

William Cutler, Ph.D., P.G.

Principal



Education and Credentials

Ph.D., Geology and Geophysics,
University of Hawaii, Honolulu,
Hawaii, 2011

M.S., Geology and Geophysics,
University of Calgary, Alberta,
Canada, 1982

B.S., Geological Sciences,
University of Michigan, Ann
Arbor, Michigan, 1980

Professional Geologist, California
(License No. CA4667)

Continuing Education and Training

Hazardous Waste Operations and
Emergency Response 40-Hour
Certification (1993 and annual
updates)

How Washington Works training,
2002, Washington, DC

Professional Profile

Dr. William Cutler is a professional geologist with more than 30 years of experience in geosciences primarily focused on environmental site assessment and remediation. He is well versed in managing all aspects of environmental projects, including strategy development, study design, technology assessments, senior management and agency communications, consulting and contracting services, field implementation, community relations, government affairs, and financial assessment and control. He has managed complex remediation projects in excess of \$50 million. In addition to the management of individual projects, he has managed strategies and financial reserves for environmental liability site portfolios.

Dr. Cutler's areas of expertise include site assessments and investigations, sampling plan development, geophysical surveys, remedial technology assessments, and application of risk-based approaches. He has designed and managed site remediation projects under federal Superfund, RCRA corrective action, and state programs. Remedies employed range from simple soil removals to complex treatment systems for soil, groundwater, free product, and waste materials. Dr. Cutler is very experienced at communicating with the community and regulators, and he often functions as the link between the scientific/technical team and other non-technical stakeholders. One of his great strengths is financial evaluation of potential environmental liabilities, including individual sites and portfolios.

Relevant Experience

Environmental Liability Analysis

Former Manufactured Gas Plant Property, Honolulu, Hawaii—
Performed a probabilistic cost analysis of remediation alternatives for an historic manufactured gas plant site being considered for cleanup in downtown Honolulu. Determined the probable range of remediation cost by capturing uncertainties in key cost components (e.g., extent of contamination, type of remedy employed, and status of waste material).



Environmental Liability Analysis, Divested Chemical Company Assets, North America—Performed a probabilistic cost analysis of remediation liabilities for a portfolio of chemical manufacturing sites being divested by the parent company. Managed uncertainties in regulatory status, remedy selection, and project timing by using probability distributions as opposed to point estimates.

Corporate Environmental Reserve Setting, North America—Provided guidance to financial management on setting environmental reserves for operating and discontinued assets (sites). Integrated engineering estimates of investigation and remediation cost with project timing and likelihood of occurrence to develop reserve estimates for a portfolio of sites.

Site Investigation and Remediation Projects

Electric Power Generating Station, Hawaii—Program manager for investigation and source control of PCBs in an upland facility adjacent to Pearl Harbor Superfund Site. Work involves identification and source control mitigation of PCB sediment accumulation areas to prevent recontamination of adjacent harbor sediments.

School Campuses, Island of Hawaii—Program manager for assessment and risk evaluation of building-exterior soils at multiple school campuses. Identified elevated levels of arsenic, lead, and chlordane believed to be from spalling lead-based paint and historical termiticide treatments. Developed statewide framework for assessing and remediating soil impacts.

Former Pesticide Storage and Mixing Area, Island of Hawaii—Project manager for site investigation and cleanup of former pesticide-handling area with arsenic and dioxin impacts to soils. Site was within a residential development parcel, and was remediated to unrestricted land use levels. Worked with public land owner and State regulators to complete project on time and within budget, allowing continued residential development of the property.

Former Sugarcane Properties, Island of Hawaii—Project manager for multiple environmental site assessments of former sugarcane plantation lands on the Island of Hawaii, where soils have been impacted by arsenic and other pesticide chemicals. Sites were evaluated for organochlorine pesticides, dioxins, and total and bioaccessible arsenic. Determined remedial costs when warranted. Innovative use of field-portable x-ray fluorescence to screen site soils led to reduced investigation cost. Incremental sampling techniques were applied. Field pilots of iron amendments to reduce bioaccessible arsenic in soils are being conducted, and considered for full-scale implementation at several sites.

Avtex Fibers Superfund Site, Front Royal, Virginia—Managed the Avtex Fibers Superfund site. High-profile site was initial pilot project in the EPA Redeveloping Superfund Sites Initiative, with total remediation cost in excess of \$100 million. Former rayon manufacturing plant on the bank of the Shenandoah River underwent building decontamination and hazardous materials abatement, 120 acres of waste impoundment closures, soil stabilization and treatment, fractured bedrock aquifer remediation, and various waste treatment alternatives. Significant public visibility and community involvement.



Countywide Brownfields Assessment Programs, Hawaii—Project manager for brownfields assessment projects for the islands of Kauai, Hawaii, and Oahu, under EPA brownfields grants. Prepared inventories of potential brownfields sites, ranked sites for redevelopment potential, and performed site investigations of select sites targeted for redevelopment.

Former Agricultural Chemical Formulating Facility, Fresno, California—Project manager for a complex soil and groundwater remediation project at a former pesticide formulating facility. Offsite groundwater plume of pesticide compounds was comingled with chlorinated solvent/metals plume from an adjacent site. The groundwater remediation project was complicated by friction between the adjacent PRPs, which required strategic support. Offsite groundwater extraction system was designed and implemented.

Closed Sugar Mill Facilities, Hawaii—Project manager for hazardous materials assessment and abatement projects for the closed Lihue and Kekaha sugar mills on the island of Kauai, on behalf of the property owner. These closed mills are classic brownfields sites with abandoned buildings and soil impacts from historic operations. Work included planning for integrated cleanup and site redevelopment.

Former Chemical Manufacturing Plant, South Charleston, West Virginia—Technical advisor for an innovative *in situ* chemical oxidation pilot test using sodium persulfate to treat carbon tetrachloride in soils and groundwater. Portions of site contaminated with VOCs and metals were cleaned up, sold, and redeveloped by automotive dealerships.

Open Dump Cleanup in Public Park, Lansing, Michigan—Project manager for cleanup of the Ralph Crego Park in Lansing, Michigan, where industrial waste dumping impacted 40 acres of recreational park and wetlands. Utilized mineral speciation and *in vitro* bioaccessibility studies to formulate a final cleanup standard for arsenic in collaboration with Integral staff. Removed in excess of 200,000 yd³ of impacted soils and waste material, and restored Crego Park for unrestricted public use.

Former Chromium Processing Facility, Columbus, Montana—Managed a \$20 million remediation of hexavalent chromium at a site along the banks of Yellowstone River as part of the Mouat Industries Superfund site. EPA selected a costly *ex situ* soil stabilization/solidification remedy against recommendation of a PRP. Led a team that convinced EPA Superfund staff to change the remedy mid-course from onsite soil treatment to offsite soil disposal, saving the PRP substantial remedy costs and providing the community with a usable site. Demonstrated and negotiated a natural attenuation remedy for the hexavalent chromium groundwater plume. Integral staff performed ecological and human health risk assessments to guide reasonable remedy outcomes.

Former Pesticide Formulating Facility, Harlingen, Texas—Developed remediation strategies for the cleanup of lead arsenate and organochlorine pesticide soil impacts at a former agricultural chemical formulating plant in Harlingen, Texas. Final remedies accounted for limited arsenic bioaccessibility and natural attenuation of pesticides in groundwater.



Former Military Manufacturing Facilities, San Jose, California—Provided program management of San Jose area remediation work during the closure of military tracked vehicle manufacturing facilities. The projects totaled \$60 million and were conducted under RCRA corrective action orders with California Department of Toxic Substances Control for sites impacted by chlorinated solvents and heavy metals. Soil and groundwater remediation systems were designed and installed (dual-phase extraction and bioaugmentation), all remediation was completed, and the property was successfully divested to the city.

Smelting Coke Manufacturing Facility, RCRA Corrective Action Projects, Wyoming—Project manager for a joint state and EPA RCRA corrective action project involving site investigation and remediation of waste management units, and soil and groundwater impacts by phenol and PAHs. Developed a monitored natural attenuation remedy to address the phenol groundwater plume. The ecological risk assessments led to limited removal remedies for PAHs in soil.

Lithium Manufacturing Facility, North Carolina—Conducted investigation and remediation at an operating lithium manufacturing facility. Challenges included identification and removal of more than 1,000 buried drums containing chlorinated solvents (PCE, TCE) beneath processed waste tailings landfills. Significant groundwater issues related to chlorinated solvents, including dense, nonaqueous-phase liquids. Designed and installed an innovative “passive” soil vapor extraction system, using wind turbines to move air since electrical power was not locally available.

Former Machine Manufacturing Facility, Jonesboro, Arkansas—Managed the design, installation, and closure of two sites impacted by PCE/TCE and diesel fuel. Utilized multilevel air sparge and soil vapor extraction technology to achieve clean closure results in less than 3 months of system operations.

Active Petrochemical Feedstock Terminal, Bay City, Michigan—Conducted investigation of a 40-acre petrochemical feedstock terminal using cone penetrometer, downhole and surface geophysics, and mobile lab. Supported design and installation of groundwater interceptor system for light, nonaqueous-phase liquid (free-phase benzene) and impacted groundwater.

Natural Gas Compressor Station, Kalkaska, Michigan—Conducted technology pilot testing for light, nonaqueous-phase liquid (natural gas liquids) source removal at a gas compressor station in conjunction with corporate research and development scientists. Technologies focused on bioaugmentation via air sparging and nutrient amendments.

Former Petrochemical Terminal, Bay City, Michigan—Designed and supported field investigations of groundwater impacts at a discontinued chemical tank farm along the banks of the Saginaw River. Installed a pump and treat system for containment and remediation of chlorinated solvent groundwater contamination. Developed a cost-effective hydraulic monitoring program to ensure protection of adjacent surface waters.

Brine Chemicals Manufacturing Complex, Ludington, Michigan—Conducted investigations and supported remedial design and remedial action on numerous known or suspected brine spill sites.



Significant surface and downhole geophysical work and cone penetrometer testing aided identification of brine plumes. Used numerical groundwater modeling to support the design of brine spill recovery systems.

Publications

Cutler, W., A. El-Kadi, N. Hue, J. Peard, K. Scheckel, and C. Ray. 2014. Iron amendments to reduce bioaccessible arsenic. *J. of Hazard. Mater.* 279:554-561.

Cutler, W., R. Brewer, A. El-Kadi, N. Hue, P. Niemeyer, J. Peard, and C. Ray. 2013. Bioaccessible arsenic in soils of former sugar cane plantations, Island of Hawaii. *Sci. Total Environ.* 442:177-188.

Zahir, Z., J. Bensch, and W. Cutler. 1999. Enhanced soil vapor extraction for source area remediation using dual-phase extraction with pneumatic fracturing. Chapter 29, pp. 359–372. In: *Contaminated Soils, Volume 4*. E. J. Calabrese, P. T. Kostecky, M. Bonazountas (eds). Amherst Scientific Publishers, Amherst, MA.

Invited Presentations/Panels/Peer Reviews

Techniques to Optimize Arsenic Soil Removal. Electric Power Research Institute, Arsenic Interest Group Meeting, Pensacola, FL. January 2017.

Environmental Liabilities in Real Estate Transactions. National Business Institute Seminar, Honolulu, HI. December 2016.

Power County Idaho, Building the Future from the Past, Problem Properties Workshop. National Association of Counties Annual Conference, Honolulu, HI. July 2005.

Integrating Land Use into the Remedy Selection Process and Setting Up the Redevelopment. EPA Region 6 Workshop: Redeveloping Superfund sites, working with responsible parties, Houston, TX. April 2002.

Working with PRPs. EPA National Superfund Redevelopment Pilot Conference, Dallas, TX. April 2002.

Presentations/Posters

Cutler, W. 2017. Techniques to optimize arsenic soil removal. Electric Power Research Institute, Arsenic Interest Group Meeting, Pensacola, FL.

Cutler, W., A. Juhasz, E. Smith, and J. Peard. 2016. Arsenic bioavailability and bioaccessibility in Hawaii soils. Tenth International Conference on the Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, CA.



Cutler, W., A. Juhasz, E. Smith, and J. Peard. 2015. Bioavailable and bioaccessible arsenic in Hawaiian soils. Tenth International Workshop on Chemical Bioavailability in the Terrestrial Environment, Nanjing, China.

Cutler, W. Bioaccessible arsenic in soils of former sugar cane plantations, Island of Hawaii. National Association of Environmental Professionals, Honolulu, HI.

Cutler, W., and P. Goodrum. 2014. Integration of incremental and discrete sampling methods to optimize site investigation and remediation. Ninth International Conference on the Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA.

Cutler, W. 2013. Soil properties and their influence on arsenic bioaccessibility. The 29th Annual International Conference on Soils, Sediments, Water and Energy, Association for Environmental Health and Sciences (AEHS), Amherst, MA.

Martin, D., and W. Cutler. 2012. Cost-effective site characterization using discrete and incremental sampling methods. Hawaii Department of Health and Environment seminar: Decision unit and multi-increment site investigation approaches: lessons learned and future challenges. Honolulu, HI.

Cutler, W. 2009. Iron amendments to reduce bioaccessible arsenic in Hawaiian soils. Third International Contaminated Site Remediation Conference, Adelaide, South Australia.

Cutler, W. 2009. Arsenic field mapping by XRF: A quantitative comparison of field and laboratory methods. Nineteenth Annual AEHS Meeting and West Coast Conference on Soils, Sediments, and Water, San Diego, CA.

Tait, J., S. Lundblad, and W. Cutler. 2008. Optimizing XRF for field mapping of soil arsenic. EPA Triad National Conference, Amherst, MA.

Cutler, W., and N.V. Hue. 2008. Geochemistry of bioaccessible arsenic. Sixth International Conference on the Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA.

Peterson, S., and W. Cutler. 2006. Arsenic bioaccessibility in Hawaii soils. Society of Environmental Toxicology and Chemistry Annual Meeting, Montreal, QC, Canada.

Cutler, W.G, N. Hue, M. Ortiz-Escobar, and T. Martin. 2006. Approaches to reduce bioaccessible arsenic in Hawaii soils. Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA.

Cutler, W.G., and N. Hue. 2006. Remedial alternatives for bioaccessible arsenic in Hawaii soils. Sixteenth Annual AEHS Meeting and West Coast Conference on Soils, Sediments, and Water, San Diego, CA.



Block, P., and W. Cutler. 2005. Klozur™ activated persulfate for site remediation: comparative modeling of treatment efficacy and cost. Fourth International Conference on Oxidation and Reduction Technologies of *In-situ* Treatment of Soil and Groundwater, Chicago, IL.

Cutler, W.G., and J. Hazard. 2005. Integrated CERCLA cleanup and Non-CERCLA abatement and demolition. Joint Services Environmental Management Conference, San Antonio, TX.

Cutler, W., J. Bodamer, P. Block, S. Abrams, T. Ladaa, G. Robertson, and M. Walsh. 2005. Use of CPT/MIPS to determine optimal ISCO injection zones. Fifteenth Annual AEHS Conference on Soils, Sediments and Water, San Diego, CA.

Root, D.K., P.A. Block, and W.G. Cutler. 2005. Investigation of chlorinated methanes treatability using sodium persulfate. First International Conference on Environmental Science & Technology, New Orleans, LA.

Erbe, M., R. Keating, C. Travers, L. Norman, W. Cutler, and T. Martin. 2004. Assessing the role of structural geologic elements in aquifer hydraulics and plume migration. EPA/NGWA Fractured Rock Conference, Portland, ME.

Bott, C., J. Koon, P. Brooks, P. Rich, T. Martin, D. Bement, and W. Cutler. 2002. Physiochemical and biological treatment of a concentrated industrial leachate from aged process waste at a viscose rayon production facility. In: Proc. of Water Environment Federation's Annual Technical Exhibition and Conference, Chicago, IL.

Venkatakrishnan, R., W. Cutler, and C. Travers. 2001. Borehole geophysics and development of a conceptual hydrogeological model: Case study of plume migration in Martinsburg shale at the Avtex Fibers Superfund Site. Geological Society of America Annual Meeting, Boston, MA.

Brooks, P., J. Koon, D. Bement, and W. Cutler. 2001. Innovative treatment of landfill leachate at the Avtex Superfund Site. Environment Virginia Annual Conference, Lexington, VA.

Travers, C., T. Martin, M. Ruby, W. Cutler, and R. Keating. 2001. Geologic controls on DAPL migration in a fractured bedrock system: Avtex Fibers Superfund Site, Part I. National Groundwater Association Conference on Groundwater in Fractured Rock, Toronto, ON, Canada.

Martin, T., C. Travers, M. Ruby, W. Cutler, and R. Keating. 2001. Fate and remediation alternatives for DAPL in fractured bedrock system: Avtex Fibers Superfund Site, Part II. National Groundwater Association Conference on Groundwater in Fractured Rock, Toronto, ON, Canada.

