



James T. Wells, PhD, PG

Environmental Geologist

L. Everett & Associates, LLC



Education

University of Washington, Ph.D.,
Geological Sciences, 1990

University of Washington, M.S.,
Geological Sciences, 1986

Dartmouth College, B.A., Earth
Sciences, 1981

Professional Registration

2001/California: Professional
Geologist (Reg. No. 7212)

Professional Societies

Geological Society of America
American Ground Water
Association

American Chemical Society
International Society of
Environmental Forensics

Dr. Wells is an environmental geologist with over 25 years of experience in hydrogeology and geochemistry and is a Professional Geologist, registered in California. His area of expertise includes groundwater hydrology, fate and transport of contamination in soil and groundwater, environmental forensics and the geochemistry of metals in the environment. He is a member of the Editorial Board of the journal, *Environmental Forensics*, a quarterly peer-reviewed scientific journal of national and international circulation. He is the author and coauthor of numerous scientific publications, including the recently published forensic review articles in *Environmental Science & Technology* (U.K. Edition) Special Issue dedicated to Environmental Forensics.

Dr. Wells has worked on over 100 sites around the country, each with unique issues related to soil or groundwater quality. He serves clients in the areas of site investigations, soil and groundwater remediation, risk-based studies of soil and groundwater contamination, and litigation support. Dr. Wells has managed complex environmental programs on behalf of large corporations. His environmental forensics practice focuses on using advanced analytical techniques to solve questions related to the origin, cause, timing and evolution of subsurface contamination. He has extensive experience in groundwater and vadose zone computer modeling, as well as in the statistical analysis of geological systems. Dr. Wells has also served as an expert witness for numerous environmental legal cases.

Representative Project Experience

Former Sylvania Site – Hicksville, New York.

Conducted assessment of site investigation and remediation at FUSRAP (Formerly Utilized Sites Remedial Action Program) site on Long Island. This facility was an early supplier of nuclear fuel elements for the nation's first commercial reactors. Soil and groundwater contamination included uranium, thorium, nickel and organic solvents.

Gallagher & Kennedy – Litigation Support. Provided litigation support for a lawsuit involving a 996-acre brownfield site. The site, used since the 1930s for munitions manufacturing and assembly, had soil and groundwater contamination consisting of perchlorate, chlorinated solvents and radioactive materials. When the local municipality took 13 acres of the property by eminent domain to build a new regional highway, the property owner sued to recoup the cost of the land. The municipality estimated a cleanup cost of \$220 million and, based on this, valued the land at only \$142,000. With colleagues, developed a soil and groundwater remediation plan and cost estimate. Through extensive soil and groundwater data analysis and 3D modeling, demonstrated that while portions of the site were highly contaminated, much of the site was not contaminated and a

lower cost remediation was feasible. Our remediation plan dovetailed remediation with pre-development activities and employed state-of-the-art remediation technologies for perchlorate at a cost \$27 million. A jury accepted the accuracy of our remediation estimate and awarded the owner over \$12 million for land value and severance damages.

University of Washington Advisory Group on Hanford Site. Served as graduate student representative to technical advisory group providing advice to State officials in their oversight role for the environmental cleanup at Hanford in eastern Washington State.

SIMA Property Corporation – Chlorinated Solvent Site in California. Conducted site characterization, remediation planning, regulatory negotiation for PCE in soil, soil vapor and groundwater at this dry cleaner site, with special emphasis on the potential for vapor intrusion into nearby commercial buildings.

Applies expertise in geo-chemistry and hydrogeology to solve environmental problems

Rand Family Trust – Petroleum hydrocarbons in soil and groundwater. Conducted site characterization and site remediation for a commercial site in Santa Barbara, California. Achieved closure of this case from the local regulatory agency.

Reedley Remediation Trust – Chlorinated Solvent Site in California. Provided site characterization and remediation planning advice for this comingled PCE groundwater plume. Also advised on the formation of a remediation trust to insure adequate resources for a long-term cleanup program.

Isola Law Group – Rialto-Colton Superfund Site. Provided litigation support in complex, multi-party lawsuit concerning cost allocation, contaminant fate and transport and remediation technologies for large (5-mile long) perchlorate and TCE groundwater plume.

KB Gardena – Litigation Support & Subsurface Remediation. Provided attorneys with technical advice and assistance with cost allocation strategy for multi-million dollar case with multiple PRPs. Conducted site remediation for PCE, metals and other VOCs.

Pacific Gas & Electric Company – Forensic Geochemistry. Analyzed high-resolution petroleum hydrocarbon data, including PIANO analysis, relative solubility and hydrocarbon weathering assessments to evaluate the theory that contamination discovered on client's property originated from off-site sources and was not due to on-site releases. PIANO analysis is a forensic technique for complex hydrocarbon mixtures using gas chromatography to speciate individual hydrocarbon compounds and group the compounds into their molecular classifications: paraffins (P), isoparaffins (I), aromatics (A), naphthalenes (N) and olefins (O).

Pacific Gas & Electric Company – Litigation Support. Provided litigation support, including participation in mediation, for a case involving petroleum hydrocarbons in soil and groundwater.

His area of expertise includes environmental forensics and fate and transport of organic and inorganic contaminants in soil and groundwater

USEPA – Del Amo and Montrose Superfund Sites. Analysis of potential exposure scenarios and efficacy of remediation plans from PCBs, metals and VOCs from Superfund sites in Los Angeles under EPA’s TASC program (Technical Assistance Services for Communities).

Terracon, Inc. – Groundwater Modeling and Litigation Support. Complex construction defect case involving claims of \$60 million in damage allegedly due to soil expansion caused by rising groundwater from irrigation of nearby golf course and residential areas. Opposing experts spent two years and \$2 million on groundwater modeling which was eventually excluded from trial after we demonstrated unreliability and lack of relevance to judge.

St. Joe, Missouri—Chromium in Tannery Waste. Provided litigation support for case in which tannery waste had been spread as soil amendment over approximately 56,000 acres of agricultural land. It had been known that the sludge contained elevated levels of metals, including chromium. It was apparently not known that some of the chromium was in the form of toxic Cr(VI) which posed a serious risk to human health and the environment.

State of Idaho – Soil Remediation Pilot Study for Metal Stabilization on the Coeur d’Alene Mining District. Conducted field pilot study on metal stabilization along the Coeur d’Alene River. The river feeds Lake Coeur d’Alene which is highly-impacted by the cumulative effects of 100 years of mining in the watershed and is the primary source of drinking water for over 50,000 residents of northern Idaho. Work was sponsored by the U.S. Environmental Protection Agency (EPA) and State of Idaho in an effort to find a cost-effective means of addressing widespread soil contamination along a 30 mile stretch of the Coeur d’Alene River.

Confidential Client – Environmental Forensics for Metals. Conducted forensic analysis of groundwater contamination allegedly emanating from a mining operation. The project involved fate and transport evaluations, groundwater hydrogeology, and geochemistry.

Litigation Support – Metals Contamination

Provided litigation support in case involving alleged lead and arsenic soil contamination due to pesticides.

Koch Oil, Oklahoma – Forensic Geochemistry. Conducted forensic geochemical evaluation on naturally-occurring compounds in groundwater to assess whether historical groundwater concentration trends constituted natural background variability or potential releases from client’s brine impoundments.

Tri-County Public Airport, Herington, Kansas – Forensic Geochemistry. Conducted oxygen, deuterium, chlorofluorocarbon (CFC), carbon isotope analysis of groundwater and chlorinated contaminants in order of evaluate contaminant fate and transport at a former military facility.

Gonzalez & Robinson – Groundwater Modeling. Used groundwater computer modeling to simulate groundwater flow in a residential region of Sonoma County, California.

Confidential Client – Environmental Forensics for Chlorinated Solvents. Conducted forensic analysis of chlorinated solvent contamination extending in groundwater over two miles under a community. The site involved multiple releases from multiple locations and complex hydrogeology and attenuation histories.

Kimberly-Clark, Ohio – Forensic Geochemistry. Conducted forensic geochemical analysis to demonstrate that significant component of groundwater contamination under client's site had migrated from an off-site source. Utilized compound-specific carbon isotope analysis of chlorinated compounds and daughter product abundance. This analysis was complicated by the fact that there were low levels of residual contamination from an old on-site release, which needed to be definitively differentiated from the larger off-site flux of contaminants.

Western States Petroleum Association – Risk-Based Clean-up Studies. Conducted a study to develop risk-based clean-up standards for crude-oil-impacted soils, including studies of the comparative environmental risks posed by crude oil, gasoline, and diesel oil in the subsurface. Applied leaking underground fuel tank evaluation methods to crude oil sites and developed cost-effective site assessment strategies.

Tesoro Petroleum Company – San Fernando Investigation and Remediation of MTBE Plume. Managed a project in Southern California to delineate and clean-up a large release of methyl tert-butyl ether (MTBE) to soil and groundwater. A particular challenge of this project was to account for the presence of multiple high-volume water supply wells near the project site, a situation involving extensive regulatory negotiation with California Regional Water Quality Control Board (RWQCB), California Department of Health Services and Upper Los Angeles River Area Watermaster.

Isola Bowers, LLP – Environmental Litigation Support. Served as expert witness in a case involving a large release of MTBE-bearing gasoline to groundwater. Estimated volume of release and reconstructed release and plume migration history.

ContiGroup Companies, Stockton, CA – Groundwater Remediation. Completed comprehensive subsurface characterization study and designed a remediation strategy for this grain elevator site with carbon tetrachloride and other volatile organic compounds in groundwater. Due to the complex stratigraphy and heterogeneous distribution of contaminant throughout the aquifer, an in-situ chemical treatment strategy was designed for this site coupled with an initial, short-term phase of groundwater extraction to achieve containment of the contaminant plume.

Confidential Client - Aircraft Manufacturer – Service Delivery Leader.

Served as Service Delivery Leader, responsible for coordinating quality and consistency for a team located in six offices and providing environmental services simultaneously on up to ten large projects. Also conducted vadose zone computer modeling to evaluate clean-up standards for soil that would be protective of future groundwater quality.

Northrop-Grumman Corporation—Remediation Planning. Provided analysis of environmental data and regulatory requirements for large site with multiple occurrences of contamination in soil and groundwater. Advised client on cost-effective strategies and technologies for resolving environmental impairment.

Archbald & Spray, LLP – Environmental Litigation Support. Served as expert witness on environmental issues for the case, Exxon v. Ebasco. In this case, environmental issues included storm water management, erosion control, hazardous waste handling, water quality and regulatory compliance during construction of a large petroleum processing facility in Santa Barbara County, California.

Price, Postel & Parma, LLP – Environmental Litigation Support. Provided environmental review and interpretation in support of legal cases. Served as expert witness on cases involving groundwater contamination and aquifer remediation.

Tesoro Petroleum Company – Feasibility Study for Remediation of Free Product. Conducted a feasibility study for containment and remediation of a large plume of free phase petroleum plume at a refinery in Kenai, Alaska. Migration of the light non-aqueous phase liquid was influenced by complex fluvio-glacial stratigraphy and by fluctuating groundwater levels.

Exxon Company, U.S.A. – Remediation Planning. Developed remediation and regulatory strategies for the closure of a large urban oil field in California, which consists of over 500 production sites over four square miles of residential and commercial districts. The proposed strategy was a risk-based approach addressing such factors as cost, schedule, future liability and land use.

Confidential Client - Aircraft Manufacturing Site Redevelopment

Environmental Program. Team member for comprehensive subsurface investigation program for 343-acre former manufacturing facility. This complex project involved over 1500 soil borings, web-based data repository, risk-based formulation of clean-up standards, production of data reports specifically designed for use by potential buyers and other stakeholders and close coordination with redevelopment staff.

Nestlé, U.S.A. –Aquifer Remediation. Working with Nestlé technical staff, developed a technical strategy and gained regulatory acceptance of a passive bioremediation approach at an underground storage tank (UST) site which contained hydrocarbon contamination in groundwater in a beneficial-use aquifer.

San Diego County Aquifer Storage and Recovery. Served as technical advisor on project evaluating the feasibility of aquifer storage and recovery operation in central San Diego County, California. Project involved extensive groundwater modeling, evaluation of climate variability and evaluations of geochemical compatibility of various potential sources of water with native groundwater and aquifer matrix.

County of San Luis Obispo Water Supply – Nitrate in Groundwater.

Conducted a study of nitrate contamination in shallow groundwater at Los Osos, California, a community that relies solely on groundwater for its municipal water supply. The study incorporated site-specific data on the transport and transformation of nitrogen in the subsurface to develop a nitrogen mass balance for all significant nitrate sources. This work resulted in quantitative estimates of the contribution of septic system effluent to nitrate levels in groundwater.

U.S. Navy – Groundwater Investigations and Remediation Planning.

Managed site investigations, feasibility studies and remediation planning at eight contaminated sites overlying (and in some cases, impacting) the sole-source aquifer at Camp Pendleton Marine Corps Base.

Santa Barbara Historical Society – Environmental Consulting.

Provided environmental consulting services, advice, reviews of reports and data and participated in negotiations with Southern California Edison (the responsible party) on behalf a Santa Barbara nonprofit organization. This work focused on soil and groundwater investigations, remediation plans and associated risks related to soil and groundwater contamination at a former manufactured gas plant on the nonprofit's property.

Sequoia Voting Systems – Groundwater Investigations. Managed a project involving chlorinated compounds in groundwater in which I developed supporting data and argued for relief from active remediation on the grounds of the existence of natural contaminant of the chlorinated plume. Our approach was approved by the state.

Los Angeles Metropolitan Transportation Authority (LACMTA)–

Comprehensive Environmental Services. Project manager for comprehensive hazardous waste assessment contract with the LACMTA. For this project, M&E provided environmental services in support of land acquisition and construction for a light-rail commuter line in the Los Angeles area.

Private Client – Vadose Zone Studies. Performed detailed vadose zone investigations in support of landfill siting projects which involved geophysical surveys and soil testing to assess the nature and distribution of soil moisture and to assess the potential for contaminant migration in the vadose zone.

State of California – Soil and Groundwater Remediation. Implemented an air sparging/soil vapor extraction soil and groundwater remediation system at a UST site with extensive vadose zone and dissolved groundwater plumes.

U.S. Air Force – Risk-based Strategies for Soil. Utilized the California RWQCB Designated Level Methodology to establish clean-up levels for soil contaminated with petroleum hydrocarbons at Beale Air Force Base, California. This project involved vadose zone contaminant transport computer modeling to arrive at soil clean-up levels that would produce acceptable predicted impacts to underlying groundwater.

Various Clients – Geostatistical Programs. Developed programs for the statistical analysis of groundwater monitoring data for a mining facility, petroleum refinery, wastewater reclamation operation and a municipal waste landfill, all in Central California. Projects involved the implementation of EPA-approved statistical techniques to evaluate the differences between background and downgradient concentrations of groundwater contaminants.

Depositions and Trial Testimony

2018, Renzel v. Ventura, Deposition Testimony.

2018, Weiland Automotive Industries, Inc. et al., Deposition Testimony.

2017, Greenfield MHP Associates, L.P., et al. vs. Ametek, Deposition Testimony.

2017, Wyatt, et al., vs. ABB, Inc., Deposition Testimony.

2016, Kirk vs. Schaeffler, Deposition and Trial Testimony.

2016, Goldberg vs. Goss-Jewett, et al., Deposition Testimony.

2015, Hawkins, et al., vs. Vista Ridge Development Corp., et al., Deposition Testimony.

2013, Enns Pontiac, et al., vs. Flores, et al., Deposition Testimony.

2012, Steadfast, et al., vs. Terracon, et al., District Court of Jefferson County, Colorado, Deposition and pre-trial Hearing Testimony.

2012, Kartal vs. Chang, et al., Deposition Testimony.

2011, Johnson, et al., vs. Prime Tanning Corp., et al., Circuit Court of Buchanan County, Missouri, Deposition Testimony.

2010, United Alloys vs. Flask, United States District Court, Central District of California, Deposition and Trial Testimony.

2010, Acevedo, et al., vs. California Spray Chemical Company, et al., Superior Court of the State of California, County of Santa Cruz, Deposition .

2009, ITT vs. BorgWarner, et al., United States District Court for the Western

District of Michigan, Deposition and Trial Testimony.

2009, DePascale. Et al., vs. Sylvania, United States District Court for the Eastern District of New York, Deposition and Trial Testimony.

2009, Clark, et al. vs. City of Santa Rosa, et al., Superior Court of the State of California, County of Sonoma, Deposition and Trial Testimony.

2008, Hinds Investments, L.P., et al. vs. United Fabricare Supply, Inc., et al., Deposition, Los Angeles, California, Deposition.

2008, Acevedo, et al., vs. California Spray Chemical Company, et al., Superior Court of the State of California, County of Santa Cruz, Deposition and Trial Testimony

2005, City of Santa Clarita vs. Santa Clarita, LLC, et al., Superior Court of the State of California, County of Los Angeles, Deposition.

2003, City of Morgan Hill, Santa Clara County, California, Deposition and Trial.

1999, Unocal vs. Terrible Herbst, Las Vegas, Nevada, Deposition and Trial Testimony.

1998, Exxon v. Ebasco, Santa Barbara County, California, Deposition.

Publications and Papers

Expert Witness Services for Environmental Scientists and Engineers: Professional Opportunities at The Intersection of Law and Science, in: *Applied Geology of California*, Anderson and Ferriz, eds., Chapter 29 (with Schaal, Matos and Everett).

“Emerging Trends in Environmental Forensics,” presentation and paper for American Law Institute Conference on Environmental Litigation, Washington, DC, 2013.

“Tracking Chlorinated Solvents in Nature – Classic and Emerging Forensic Techniques”, with I. G. Petrisor, in *Environmental Forensics*, Volume 26 in the Issues in Environmental Science and Technology series, 2008.

“Perchlorate: Is Nature the Main Manufacturer?”, with I. G. Petrisor, in *Environmental Forensics*, Volume 26 in the Issues in Environmental Science and Technology series, 2008.

“Environmental Forensics,” presentation to the AIHA Joint Symposium, Long Beach, California, 2004.

“A Lattice Gas Model for Heterogeneous Chemical Reactions at Mineral Surfaces and in Pore Networks,” with D.R. Janecky, and B. Travis, *Physica D*, vol. 47, pp. 115-123, 1991.

“Coupled Fluid Flow and Chemical Reactions in Mid-Ocean Ridge Hydrothermal

Systems: The Behavior of Silica,” with M.S. Ghiorso, *Geochimica et Cosmochimica Acta*, vol. 55, pp. 2467-2482, 1991.

“The Influence of Fluid Flow and Reaction Kinetics on Mass Transfer in Mid-Ocean Ridge Hydrothermal Systems.” Dissertation, University of Washington, 1990.

“3-D Numerical Models for Examining Processes in Geothermal-Hydrochemical Systems,” with D.R. Janecky, B.J. Travis, G. Zyvloski, N. Rosenberg. Chapman Conference on Crustal-Scale Fluid Transport, Snowbird, Utah, 1990.

“Cellular Automata Simulations of Mineral Surface Reactions,” with D.R. Janecky, and B. Travis, Geological Society of America Annual Meeting, St. Louis, 1989.

“Determining Fluid Velocity of Black Smoker Jets from Digital Correlation of Video Images,” with M.O. Smith, V.A. Atnipp, and R.E. McDuff, American Geophysical Union Fall Meeting, San Francisco, 1989.