

BRIAN F. AUBRY, R.G., C.E.G, C.Hg.

Senior Hydrogeologist

Principal

EXPERIENCE SUMMARY

Brian Aubry has over 19 years of professional experience with technical responsibility for hydrogeological, geological, and geotechnical engineering tasks on environmental, litigation, redevelopment, and water resources projects. Mr. Aubry's expertise is in hydrogeological evaluation, contaminant fate and transport, and hazardous waste management. He is skilled in technical problem solving, regulatory agency negotiation, litigation support and strategy development, communication, and project management. Mr. Aubry is particularly capable in review and evaluation of complex data sets, project scoping, and environmental and water resources projects involving multiple stakeholders.

EXPERTISE

Hydrogeology/Geology

Contaminant Fate and Transport

Hazardous Waste Management

PROFESSIONAL REGISTRATIONS

Certified Hydrogeologist, California

Certified Engineering Geologist, California

Registered Geologist, California

Registered Environmental Assessor, California

EDUCATION

M.S., Geological Sciences, University of Washington, Seattle, Washington, 1984.

B.S., Geology, Stanford University, Stanford, California, 1978.

University of Waterloo Short Course: *DNAPLs in Fractured Geologic Media: Monitoring, Remediation & Natural Attenuation*, 1999.

USEPA Seminar: *Monitored Natural Attenuation for Groundwater*, 1998.

Georgia Institute of Technology Short Course: *Geostatistics: Theory, Practice, and Personal Computer Applications*, 1995.

University of California Extension: *Environmental Law and Regulation*, 1990;
Groundwater Modeling and Contaminant Fate and Transport, 1987.

REPRESENTATIVE PROJECT EXPERIENCE

Environmental, hydrogeological, and water resources consulting on projects involving groundwater, surface water, soil, and air. Broadly experienced in undertaking major CERCLA and RCRA projects for the private sector and the DOD, litigation support,

facility closure, and interaction with agencies and PRP groups, as well as projects in the water resources services market. Key project experience is described below:

Selected Groundwater and Environmental Contamination Projects

- Project Manager on EPA Superfund RI/FS project at the Fort Ord Landfills for the U.S. Army Corps of Engineers. Primary technical responsibility for development of site conceptual model, field investigation, risk assessment, designs for interim and final remedial measures, a Quarterly Monitoring Program, a Health and Safety Program, a Quality Assurance Program, coordination with other consultants, and participation in quarterly Technical Review Committee meetings. This is a former landfill site, with VOCs the primary contaminants of concern. The RI included sampling of groundwater, soil, and soil gas. The Phase I field investigation included installation of 12 new groundwater monitoring wells. Soil was sampled in 16 borings and in 6 test pits. Samples from all media were analyzed for heavy metals, VOCs, aromatic hydrocarbons, and other priority pollutants.
- Project Manager on major RI/FS at an electronics manufacturing facility, an NPL site overseen by the RWQCB, in Palo Alto, California. All work conducted in accordance with CERCLA. The site was greater than 36 acres in size, had multiple source areas and eight VOC-impacted aquifer units. Personally responsible for project scoping, a site investigation, quarterly groundwater monitoring, a Baseline Health Risk Assessment, hydrogeologic modeling, closure of several hazardous waste management units, development of interim and final remedial measures, agency negotiation, community meetings, coordination with consultants for a PRP group working at adjacent sites, and development of final site cleanup requirements. Site geology and hydrogeology are very complex, with faulting, geologic discontinuities, and folded stratigraphic beds. Five source-specific site investigations were conducted. Field activities included drilling 60 wells up to 400+ feet through seven identified water-bearing zones and areas of known chlorinated solvent, VOC, and metals contamination. Up to six drill rigs operated on-site simultaneously for 4 months. Primary responsibility for technical and administrative management of the job. Spent 18 months working in the client's office for the project.
- Lead Hydrogeologist on Human Health and Ecological Risk Assessment (HHERA) conducted at a major oil refinery in Contra Costa County. The project involved evaluation of ecological and human risks associated with impacts to soil, groundwater, and tidal sloughs along San Francisco Bay from 31 solid waste management units (SWMUs) and Areas of Concern (AOCs). Chemicals of concern include metals, fuel hydrocarbons, VOCs, and SVOCs. The project is being overseen by the EPA and CVRWQCB. Mr. Aubry's role has included project scoping, development of technical and regulatory strategy, and presentation to regulatory agencies. Work on the project has included collection of groundwater and surface water samples, slough sediment sampling, groundwater and air modeling, in addition to ecological and human risk assessment.

- Senior Hydrogeologist and Project Manager for groundwater contamination study for large petrochemical facility adjacent to San Francisco Bay in Richmond, California. Work included a Groundwater Assessment Program developed under the facility's RCRA monitoring program in response to EPA and RWQCB requirements. Contaminants of concern included metals, petroleum hydrocarbons, VOCs, SVOCs, and pesticides. Other work consisted of pond and dike studies, groundwater modeling, and a health risk assessment.
- Lead Hydrogeologist and Project Manager on a soil and groundwater investigation for a major utility company at a former service center in Antioch, California. The project involves hydrocarbons residues and lead contamination in the subsurface resulting from combined impacts to groundwater of a oil pipeline and a leaking UST. The project has included installation of groundwater monitoring wells into two aquifer zones, quarterly groundwater monitoring and reporting, design and implementation of an interim remedial measure, performance of a Risk Assessment, and regulatory interaction and negotiation over a ten year period. Mr. Aubry has worked closely with the client to develop both technical and regulatory strategy.
- Senior Hydrogeologist and Project Manager for groundwater investigation at sanitary landfill, Modesto, California. Work included investigation and characterization of the site hydrogeology, soil, and aquifer properties; identification, selection, and evaluation of feasible remedial alternatives for achieving regulatory compliance.
- Senior Hydrogeologist and Project Manager for site investigation and closure at a metal fabricating facility in San Leandro, California, where a paint dip tank had leaked VOCs to soil and groundwater. The project involved installation of shallow and deep monitoring wells on an adjacent site, installation of a groundwater extraction system, quarterly monitoring, and RWQCB negotiation. The project is in the final stages of monitoring following agency approval of cessation of groundwater pumping.
- Program Manager and Senior Hydrogeologist for \$3MM contract with California Department of Health Services (now DTSC) for investigation and remediation of eight State Superfund Sites. The focus of the investigations was to define the contamination problems of the sites and develop work plans for feasibility studies and remedial activities. Work was conducted at eight locations including one site cleanup and seven RI investigations.

Selected Redevelopment and Hazardous Waste Management Projects

- ◆ Assisted development company address environmental and permitting issues associated with remediation of a former US Army Ammunition Plant for redevelopment as a theme park in Kansas City, Kansas. Work has included estimation of remediation costs, development of environmental documentation to classify contaminated and uncontaminated acreage, development of a Sampling and

Analysis Plan (SAP)/Interim Remedial Measures Work Plan (IRMWP), interaction with local regulatory and permitting agencies, and preparation of materials for legal counsel.

- ◆ Project Manager for demolition, decommissioning, and formal closure of fertilizer plant and adjacent 150-acre parcels in Antioch, California. Work included assistance with strategic planning for site sale and reuse, wetlands and endangered species assessment, environmental site assessment and site characterization, Closure Plan development, demolition and excavation oversight, stockpile sampling, subcontractor management, and agency negotiation.
- ◆ Project Manager for environmental portion of corporate headquarters construction in waterfront area of downtown San Francisco. Project required site characterization and disposal management of hazardous soil generated during excavation of approximately 80,000 cubic yards for the building parking garage. Duties included development of approach, agency negotiation, and subcontractor management.
- ◆ Principal-in-Charge for BART General Environmental Services contract related to system extensions. The three-year, \$3 MM contract included ISA and PSIs for land acquisition; site characterization and remediation; hazardous waste mitigation prior to demolition; construction monitoring; regulatory and health and safety compliance.
- ◆ Project Manager on Preliminary Roadway Design and Soil and Groundwater Contamination investigation for a road-widening along Sebastopol Road in Santa Rosa, California. The objective was to provide a preliminary design and assist Sonoma County Community Development Commission make informed decisions regarding financial and regulatory liabilities related to the road widening co Lead Hydrogeologist and Project Manager on EPA Superfund RI/FS project at the Fort Ord Landfills for the U.S. Army Corps of Engineers. Primary technical responsibility for development of site conceptual model, field investigation, risk assessment, designs for interim and final remedial measures, a Quarterly Monitoring Program, a Health and Safety Program, a Quality Assurance Program, coordination with other consultants, and participation in quarterly Technical Review Committee meetings. This is a former landfill site, with VOCs the primary contaminants of concern. The RI included sampling of groundwater, soil, and soil gas. The Phase I field investigation included installation of 12 new groundwater monitoring wells. Soil was sampled in 16 borings and in 6 test pits. Samples from all media were analyzed for heavy metals, VOCs, aromatic hydrocarbons, and other priority pollutants. Also assisted Sonoma County Public Works with emergency response and litigation related to a leak along a storm sewer line along Sebastopol Road.

Selected Litigation Support Projects

- Provided litigation support as hydrogeologist to a major utility company in a suit regarding alleged contributions of a Service Center, formerly a Manufactured Gas

Plant (MGP), to a major PCE plume in the Central Valley of California. Case involved a sporadic low level detection which was used to implicate the client. Reviewed documents, conducted investigation into historical product constituents with manufacturer, and evaluated groundwater migration pathways. Prepared materials for deposition and advised counsel as to technical and regulatory conditions.

- Provided litigation support as hydrogeologist to major electronics manufacturing firm legal counsel in actions related to alleged impacts by migration of VOC contaminated groundwater. Evaluated historical data and consulting reports for all sites involved and developed a conceptual site model of contaminant transport pathways from the clients property to the area of alleged impact. Designed and prepared display/presentation materials, and presented formally to opposing counsel and their consultant. Successfully argued that client's plume had not impacted the adjacent site.
- Assisted City of Pittsburgh legal counsel with litigation related to discovery of contaminated soil during geotechnical investigations performed for roadway and overpass construction.
- Assisted Sonoma County legal counsel in litigation related to an emergency response for an uncontrolled gasoline release to the sanitary sewer system in Santa Rosa, California.

Selected Water Resources Project

- Senior Hydrogeologist and Project Manager for water quality evaluation of the impact on east bay drinking water reservoirs of recycled water use for irrigation of golf courses and playing fields. Work included a worst case evaluation of both chronic and catastrophic impacts and an assessment of risks associated with potential exposure to *giardia* and *cryptosporidium* in drinking water.

PRIOR PROFESSIONAL EXPERIENCE

Dames & Moore

1984 -- 1998

Built and maintained successful environmental services group through dedication to superior client service, operational growth and expansion, and commitment to staff development. Maintained a loyal group of diverse, motivated, creative, and client-oriented practitioners.

Corporate Officer and Vice President,

1994 -- 1998

Manager, San Francisco Geosciences and Geotechnical Engineering Services Group

- Profit and loss responsibility for 25 person environmental and engineering group.
- Responsible for business development, fiscal and strategic planning, recruiting, project staffing, personnel development, client and project management.
- Successfully engineered and carried out restructuring of Bay Area Geosciences and

Environmental Engineering Group in rapidly changing environmental services market.

- Provided hazardous waste, water resources, geologic, and geotechnical engineering consulting services to a broad-based clientele including the energy, electronics, and chemical industries, attorneys, real estate development firms, DOD, public utilities, state and local transportation agencies, municipal water districts, state and local governments, and regulating agencies.

Group Leader, Bay Area Geosciences and Environmental Engineering Group 1990 -- 1994

- Group Leader of 52 person Geosciences Group with full authority for fiscal, administrative, and personnel issues.
- Directed all Geosciences personnel in San Francisco, Oakland, Santa Rosa, and Sunnyvale offices.
- Responsible for 50% growth of group from 1990 to 1993 due to expansion of work with key clients and new client development.
- Diversified Geosciences Group service areas via recruiting and staff training from largely environmental service base to water resources, seismic hazard, engineering geology, and geothermal services.
- Managed Geosciences Group through a designee during 18-month project assignment in client's office in Palo Alto, California.

Unit Leader, San Francisco Geosciences Group 1988 -- 1990

- Directed 20 San Francisco-based Geosciences personnel.
- Culminated in increased management authority.

Prior Positions of Increasing Responsibility 1984 -- 1988

- Promoted from entry level to senior level within four years

WATER RESOURCES PUBLICATIONS

Microtopography of Hillslopes and Initiation of Channels by Horton Overland Flow, in: *Natural and Anthropogenic Influences in Fluvial Geomorphology*, Geophysical Monograph 89, American Geophysical Union, 1995.

Effect of Rainfall, Vegetation, and Microtopography on Infiltration and Runoff, *Water Resources Research*, 27, 2271-2286, 1991.

Evaluation of Horton's Theory of Sheetwash and Rill Erosion on the Basis of Field Experiments, in: *Hillslope Processes*, edited by A.D. Abrahams, pp. 31-53, Allen and Unwin, London, 1986.

Field Experiments on Soil Erosion in Amboseli, Kajiado District, in Soil and Water Conservation in Kenya—Proceedings of a 2nd National Workshop, Institute for Development Studies and University of Nairobi, March 1982.

An Ordinal Scale Classification of Erosion Intensity, Kenya Rangeland Ecological Monitoring Unit Publication, 1981.