

THOMAS A. MILLER
President

AREAS OF SPECIALIZATION

- Superfund Expert Witness Testimony
- Superfund Investigations & Cleanup & Removal Actions (CERCLA/SARA)
- Superfund Public Participation & TAG
- Environmental Site Investigation
- CEQA/NEPA, EIR & EIS
- Risk Mitigation & Evaluation
- CEQA Mitigation Development and Alternatives Analysis
- Hazardous and Solid Waste Compliance & Permitting
- RCRA Part B Permits & Applications
- RCRA RFI, RFA & Corrective Action
- Multi-party Environmental Project Management
- Air Permitting, California and CAA
- Air modeling: AERMOD, ISC3, PRIME, EDMS, CALPUF, SCREEN
- NPDES and Stormwater Permitting
- Mergers and Acquisitions
- Risk and Gap Analysis
- Environmental and Safety Management Systems
- Multimedia Compliance & Regulatory Assistance
- Sustainability Plans
- Emissions Inventories
- OFFROAD, EMFAC, Urbemis Models
- Emission Reduction Credits & Project Mitigation
- Wetlands Mitigation
- Modeling & Decision Analysis

Mr. Miller has more than 38 years experience in environmental science, engineering, research, investigation, and forensics in an equal mix of business and industry, government and consulting sectors making him an unbeatable wealth of knowledge, skill and experience.

As manager of the Oregon Environmental Cleanup Division -Site Response Section and project manager for both state and federal Superfund sites in Oregon for more than eight years (1986 through 1994), Mr. Miller developed the program for cleanup of the state's toxic waste sites, managing a section of 12 engineers, geologists, hydrogeologists, scientists and policy analysts running oversight on 50 state and 10 federal Superfund sites at a time. In addition to managing staff responsible for state and federal Superfund sites, Mr. Miller personally managed the most technically, policy, and politically charged and challenging projects the state has seen. These sites included some of the world's most complex technical projects with budgets as high as \$30 million. For example and to name a few, the East Multnomah County Area groundwater state and federal Superfund project, the McCormick and Baxter state and federal Superfund project, the Teledyne Wah Chang federal Superfund site, and the Milwaukie area wide groundwater cleanup project. He was recognized by the U.S. EPA as a leader in development of a strong state superfund and emergency removal programs in Oregon, California, and Washington.

Mr. Miller was responsible for and led performance of NEPA documentation and endangerment assessments related to several federal projects extending into area-wide superfund sites. These projects involved Department of Indian Affairs, Bureau of Land Management, U.S. Forestry, and Native American Reservations.

Due to his national recognition, Mr. Miller has served on three national EPA and ASTSWMO task forces representing both regulatory agencies and industry. He has participated in developing state superfund programs from the national level and provided significant insight into improvements for the federal Superfund Program. Mr. Miller provided expert testimony to the U.S. Senate and at more than a dozen Oregon legislative hearings on development of state and federal environmental programs based on good science.

Mr. Miller has worked with the Oregon Secretary of State, the Oregon Sustainability Board, and the Governor to integrate sustainability into government agency practices. He has helped develop the Sustainability Plan guidance and conducted training for Oregon agencies to meet the Governors Executive Order 03-03, to achieve a sustainable Oregon for the 21st century. His sustainability work and experience extends into California and

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- Human Health Risk Assessment

Washington where he is working with both the Governor's offices and industry to advance the practices of sustainability, energy efficiency, and Green House Gas management programs.

EDUCATION

10 years Ph.D. Graduate Studies,
Portland State University,
Portland, OR and Oregon
Graduate Institute, Beaverton,
OR, OHSU, Portland, OR
B.S., Chemistry, Lewis and Clark
College

In industry and consulting, Mr. Miller has been a leader in developing and managing the highest quality, cost-effective EHS, risk and security programs. He served as corporate EHS manager at Fujitsu Computer Products of America, Sequent Computer Systems and Martin Marietta Corp. As a consultant he delivered innovative performance solutions for start-ups, small and medium businesses and major multinational companies, including Nike, Starbucks, Microsoft, Sun, and Cisco Systems. He has over five years experience developing EHS programs, environmental permitting, training, and management consulting in the biotech and pharmaceutical industry, including firms in the manufacturing phase: Genentech and Amgen. He has been selected as environmental consulting expert for Lawrence Livermore National Laboratory two times in a row and is currently developing an updated RCRA TSDS Part B permit application for them and an updated human health risk assessment for their complex science research laboratories located in Livermore, California.

AFFILIATIONS

Air & Waste Management
Association
Society for Risk Analysis
Oregon Sustainability Board
Washington Governor's
Sustainability Panel
California GHG Registry
Technical Assistance Provider
American Chemical Society
SEER

DIRECTLY RELATED EXPERIENCE –

- 1) **Environmental Investigation, Due-Diligence, Merger/Acquisition, and Environmental Cleanup – (examples)**

OREGON STATE ENVIRONMENTAL CLEANUP PROGRAM (STATE SUPERFUND PROGRAM) –

Oregon DEQ – Site Response Section Manager (1986 – 1994). Lead responsibility for all state and federal superfund cleanup projects which included at the time 10 federal NPL sites and over 100 state priority cleanup projects. Mr. Miller hired the entire headquarters site response section staff and was responsible for developing Regional DEQ cleanup oversight sections in the process to regionalize the program. Work included site investigations, remedial investigations, feasibility studies, remedial design. Cleanup and operation and maintenance of several priority sites ranging from spill sites to major county wide groundwater contamination sites.

Example projects he was directly responsible for:

- McCormick & Baxter Wood Treating-Portland
- East Multnomah groundwater cleanup (Chlorinated Solvents) - Portland
- Gould/NL-Portland
- Milwaukee area groundwater cleanup (Chlorinated Solvents)-Milwaukie
- United Chrome (Hard Chrome Plating) -Corvallis
- Teledyne Wah Chang (Primary Titanium Reduction Plant), Albany
- Martin Marietta Corporation (Primary Aluminum Reduction Plant)-The Dalles

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- Lakewood Estates area groundwater cleanup (Chlorinated Solvents)
- Joseph Forest Products-Joseph
- Allied Plating, Inc.(Metal Plating Plant)-Portland
- Umatilla Army Weapons Depot (Lagoons and weapons incineration)- Hermiston
- Alkali Lake pesticide cleanup-Lake County
- Lucky Lass mine and tailings site-Lakeview
- Uranium mine cleanup site-Lakeview
- Over 25 emergency removal projects
- Hundreds of Phase 1 & 2 site investigations (for U.S. EPA and as a private consultant)

Region X EPA Emergency Removal Management Representative - .

Lead state representative serving on a region emergency response network performing work under a management assistance grant with Region X EPA.

Example Projects:

- Exxon Valdez major ship oil spill, response lead for Oregon
- Yoncolla train wreck, response to provide alternative drinking water source to the nearby residences and emergency rescue of two critical and affected endangered species Western Pond Turtle and a rare frog.
- Silverton Grain and Cooperative fire, response to provide alternative drinking water to nearby residences and assist fire department with pesticide and herbicides being washed into the storm water system and streams.

ASTSWMO and EPA Removal Action Task Force Leader -

Task force leader developing emergency environmental removal action programs for states without programs in the United states. This included development of a triage and rapid assessment tool designed for state emergency management and environmental agencies to be used in making critical response action decisions. Typically used for removal or responses to natural and manmade disasters or release of hazardous substances. These tools are still in use today by federal and state emergency management agencies.

PRIVATE ENVIRONMENTAL CONSULTANT, ENVIRONMENTAL INVESTIGATION AND CLEANUP -

Project Examples:

- Martin Marietta Aluminum, The Dalles
RCRA Part B Hazardous Waste Permit Application
Groundwater Investigations (complex fractured basalt)
Waste Pile and Landfill design and permit
Federal Superfund RI/FS
- Goldendale Aluminum, Goldendale, WA
RCRA Part B Hazardous Waste permit
Waste Pile and Surface Impoundment Closure and Post-Closure

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- Groundwater Investigations (complex fractured basalt)
Superfund RI/FS
- Lakeview Uranium Mine Investigations
 - San Leandro Valley Superfund RI/FS and air stripper installation
Off-gas vapor phase granular activated carbon
Air emission monitoring and dispersion modeling (AERMOD)
Risk Assessment
 - Sun Microsystems PAL 1 Human Health Risk Assessment and
Environmental Investigations (Soil Gas, groundwater)
 - Renault, Paris, production plant environmental investigation,
modeling, and acquisition support
 - Main San Gabriel Valley Superfund Site-Baldwin Park Operable
Unit. Provided expert advice on air stripper technology and off-gas
treatment of volatile organic solvents from one of the largest area
groundwater/drinking water supply basins in the country. This
supplies drinking water to over 15 million people in Southern
California. Provided technical review of groundwater models,
performed advanced Tier IV EPA AERMOD dispersion modeling
and risk calculations to advise responsible parties, EPA Region IX
project managers, and the public on modifications that would
improve the effectiveness of the expensive treatment systems. Mr.
Miller continues to provide expert consulting advice on these cleanup
systems.

Other Related Project and Program Examples:

- Developed property acquisition and management screening “tools”
for managing environmental decision making
- Developed and managed property environmental management
program for several global corporations designed to identify and
manage environmental, safety, infrastructure issues. This became a
corporate wide decision tool and program for making environmental
decisions related to purchase, divestiture, acquisition, mergers of
properties and business ventures. The programs were implemented
in Europe, Asia, South America, Canada, United States, Africa, and
several eastern block countries. Examples of global corporate clients
for these services included: Sun Microsystems, Cisco Systems,
Microsoft Corporation, Novellus, Applied Materials Taiwan,
Starbucks, and Nike.
- Author of numerous investigation programs, protocols, and guidance
documents for environmental assessment, investigation,
environmental and risk decision analysis, and strategic environmental
planning.

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2) Environmental Impact Analysis, Air Quality Project Emission Estimates, Project Feasibility Analysis, and Project Mitigation Analysis

Mr. Miller has been actively involved in the Sunrise Powerlink project air quality emissions mitigation project. This project was certified by the CPUC under the CEQA rules and process. He is leading a team of emission estimators to develop project specific performance options that would bring originally estimated EIS/EIR emission estimates, down to more acceptable and easier to mitigation levels.

He has been selected to lead a team of ZMassociates experts to perform elements of the CEQA analysis for energy sites in California under subcontract with the CEC and similarly with the CPUC and CalTrans. These are multi-year large contracts.

Mr. Miller was responsible for and led performance of NEPA documentation, endangerment assessment, and risk assessment related to several federal and state projects extending into area-wide superfund sites. These projects involved Department of Energy facilities (the Hanford Nuclear Reservation-DOE and Lawrence Livermore National Laboratory-DOE), Department of Indian Affairs, Bureau of Land Management, U.S. Forestry, and Native American Reservations.

Mr. Miller has worked with the California Air Resources Board and South Coast Air Pollution Control District testifying on rule making and permits, and has prepared numerous air permits, emission inventories, and greenhouse gas inventories for reporting.

ENVIRONMENTAL IMPACT ANALYSIS AND ENDANGERMENT ASSESSMENT

For a large industrial client and for a refinery, Mr. Miller performed an analysis of proposed projects projected to emit large quantities of GHGs and toxic air pollutants. As part of this analysis Mr. Miller performed an endangerment assessment and toxics modeling to demonstrate that the proposed project would likely emit at or below federal and state of California toxics levels and below significance levels for GHG.

AIR QUALITY PROJECT EMISSION CALCULATIONS

For the City of Long Beach, Mr. Miller performed an emissions inventory which included GHGs. This inventory included on-shore and off-shore oil production operations.

MITIGATION STRATEGIES

Mr. Miller participated in a team of experts to develop mitigation strategies for GHG and criteria pollutants from a utility construction project and went on to develop a mitigation monitoring plan for the construction phase of the project.

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FEASIBILITY ANALYSIS

For a mining company seeking to construct an unloading and loading operation at the Port of Long Beach, Mr. Miller performed a feasibility analysis of potential air emissions, including GHGs emissions, from several options for design and use.

AIR EMISSION MONITORING AND RISK MODELLING PROJECT: U.S. EPA FEDERAL SUPERFUND PROJECT AIR MONITORING, AIR PERMIT ANALYSIS, AND AIR TOXICS RISK MODELLING

Mr. Miller led a team of air modelers, an air emission monitoring crew, and performed off-gas treatment evaluations to provide opinion on effectiveness of the air stripping technologies being employed to remove toxic chlorinated organic solvents from the basin drinking water supply aquifer. Mr. Miller designed the air monitoring program and modified TO-15 air sampling methods to provide samples that met EPA stringent review and approval and provided data of high enough quality to feed into toxic risk analysis of air emissions leaving the project site. Groundwater cleanup was being accomplished at the wellhead and within highly populated residential areas of the basin.

TITLE V AIR PERMIT APPLICATION PROJECT: A FIBERGLASS AND RESIN LIFE-BOAT MANUFACTURER

This project involved complex source emission inventories for boat manufacturing, testing, and final assembly areas. Potential to emit calculations were performed for normal and maximum potential boat production scenarios. Air dispersion modeling and air sampling was performed to satisfy federal NESHAP and California toxics requirements. ZMassociates under the direction of Mr. Miller prepared the Title V permit application for review by Region IX U.S. EPA air permit staff. Subsequently, a synthetic minor application was developed to satisfy the California air district concerns.

PUBLICATIONS/PRESENTATIONS

Prepared numerous articles for publication in Society for Risk Analysis publication. Author and presenter of several presentations to federal congress on environmental issues, regulatory programs, and policies. Author and presenter to state legislature hearings on budget, policy, and law proceedings, as well as biennial progress reports and presentations on cleanup of state "Orphan" sites.

Numerous presentations to trade associations on environmental issues and regulation interpretation.

Numerous presentations and community outreach on environmental cleanup projects that need public involvement to be acceptable to neighbors and potential receptors to the project cleanup efforts.

Author and instructor of numerous sustainability, environmental and safety training courses.

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EMPLOYMENT HISTORY

2002-Present, ZMassociates Inc., President
2005-2007, Trinity Consultants, Principal & California Office Manager
Under contract to re-start California operations for Trinity.
1999-2002, EORM, Inc., Pacific NW Region Manager
1998-1999, Sequent Computer Systems, Corporate EHS&S Manager
1995-1998, Fujitsu Computer Products of America, Corporate EH&S
Manager
1994-1995, Golder Associates, Inc., Senior Project Manager
1986-1994, Oregon DEQ, Manager, Site Response Section
1984-1986, Century West Engineering Corporation, Manager
1976-1984, Martin Marietta Corporation, Manager of Environmental
Engineering and Control
1973-1976, Gilmore Steel Corporation, Environmental and Metallurgical
Chemist
1971-1973, United Medical Labs, Forensic Toxicologist

HONORS AND AWARDS

Letter of award from the federal EPA for leadership of a national task force
on development of state environmental cleanup programs.
Letter of award from the Director of Environmental Quality for Oregon DEQ
for outstanding service and management of the Oregon Superfund
program.