contamination was discovered at the site in 2002 during an environmental investigation conducted as part of the property transfer. In 2003, the site entered the Voluntary Cleanup Program and conducted a remedial investigation. The remedial investigation indicated that chlorinated solvents, particularly tetrachloroethene and trichloroethene, were present at slightly elevated levels in groundwater, sub-slab soil vapor, and indoor air at the site. Ms. Shadowlight performed organic and inorganic data validation on soils, sediments, and waters.

Former MPG Site Sediment Remediation, Wisconsin. Ms. Shadowlight performed inorganic data validation on soils and waters in accordance with the New York State Department of Environmental Conservation Division of Environmental Remediation.

Tittabawasee River Flood Plain Sampling, Michigan. The EPA and Michigan DEQ engaged MEC^X to performed data validation of dioxin and furan samples collected in to characterize contamination of neighborhood soils, determine if contamination existed inside houses in the neighborhood, and to evaluate the potential exposure to residents. Ms. Shadowlight performed organic data validation on soils, sediments, and waters.

USACE Louisville District, Multiple Sites. MEC^X has provided data validation and data usability assessment services in support of seven USACE: Ms. Shadowlight performs comprehensive organic and inorganic data validation on soils sediments, and waters.

Natural Resources Technology, Milwaukee, Wisconsin. The Site is a former navigation canal in Wisconsin. From the early 1970's through the mid 1980's a wire reclamation furnace operated approximately 100 feet from the west end of the canal. Ms. Shadowlight performed secondary reviews of data validation reports.

Former Hydrodynamic Testing Facility, San Diego, California. The Site was constructed to test and develop hull designs for submersible vehicles and seaplanes and to conduct hydrodynamic testing of aerospace equipment. Operations ceased in 1991 and remedial investigations revealed the presence of PCBs in the paint coating the basin and the building surfaces. In November 2004, the building was demolished and approximately 70 tons of contaminated soil was removed. Recently, investigations were conducted to further characterize, delineate, and assess risk within an area of sediment depositions. Ms. Shadowlight performed comprehensive data validation of sediment samples for organic and inorganic methods.

Inner Harbor Navigation Canal, New Orleans, Louisiana. The U. S. Army Corps of Engineers, New Orleans District was authorized to replace the existing Industrial Canal Lock. During construction of the new lock, potentially contaminated sediments will be dredged; therefore, testing in accordance with the COE protocols was performed. Ms. Shadowlight performed comprehensive organic and inorganic data validation on water, soils, sediments, elutriates, and tissues in accordance with EPA functional guidelines, Sampling and Analytical Methods of the National Status and Trends Program, in-house validation procedures and project-specific criteria.

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Marvin Windows and Doors, Warroad Minnesota. The Marvin Windows Facility is a 90-acre site affected by contaminants associated with wood preservation. Ms. Shadowlight performed organic validation on analyses of soils and waters in accordance with EPA functional guidelines, in-house validation procedures, project-specific criteria and method-specific criteria.