

JAMES G. VAN DE WATER, RG, CHG
Senior Hydrogeologist

CAPABILITIES

Hydrogeologic Modeling
Hydrogeologic Characterization
Risk Assessments
Litigation Support

Contaminated Property Liability Assessments
Remediation System Engineering Design
Fate and Transport Analyses
Risk Based Corrective Action

EXPERIENCE SUMMARY

Mr. Van de Water has practiced in California in the environmental consulting field continuously since obtaining his Master's degree in Hydrology and Water Resources in 1989. His technical focus is in hydrogeology with an emphasis in computer modeling in support of regional- and site-scale hydrogeologic characterization, risk assessment, engineering remediation system design, and expert witness/litigation/mediation services. He is currently contracted with several consulting firms, including Arcadis JSA, Clayton Group Services, Inc., Frey Environmental, Harding ESE, Integrated Environmental Services, Inc., and Winefield & Associates, Inc.

Mr. Van de Water has also been a guest lecturer at University of California at Irvine Extension Program, California State University at Long Beach, and the University of Arizona. His presentations were given to audiences comprised of environmental professionals and students, focussing on the application of ground-water computer models. He has also given lectures to members of the Regional Water Quality Control Board (Los Angeles Region) and the Nevada Department of Environmental Protection regarding the application of computer models. Finally, Mr. Van de Water has made presentations to representatives of the Prudential Realty Group, the Prudential Capital Group, and their consultants regarding the application of Monte Carlo simulation techniques to property transaction environmental liability assessments.

EDUCATION

Bachelor of Science (B.S.) – Geology, State University of New York at Stony Brook (1986); Department of Earth and Space Sciences

Master of Science (M.S.) – Hydrology and Water Resources, University of Arizona (1989); Department of Hydrology and Water Resources (College of Engineering and Mines)

REGISTRATIONS

Registered Geologist (California): R.G. No. 6538
Certified Hydrogeologist (California): C.HG. No. 508

SELECT PROFESSIONAL EXPERIENCE

Key project responsibilities for Mr. Van de Water have included:

Independent Consultant (1999-present)

Representative Projects

- Confidential Client (Fate and Transport Analysis, Northern California). Under contract to a trust in a lawsuit associated with a property impacted with hexavalent chromium and chlorinated compounds. The fate and transport analysis is currently projected to include vapor flux to indoor and outdoor air, leaching to ground water, and surface water and sediment transport to a nearby drainage channel.
- Confidential Client (Fate and Transport Analysis, New Jersey). Conducted stochastic analysis of slurry wall failure and resultant fate and transport of fuel hydrocarbons for a site on the shore of Upper New York Bay. The effort involved coding an analytical transport model into spreadsheet software and applying Monte Carlo simulation through the use of a proprietary (third-party) 'add-in' macro.
- Confidential Client (Fate and Transport Analysis, Southern California). Currently developing approach to establish soil cleanup or 'remediation action' levels for mineral oil for a major utility. To date, the effort has included using a forensic laboratory to quantify the concentrations of individual organic compounds and carbon-chains comprising the mineral oil. The next step will be to simulate the movement of the carbon chain fractions through the subsurface and back-calculate acceptable levels that won't pose a risk to human health or ground-water quality through the use of a numerical fate and transport model.
- Confidential Client (Risk Assessment/Fate and Transport Analysis, Las Vegas, Nevada). Conducted fate and transport modeling in support of risk assessment for an MTBE release from multiple locations. The process evaluated was volatilization from ground water to indoor and outdoor air.
- Confidential Client (Risk Assessment/Fate and Transport Analysis, Tucson, Arizona). Conducted fate and transport modeling in support of risk assessment for a PCE release. The process evaluated was volatilization from soil into a construction excavation.
- Confidential Client (Hydrogeologic Characterization/Fate and Transport Analysis, Los Angeles, California). Expert for coalition consisting of nine entities involved in settlement mediation.
- Confidential Client (Risk Assessment/Fate and Transport Analysis, Los Angeles, California). Conducted fate-and-transport analysis using unsaturated zone computer model in support of multiple property transactions/site closures.
- Confidential Client (Hydrogeologic Characterization, Underground Tank Removal, Soil and Ground-water Remediation, San Jose, California). Percipient witness for defendant.

- Confidential Client (Hydrogeologic Characterization/Property Transaction, Los Angeles, California). Expert for current property owner.
- Confidential Client (Hydrogeologic Characterization, Ground-water Remediation, and Computer Modeling, Los Angeles, California). Task manager for development of remediation ‘triggers’ for the protection of ground water and development of *in situ* remediation strategies to address ground water that is impacted by the chlorinated solvents PCE and TCE and their breakdown products at a former aircraft manufacturing facility.
- Mass Mutual (Hydrogeologic Characterization, Site Closure, Ontario, California). Project Manager for dry cleaning facility. Performed soil investigation and obtained regulatory closure to facilitate property transaction.
- Washington Mutual (Risk Assessment/Fate and Transport Analysis, Stockton, California). Conducted fate-and-transport analysis using unsaturated and saturated zone computer models in support of a risk assessment.
- Kinder-Morgan Energy Partners, LLP (Quality assurance). Provided quality assurance services for a fate-and-transport analysis conducted in support of a risk assessment.

Harding Lawson Associates, Inc. (1995-1999)

Responsibilities

Business Development, Employee Training, Computer Modeling, Technical Quality Assurance/Quality Control Review, Presentations, Consulting, Project Management

Representative Projects

- Norcal/San Bernardino, Inc. (Hydrogeologic Characterization [Phase 2 Evaluation Monitoring Program] for the Crestmore Sanitary Landfill, Crestmore, California). Project manager for an effort that has included the installation, aquifer testing, and sampling of one off-site, downgradient monitoring well to assess the lateral extent of volatile organic compounds (VOCs) detected in groundwater samples collected from on-site groundwater monitoring wells. Computer modeling was conducted to assess the potential for future migration to off-site receptor locations. The Regional Water Quality Control Board (Santa Ana Region) is providing regulatory oversight.
- Hunt-Wesson Foods, Inc. (Property Transaction, Fullerton, California). Project manager providing consulting services in support of a property transaction. The effort includes soil and ground-water investigations, fate-and-transport modeling to calculate cleanup levels, excavation and disposal of impacted soil, and negotiations with the potential buyer, their consultant, and the regulatory agency representative. The Regional Water Quality Control Board (Santa Ana Region) is providing regulatory oversight.
- Bridgestone-Firestone, Inc. (Hydrogeologic Characterization [RI/FS] State Superfund Site, South Gate, California). Project manager for RI/FS. Current effort is focused on providing technical support and interacting with the regulatory agency (California

EPA, Department of Toxic Substances Control), and other responsible parties named on the Order. It is expected that the RI, which has included soil and groundwater sampling, historical records review, computer modeling, monitoring well and piezometer construction, cone penetrometer testing, soil vapor extraction system pilot testing, and aquifer testing, will be completed in the next two years.

- Tri Valley Growers, Inc. (Detection Monitoring Program [DMP], Evaluation Monitoring Program [EMP], Madera, California). Lead hydrogeologist in charge of DMP/EMP that includes quarterly sampling of numerous monitoring, irrigation, and domestic supply wells, computer modeling to optimize operation of a ground-water remediation system which extracts ground water from a 1.5-mile long chloride plume, and pond closures. The Regional Water Quality Control Board (Central Valley Region) is providing regulatory oversight.
- Nevada Department of Environmental Protection (Computer Modeling). Technical lead for computer modeling study focused on developing technically defensible soil cleanup goals that are protective of groundwater to be used by the regulated community in the State of Nevada. The effort included using a numerical (finite difference) vadose zone fate-and-transport computer model coupled to an analytical saturated zone fate and transport computer model.
- Boeing Realty Corporation C-6 Facility (Hydrogeologic Characterization, Torrance, California). Client sponsor and project manager for project that involves soil and ground-water sampling, installation of monitoring wells, and construction services. The Regional Water Quality Control Board (Los Angeles Region) is providing regulatory oversight.
- AC Products (Hydrogeologic Characterization, Anaheim, California). Lead hydrogeologist and QA/QC reviewer for a project that includes monitoring ground-water quality in a 2-mile long VOC plume in which the Orange County Water District has taken interest. The effort includes operating an on-site soil vapor extraction system and off-site ground-water extraction wells. The Regional Water Quality Control Board (Santa Ana Region) is providing regulatory oversight.
- AMP Incorporated (Property Transaction, Torrance, California). Consultant to former tenant looking to reduce their liability for site cleanup. My task is to work with the property owner's consultant to develop technically defensible site cleanup concentrations for soil and groundwater. The Regional Water Quality Control Board (Los Angeles Region) is providing regulatory oversight.
- Newlowe Properties, Inc. (Hydrogeologic Characterization, Los Angeles, California). Lead hydrogeologist for a ground-water remediation project consisting of three ground-water extraction wells. The effort included performing one, single-well aquifer test analysis and computer modeling to develop pumping schedules and position the extraction wells. The Regional Water Quality Control Board (Los Angeles Region) is providing regulatory oversight.
- Northrop-Grumman Corporation (Hydrogeologic Characterization, Newbury Park, California). Lead hydrogeologist for a ground-water remediation and characterization project consisting of three ground-water extraction wells. Effort including

performing six, multiple-well aquifer test analyses and computer modeling to develop pumping schedules and position fourteen additional extraction wells. The expanded system will be constructed in 1999 and I am currently scheduled to provide QA/QC oversight for the well and pump installation. The Regional Water Quality Control Board (Los Angeles Region) is providing regulatory oversight.

- Northrop-Grumman Corporation (Hydrogeologic Characterization, Hawthorne, California). Lead hydrogeologist for a ground-water remediation and characterization project consisting of three ground-water extraction wells. The effort has included the installation of 22 ground-water monitoring wells. The Regional Water Quality Control Board (Los Angeles Region) is providing regulatory oversight.
- Copley Real Estate Partners, LLP (Computer Modeling, Marina del Rey, California). Lead hydrogeologist for computer modeling study to calculate technically defensible soil cleanup levels and risk for a tidally influenced property impacted by chlorinated solvents. The calculations were performed using numerical, analytical, and stochastic (Monte Carlo simulation) methods to assess fate and transport processes in the unsaturated and saturated zone, including sequential degradation of tetrachloroethene (PCE) and trichloroethene (TCE) to more mobile and potentially more toxic compounds such as vinyl chloride. The Regional Water Quality Control Board (Los Angeles Region) provided regulatory oversight.
- Powerine Oil Company (presently CENCO Refining Company) (Santa Fe Springs, California). Project manager for computer modeling and risk assessment for former fueling and storage area located across the street from the main refinery operations. Computer modeling was used to demonstrate that the contaminated unsaturated zone soils area posed no additional risk to ground water. The Regional Water Quality Control Board (Los Angeles Region) issued closure of the soils based on the risk assessment.

Bechtel, Inc. (1994-1995)

Responsibilities

Computer Modeling, Technical Support in Hydrogeology, Technical Quality Assurance/Quality Control Review, Presentations, Consulting

Representative Projects

- U.S. Navy (Hydrogeologic Characterization [RI/FS], Long Beach Naval Station and Shipyard, Long Beach, California). Lead hydrogeologist for RI/FS that included groundwater monitoring and sampling, data analysis, and interpretation for hydrogeologic studies. Studies included tidal surveys, slug tests, assessment of geochemical background concentrations for metals in soils and ground water, and three-dimensional ground-water flow and solute transport computer modeling to assess various ground-water remediation options and risk.
- PRP Group (Stringfellow Superfund Site, Glen Avon, California). Lead hydrogeologist for performance of two-dimensional vadose zone numerical modeling

to assess the feasibility of dewatering. The results of the dewatering simulations were used to assess the feasibility of soil vapor extraction as a remedial technology.

Multimedia Environmental Technology, Inc. (1992-1994)

Responsibilities

Business Development, Employee Training, Computer Modeling, Technical Quality Assurance/Quality Control Review, Presentations, Consulting, Project Management

Representative Projects

- Fluor Daniel, Inc. (Hydrogeologic Characterization [RI/FS], Ninth Avenue Federal Superfund Site, Gary, Indiana). Lead hydrogeologist for project that involved simulating and optimizing the performance of a remediation system comprised of extraction wells and infiltration galleries. The system was designed to reduce the amount of free product and dissolved constituents by direct extraction and in situ bioremediation.
- LASMO Oil Refining Company (Hydrogeologic Characterization [RI/FS], Golden Eagle Refinery Superfund Site, Carson, California). Project manager for computer modeling studies designed to assess vapor- and aqueous-phase concentrations for a post-remediation risk assessment. The effort included the use of analytical and numerical codes to simulate flow and transport through fully and variably saturated porous media.
- Waste Management, Inc. (Computer Modeling, Waimanolo Gulch Landfill, Hawaii). Technical lead for computer modeling study in which landfill designs alternative to that specified in Subtitle D were evaluated. The study involved the use of deterministic and stochastic methods to estimate the probability that future groundwater concentrations of 24 organic and inorganic species would exceed their respective maximum contaminant levels.

Fluor Daniel, Inc. (1991 – 1992)

Responsibilities

Computer Modeling, Technical Support in Hydrogeology, Presentations, Consulting

Representative Projects

- Occidental Chemical (OxyChem) Facility, Feasibility Study, Dallas, Texas. Provided technical support for a FS involving the design of a groundwater recovery and treatment system at a site impacted by arsenic and phosphorus using a finite element groundwater flow and transport model. The computer model was used to optimize the performance of a ground-water remediation system comprised of ground-water extraction and injection wells.
- Fluor Corporation, (Hydrogeologic Characterization [RI/FS], Shiloh Road Site, Santa Rosa, California). Provided technical support for a fate and transport study conducted as part of a risk assessment for a decommissioned wood treatment Superfund site

containing soils contaminated with pentachlorophenol (PCP), dioxins, furans, metals, and other carcinogenic hydrocarbons. The project involved modeling aqueous- and sorbed-phase transport in local and regional surface water systems, as well as vadose zone and saturated zone flow and transport.

McLaren Hart, Inc. (1989 – 1991)

Managed ground-water sampling crew for Southern California region and provided technical and field hydrogeological services in support of ground-water and soil investigations on numerous projects including plating facilities, fueling stations, bulk chemical and fuel storage facilities, gas stations, and aerospace manufacturing facilities.