

Southern California
21 E. Carrillo Street
Santa Barbara, CA 93101
Telephone (805) 898-9700
Facsimile (805) 880-0499



Northern California
1176 Boulevard Way
Walnut Creek, CA 94595
Telephone (925) 947-5700
Facsimile (925) 935-8488

PALADIN LAW GROUP® LLP

November 4, 2010

Via E-Mail (hmclaughlin@ci.benicia.ca.us)

Heather C. McLaughlin
City Attorney
City of Benicia
250 East L Street
Benicia, CA 94510

Re: *Response to Request for Qualifications for Project Management and Legal Services
for the Benicia Arsenal Investigation and Cleanup Project*

Dear Ms. McLaughlin:

Paladin Law Group® LLP (“Paladin”) is pleased to submit the following response to the Request for Qualifications to represent the City of Benicia (the “City”) in responding to the environmental contamination associated with the historic operations of the Benicia Arsenal.

1. Approach

We understand and appreciate that the City has been placed in a difficult position given the California Environmental Protection Agency – Department of Toxic Substances Control’s (“DTSC”) intent on bringing an enforcement action against the City and other property owners. We also understand that the City is concerned that it may be sued by DTSC or one of the other potentially liable parties. The City seeks counsel to defend the City’s interests with the ultimate goal of a negotiated agreement among the various potentially responsible parties (“PRPs”) for the investigation and cleanup of the contaminants of concern. We further understand that the City has limited financial resources to accomplish what will no doubt be an expensive process. To that end, the City seeks an approach that can avoid or minimize the City’s alleged liability in an efficient, timely, and cost effective manner. As discussed in more detail below, Paladin’s experience in working with enforcement agencies and litigating environmental claims is just one part of the equation. In order to best serve the City in this matter, Paladin will also capitalize on its proven expertise in identifying historic insurance assets that could be brought to bear to fund the City’s defense, negotiations, investigation, and ultimately the settlement of any claim or suit. Pursuant to the City’s desire, Paladin proposes a performance-based agreement.

Although we recognize that at this time the City seeks counsel to respond to the City’s potential liability for the environmental conditions at the site, we view our potential engagement with the City as a long-term relationship. At the appropriate time, Paladin can advise the City about future planning and the sustainable development of the site taking into consideration AB 32, SB 375, the General Plan, the City’s Climate Action Plan, and directives of the City’s Community Sustainability Commission.



Importantly, because the City has indicated that this will be a public document, we have intentionally kept the details of our legal strategy to a minimum. Further discussions with the City Attorney and City Council held in closed session could provide more detail.

2. Description of Organization, Management and Team Members

Paladin will undertake to perform the scope of work described below by placing the founding partners, Bret Stone and John Till, as the lead counsel and architects of the proposed plan. Both will be equally available as the day-to-day contact person. Brian Paget and Ed Quevedo will also play key roles as senior counsel on the project. Detailed biographies are attached.

In addition to legal services, Paladin will be supported by AMEC Geomatrix, Inc. (“AMEC”) located in Oakland, California. AMEC is a global supplier of high-value environmental, engineering, consultancy, and project management services to federal, municipal, and industrial clients. The key personnel from AMEC on this project will include Ann Holbrow Verwiel as Project Manager and supported by Dr. Hassan Amini and Joseph Bahde. AMEC’s Lawrence Hudgins, a retired Army Chemical Corps Officer, will also be consulted for his expertise. Ms. Verwiel will be the day-to-day contact person for AMEC. Detailed biographies are attached.

3. Organization Qualifications

Paladin is a boutique multidisciplinary environmental law firm with its home office in Walnut Creek, just 15 miles from the City. The firm has prosecuted and defended government agency claims and litigation regarding contaminated sites in dozens of jurisdictions involving a wide range of chemicals of concern. Paladin’s expertise cuts across a wide range of environmental laws and regulations including the Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”), the Resource Conservation and Recovery Act (“RCRA”), the Clean Water Act, the Polanco Redevelopment Act, as well as similar federal, state and local laws. Representing clients in the public and private sectors, the firm litigates government enforcement actions as well as private party contribution, cost recovery, and indemnity actions. We have successfully negotiated a myriad of settlements with regulatory agencies and other parties to bring closure to contaminated sites or to provide funding for the investigation and cleanup.

Much of our success is owed to our unique ability to draw on historical insurance assets. Paladin does not represent – and has never represented – insurance carriers and therefore does not have any conflicts of interest when pursuing insurance assets. We represent policyholders in tendering claims, negotiating defense and coverage terms, and litigating against insurance companies who have breached their duties to their insurers and acted in bad faith. Paladin has successfully resolved insurance coverage disputes and has recovered multiple millions of dollars for policyholders in matters involving pollution, asbestos, and products liability. The firm has represented Fortune 1000 companies, municipalities, small businesses, and other individuals on coverage matters including those involving multiple domestic and international sites. Likewise, our clients have spanned industries that include manufacturing, metal finishing, hazardous waste recycling, dry cleaning, printing, and many others. We have represented policyholders in negotiations with and in litigation against major domestic and international insurers.

Many companies and cities do not have their historical insurance policy information readily available. In such cases, we employ insurance archaeology techniques to “dig up” their historical insurance



assets. Paladin's attorneys have identified more than a billion dollars of historical insurance assets for their clients, both public and private, to pay for costs associated with the investigation, cleanup and defense of claims and suits. Our insurance expertise is equally important when prosecuting claims as many settlements are paid out of insurance policies of our clients' adversaries.

The firm's litigation and insurance coverage practice group is involved in several environmental matters at various stages of litigation. Of these, Paladin considers just one to be a "major" project (*i.e.*, a project requiring more than 300 hours of attorney time per month). Several matters at the firm have been settled or completed in the last several months making this an opportune time to commence this project for the City. The one "major" project we continue to work on is an environmental enforcement action initiated by The Redevelopment Agency of the City of Stockton ("RDA"). RDA's suit against Colberg seeks cost recovery and injunctive relief under the Polanco Redevelopment Act (Health & Saf. Code, § 33459 *et seq.*), nuisance, and trespass for the investigation and remediation of alleged environmental contamination allegedly associated with Colberg's former ship building operations going back to the early 1900s. The court designated the case as a complex litigation. Paladin was able to obtain insurance coverage to defend Colberg, including its third party claims and the preparation of a workplan (negotiated and approved by DTSC). This case is still in the discovery phase. A mediation session will be scheduled after completion of the workplan, most likely sometime in the second quarter of 2011. No trial date has been set. Paladin does not anticipate that this or any of our other matters would impede our ability to provide the same professionalism and responsiveness to the City as we do for all of our other clients.

Paladin's legal expertise will be supported by AMEC, which is well-equipped to handle environmental issues caused by all types of contaminants. Pertinent to the Benicia Arsenal, AMEC has worked closely with the Department of Defense ("DoD") to successfully complete numerous projects involving munitions and explosives of concern ("MEC"). Through execution of these projects and participation in several Army, Navy, and DoD Research and Development initiatives, AMEC has developed and implemented key "lessons learned" that save their clients time and money. AMEC has conducted site characterizations, remedial designs, ordnance clearance and construction support, and removal actions at multiple MEC sites. This work has included properties in California where MEC investigations were overseen by DTSC (*e.g.*, AMEC is currently working with DTSC at the Aerojet site in Chino Hills and Whittaker Berrite site in Santa Clarita). AMEC was also retained by DTSC to provide technical review and comment on MEC removal actions conducted at Fort Ord in Monterey, California. In addition, AMEC is DTSC's consultant for "Hazardous Waste/Site Mitigation & Brownfield Reuse Programs Engineering Services – Southern California." AMEC's experience in this regard will help facilitate negotiations among DTSC, federal, state, and local stakeholders.

4. Scope of Work

Paladin proposes a strategy that will save the City money and will overall benefit the community by getting the site investigated, cleaned up, and ready for redevelopment all on a performance-based fee structure. We view the following tasks critical to the City's success.



a. **Task 1 – Insurance Archaeology**

(i) **City insurance records**

Paladin will review and analyze City insurance records to determine what is currently known about the City's historic insurance program. Any insurance carrier identified that may potentially have a coverage obligation will be sent a letter tendering the claim from the DTSC. We will also identify gaps in coverage and use our experience to attempt to identify further insurance policies. Each new insurance carrier will likewise be sent a tender letter. If necessary, Paladin may take advantage of the City's power to issue legislative subpoenas to gather additional information.

(ii) **PRP insurance records**

Paladin will also seek to review insurance records of PRPs. As a first measure, we will request that the PRPs voluntarily provide the City insurance records. Should the PRPs be resistant, the City may exercise its power to issue the PRPs legislative subpoenas.

b. **Task 2 – Analyze allegations and potential liability**

(i) **Potential liability of the City**

Paladin will review and analyze the evidence against the City and determine what defenses to liability exist. AMEC will support Paladin in this effort from a technical perspective.

(ii) **Potential liability of PRPs**

Paladin will review and analyze the evidence against other parties to determine their comparative liability in relation to the City's alleged liability. AMEC will support Paladin in this effort from a technical perspective.

c. **Task 3 – Put PRPs on notice of potential liability**

Once the analysis in Tasks 1 and 2 are completed, Paladin will prepare and serve notice of endangerment letters to the identified PRPs.

d. **Task 4 – Participate in discussions with enforcement agency and PRPs**

Contemporaneously with the above-described work, Paladin will participate in discussions with the enforcement agency and PRPs. AMEC will support Paladin in this effort from a technical perspective.

e. **Task 5 – Litigation**

The City anticipates that it may be sued by the DTSC or one or more of the PRPs. If litigation ensues, Paladin will defend the City and tender the suit for defense pursuant to the insurance policies identified. AMEC will provide litigation support.



5. Proposed Project Schedule

Paladin proposes to start work immediately. The first task will be to meet with the City's risk manager and review the City's historical insurance program. Insurers will be put on notice as they are identified. Tasks 1 through 4 above can be accomplished in a 6-10 month time frame. Task 5, which contemplates litigation, is more difficult to pinpoint as the success of our work in Tasks 1-4 will dictate how we proceed. Generally, we would expect that litigation may take 2-5 years.

6. Proposed Budget

Paladin understands the City's desire to have a performance based contract. As discussed in further detail below, Paladin proposed to undertake the work on a contingency basis. The City would be responsible for all costs and expenses. Other than the amounts budgeted for AMEC's initial work, the most expensive initial cost will likely be copying costs of the City's historic insurance records and records relating to the site. Paladin estimates an initial budget for Tasks 1-4 of \$5,000 in costs. A separate budget for Task 5 will be made once we have a better framework based on the information we gather in Tasks 1-4.

AMEC is also willing to work within the City's budget constraints. AMEC perceives an initial budget of \$15,000 to review and analyze available technical information and to assist Paladin with discussions and negotiations with DTSC and other PRPs. The bulk of AMEC's litigation support and environmental investigatory work will be postponed until such time as one or more insurance carrier with an obligation to defend is put on notice. Once an insurance company has agreed to defend the City, AMEC will work towards arrangement for payment from the insurance company rather than the City.

7. References, Related Experience and Examples of Work

Paladin is involved in several environmental matters at various stages of litigation. A few examples of our work include the following:

Client: Colberg, Inc.

Contact: Dave Swanson (916) 414-3905

Location: Stockton, CA (case venued in San Francisco Superior Court)

Lead Counsel: John Till and Bret Stone

Supporting Counsel: Brian Paget, Ed Quevedo, and Ben Franks

Status: Ongoing (Please refrain from inquiries about our litigation strategy)

Project Summary: Paladin represents a ship building yard on the Stockton Channel that is alleged to have contributed to contamination in the soil and groundwater in the redevelopment district. As part of Colberg's defense, Paladin is working closely with the DTSC and the RDA to perform an in-depth environmental investigation at the site. Colberg's insurers are paying defenses costs, including the costs associated with preparing the workplan and conducting the site investigation.

Client: Robert Olson

Contact: Robert Olson (925) 933-0576

Location: Pleasant Hill, CA (case venued in U.S. District Court in Oakland)

Lead Counsel: John Till

Supporting Counsel: Brian Paget



Status: Ongoing/Settled in part (Please refrain from inquiries about our litigation strategy)

Project Summary: Paladin represents a property owner whose land was contaminated by underground storage tanks on his neighbor's property. Mr. Olson had been working with multiple attorneys over a 26-year period but had not succeeded in getting the neighbor to do the cleanup. When the case came to Paladin we designed a new strategy and succeeded in obtaining a monetary recovery as well as cleanup of the property.

Client: Spaulding Enterprises

Contact: Lynn Spaulding (707) 799-7379

Location: Mill Valley, CA (case venued in U.S. District Court in San Francisco)

Lead Counsel: Bret Stone

Supporting Counsel: John Till and Brian Paget

Status: Settled

Project Summary: Paladin represented a shopping center owner responding to an enforcement letter from the California Regional Water Quality Control Board – San Francisco Bay Region regarding chlorinated solvents discovered at the site. Paladin identified historic insurance policies for the property owner and for the dry cleaner. Spaulding's insurance company paid for its attorneys' fees and costs in the ensuing litigation. The case was successfully settled, in part with funds from the dry cleaners' insurer.

Client: Splendid Cleaners, Inc.

Contact: Ben Marvazy (323) 931-0242

Location: Los Angeles, CA (case venued in Los Angeles Superior Court)

Lead Counsel: Bret Stone

Supporting Counsel: John Till and Brian Paget

Status: Settled

Project Summary: Paladin undertook to represent a dry cleaner that received an enforcement letter from the Regional Water Quality Control Board ("RWQCB") for contamination of chlorinated solvents and petroleum hydrocarbons surrounding a dry cleaning plant. Paladin identified insurance assets for Splendid and the previous owners and operators going back to the beginning of its operations in 1950. Splendid then commenced litigation to recover against those assets. Ultimately, Splendid recovered a substantial monetary settlement paid by the insurance companies of the former owners and operators.

Client: City of West Sacramento

Contact: Aaron Laurel (916) 617-4555

Location: West Sacramento, CA

Lead Counsel: John Till and Bret Stone

Status: Project completed

Project Summary: The City of West Sacramento commissioned Paladin to conduct insurance archaeology related to an abandoned plating shop in its redevelopment district that was contaminated with heavy metals. Paladin was able to successfully identify insurance policies for the former operator, a dissolved corporation. In addition, Paladin outlined a plan of action for recovery of those insurance assets for the City Attorney to prosecute.

AMEC's experience in contaminated military and industrial sites will also prove useful in representing the City in this matter. A few examples of AMEC's work in this area include:



Client: Aerojet-General Corporation
Contact: Scott Goulart (916) 355-5454
Location: Chino Hills, CA
Project Manager: Joe Bahde and Hassan Amini
Supporting Team: Ann Holbrow Verwiel and Todd Bernhardt
Status: Ongoing

Project Summary: This project involved a RCRA Facility Investigation and MEC Removal Action. The 800-acre site was used for loading, assembling, and packing operations for several munitions systems under contract with the Department of Defense. The overall goal of the project was to implement Corrective Measures to support clean closure and potential future residential redevelopment of the site. The DTSC-approved Corrective Measures included one or a combination of ordnance removal, segregation, handling, and disposal. AMEC is currently preparing a Feasibility Study to address concerns of residual MEC that may still be present at the site.

Client: Whittaker Corporation
Contact: Eric Lardiere (805) 526-5700, ext. 6650
Location: Santa Clarita, CA
Project Manager: Hassan Amini
Supporting Team: Ann Holbrow Verwiel and Joe Bahde
Status: Ongoing

Project Summary: The site use history includes manufacturing and testing of explosives, munitions, and aerospace components back to 1934. AMEC coordinated a review of the history of operations and materials handled at the site and developed the “Historical Site Assessment Report” that identified the areas of MEC concern at the site. A systematic approach for geophysical sweep of the target areas was prepared and submitted to DTSC for approval. The production and testing facility involved the storage, handling, and use of compounds containing perchlorate, various metals, and chlorinated solvents at various locations around the site. AMEC is addressing impacts to soil, groundwater, and surface water run-off at the site as the results of these former activities.

Client: Luce Forward Hamilton & Scripps, LLP
Contact: Laura Carroll (213) 892-4972
Location: Wilmington, California
Project Manager: Ann Holbrow Verwiel
Supporting Team: Linda Conlan and Craig Stewart
Status: Ongoing

Project Summary: AMEC is working with the operators of a former fuel storage terminal in the Port of Los Angeles to develop the risk assessment and remedial action plan. The risk assessment was completed on schedule and reviewed by the Office of Environmental Health Hazard Assessment, which ultimately concurred with the revised risk assessment recommendations. Subsequently, a Remedial Action Plan (“RAP”) has been submitted that focuses on soil excavation and bioremediation to meet cleanup goals set by the RWQCB. The RAP has been approved by the RWQCB and a sampling and analysis plan to support the RAP has been developed and is under review by the RWQCB.



8. Attorney Services Agreement

Paladin has reviewed the Policy Guide and Attorney Services Agreement provided in Appendix B of the RFQ. The Policy Guide sets forth requirements that are generally consistent with Paladin's practices and are acceptable. The general terms and conditions of the Attorney Services Agreement are also acceptable for the most part, although certain additions must be made because Paladin proposes to be engaged under a contingency arrangement. The following edits would need to be made:

1.0 Scope of Services – A clear statement of the scope consistent with the above proposal should be included.

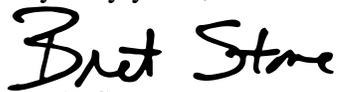
3.0 Compensation, Reimbursement, and Method of Payment – Paladin proposes to perform the scope of work outlined above without any initial charge for attorneys' fees to the City (although the City would pay for actual costs and expenses). Once the duty to defend is triggered for one or more of the City's insurance policies, the insurance carriers will be obligated to pay for the defense including environmental investigation costs and other reasonable defense costs. At that point Paladin will negotiate an hourly rate with the carriers. If the insurance carriers pay an hourly rate less than Paladin's standard rates, Paladin will accrue the difference until such time as the City obtains a recovery in the form of a settlement or judgment. Paladin's accrued fees will then be paid as a result of any recovery. In addition, Paladin will earn a success fee of 20% of any recovery. The statutory disclosures of California Business and Professions Code section 6147 will also need to be included in any final agreement.

9. Consultant Agreement

AMEC has reviewed the draft Consultant Agreement provided by the City. For the most part, AMEC can agree to the terms of the City's Consultant Agreement, although some discussion would need to be had about the indemnity provision.

We look forward to having the opportunity to serve the City.

Very truly yours,

By: 
Bret A. Stone
PALADIN LAW GROUP® LLP

Southern California
21 E. Carrillo Street
Santa Barbara, CA 93101
Telephone (805) 898-9700
Facsimile (805) 880-0499



Northern California
1176 Boulevard Way
Walnut Creek, CA 94595
Telephone (925) 947-5700
Facsimile (925) 935-8488

PALADIN LAW GROUP® LLP



BRET A. STONE **Partner**

Bret Stone is a founding partner of Paladin Law Group® LLP. Mr. Stone's client base consists of landowners, developers, business owners and municipalities impacted by environmental contamination in the areas of Brownfields redevelopment, real estate transfers, corporate mergers and acquisitions, and litigation. He has worked on sites involving manufacturing, metal finishing, dry cleaning, printing, ship building, and oil exploration and production. Mr. Stone is also working on emerging issues of sustainability, green building, and climate change. In addition to his environmental law practice, Mr. Stone represents insurance policyholders in order to make sure they obtain the full benefits of their insurance policies through insurance archaeology, negotiations with insurance companies and, when necessary, litigation. Mr. Stone's insurance archaeology practice has uncovered more than \$1 billion in historical insurance assets for his clients to cover environmental, asbestos, and products liability claims. Mr. Stone has also handled matters dealing with international environmental law for clients with global businesses.

Mr. Stone serves on the Executive Committee of the Environmental Law Section for the State Bar of California. He also is Chair of the Real Estate/Land Use Section of the Santa Barbara County Bar Association.

Mr. Stone is a frequent speaker and author on issues relating to environmental and sustainability law.

bstone@paladinlaw.com
o: 805.898.9700

Areas of Practice:

- ▶ Environmental
- ▶ Brownfields
- ▶ Contaminated Sites
- ▶ Redevelopment
- ▶ Sustainability
- ▶ Climate Change
- ▶ Green Claims
- ▶ Land Use
- ▶ Real Estate
- ▶ Hazardous Wastes
- ▶ Insurance Coverage
- ▶ Insurance Archaeology

Education:

- J.D., Chicago-Kent College of Law, 1997
- B.A., Environmental Studies, UCSB, 1993

Admissions & Courts:

California State Bar
California Federal District
Courts

Southern California
21 E. Carrillo Street
Santa Barbara, CA 93101
Telephone (805) 898-9700
Facsimile (805) 880-0499



Northern California
1176 Boulevard Way
Walnut Creek, CA 94595
Telephone (925) 947-5700
Facsimile (925) 935-8488

PALADIN LAW GROUP® LLP



jtill@paladinlaw.com
o: 925.947.5700

Areas of Practice:

- ▶ Environmental
- ▶ Brownfields
- ▶ Contaminated Sites
- ▶ Redevelopment
- ▶ Sustainability
- ▶ Climate Change
- ▶ Land Use
- ▶ Real Estate
- ▶ Hazardous Wastes
- ▶ Insurance Coverage
- ▶ Insurance Archaeology

Education:

- J.D., Santa Clara University, 1995
- B.A., Business Administration, Menlo College, 1991

Admissions & Courts:

California State Bar
California Federal District
Courts

JOHN R. TILL **Partner**

John Till is the managing partner of Paladin Law Group® LLP. Mr. Till's clients include landowners, developers, business owners, and municipalities impacted by environmental contamination. He has experience in Brownfields redevelopment, real estate transfers, corporate mergers and acquisitions, settlements and consent decrees related to environmental matters, and litigation. In the context of environmental cleanup orders and litigation, Mr. Till has worked with numerous governmental oversight agencies and experts to facilitate investigation and remediation strategies concerning the particular site and the chemicals of concern. In addition, Mr. Till is working on emerging issues of sustainability, green building, green chemistry, greenhouse gas emissions (AB 32), smart growth (SB 375), and climate change. Mr. Till represents insurance policyholders in order to make sure they obtain the full benefits of their insurance policies through insurance archaeology, negotiations with insurance companies and, when necessary, litigation. Mr. Till's insurance archaeology practice has uncovered more than \$1 billion in historical insurance assets for his clients to cover environmental, asbestos, and products liability claims.

Mr. Till serves on the Sustainability Committee of the California Redevelopment Association.

Mr. Till is a frequent speaker and author on issues relating to environmental and sustainability law.



PALADIN LAW GROUP® LLP



equevedo@paladinlaw.com
o: 925.947.5700

Areas of Practice:

- ▶ Sustainability
- ▶ Air toxics compliance
- ▶ GHG and carbon reduction management, accounting, & strategy
- ▶ Water rights
- ▶ Natural resources
- ▶ Endangered species
- ▶ Land Use/CEQA & NEPA advising & litigation
- ▶ OSHA enforcement defense
- ▶ Product stewardship & Products liability/CPSC compliance
- ▶ Hazardous Materials & Hazardous Wastes
- ▶ Sustainable water supply management and wastewater compliance

Education:

- J.D., Boalt Hall School of Law, 1984
- A.B., UCLA, 1979

Admissions & Courts:

California State Bar
California Federal District Courts
European Court of Justice

EDWARD L. QUEVEDO

Partner

Ed Quevedo is a Partner at Paladin Law Group® LLP, and Chair of the firm's Sustainability Practice Group. He has over 25 years of experience advising clients on domestic and international environmental and health & safety (EHS) law compliance and litigation matters, sustainability planning and program development, and strategic EHS program development and performance counseling, both as an attorney and consulting advisor.

Ed provides his clients with traditional EHS compliance counseling and international EHS auditing program development, implementation of environmental management systems (EMS) and Sustainability Management Systems (SMS), sustainable development strategy, and green building and sustainable master planning. He has also pioneered the implementation of Regenerative Management Systems (RMS), which promise to move organizations beyond sustainable development.

He began his GHG and carbon reduction management practice in Europe in 1994, and more recently has broad expertise in advising large multinational clients on AB32 and related national and international greenhouse gas reduction protocols.

His clients include major colleges and universities and firms in the high technology, wine, agricultural, food and beverage, life sciences, biotechnology, automotive and manufacturing industries, as well as public agencies at the municipal and state levels.

During his legal career, Mr. Quevedo has argued cases before the California Supreme Court, the International Board of Arbitrators in The Hague, and the European Court of Justice. He has led high-impact pro bono litigation teams in important Civil Rights, Clean Water Act, and environmental damages recovery litigation in public interest cases brought in state and federal courts.

He is the Chair of the Board of Directors of the Silicon Valley Environmental Partnership (www.svep.org), serves as a member of the Board of Directors of the Multi-State Working Group on Environmental Performance (www.mswg.org), and is Past President of the Pacific Industrial & Business Association (www.piba.org).

Since 2004, Ed has also served on the faculty of the Dominican University School of Business & Leadership MBA Program in Sustainable Enterprise (the Green MBA®) (www.greenmba.com). He also teaches regularly at the Advanced Environmental Management Program at U.C. Santa Cruz Extension and the Department of Environmental Studies at De Anza College in Cupertino.

He has lectured on environmental management, applied ethics, sustainable development, and sustainable business practices at various universities, including the Haas Business School and the Department of Mechanical Engineering at the University of California, Berkeley; Tulane University; Lund University (Sweden); the Technical University of Berlin; and the Graduate School of Business at Stanford University.

Southern California
21 E. Carrillo Street
Santa Barbara, CA 93101
Telephone (805) 898-9700
Facsimile (805) 880-0499



Northern California
1176 Boulevard Way
Walnut Creek, CA 94595
Telephone (925) 947-5700
Facsimile (925) 935-8488

PALADIN LAW GROUP® LLP



BRIAN R. PAGET **Senior Counsel**

Brian Paget is senior counsel at Paladin Law Group® LLP. He focuses his practice on litigation of environmental, insurance, asbestos and real property cases. Mr. Paget is also accomplished in appellate law, having written numerous briefs to the California Courts of Appeal, the California Supreme Court, the Ninth Circuit Court of Appeals, and the United States Supreme Court.

During law school, Mr. Paget was a member of the law review, a recipient of three American Jurisprudence awards, a paid Teaching Assistant for several classes, and an intern at the California Supreme Court, the Alameda County Superior Court, and the San Mateo County District Attorney's Office. Mr. Paget graduated with honors in the top 10% of his graduating class.

In addition to practicing law, Mr. Paget has also shared his passion for the law through teaching. He has served as a Teaching Fellow in the Appellate Advocacy Program at Golden Gate University School of Law. He has also taught Administrative Law at Cañada College and Real Property Law at Oakland College of Law.

Mr. Paget has published several articles, including: "California Supreme Court Upholds City Council's Subpoenas," *Paladin Law Group® Quarterly Review* (Spring 2005); and "Fetal Manslaughter in California," *23 Golden Gate U. L. Rev.* 1081 (Summer 1993). He was also one of the presenters of "Local Government Response to Environmental Emergencies in Montana" at the meeting of the Environmental Law Section of the State Bar of Montana in Helena, Montana (March 2001).

bpaget@paladinlaw.com
o: 925.947.5700

Areas of Practice:

- ▶ Appellate Law
- ▶ Environmental
- ▶ Contaminated Sites
- ▶ Redevelopment
- ▶ Land Use
- ▶ Real Estate
- ▶ Hazardous Wastes
- ▶ Insurance Coverage
- ▶ Insurance Archaeology

Education:

- J.D., Golden Gate University, 1993
- B.A., Finance, CSU Fullerton, 1989

Admissions & Courts:

California State Bar
California Federal District
Courts
U.S. Supreme Court

Ann Holbrow Verwiel

Senior Toxicologist

Professional summary

Ms. Verwiel has more than 20 years of experience in the areas of risk assessment, site assessment, and environmental regulation. During the past several years, she has focused on integrating risk assessment into an overall risk management approach to site investigation and remediation. This approach utilizes site conceptual models to design risk-based sampling and analysis plans based on the currently proposed future site use; thus, the scope of the investigation is thus streamlined to collect only data needed to support a risk-based decision. Ms. Verwiel has successfully applied this approach in negotiations with regulatory agencies/public groups to significantly reduce the cost/extent of investigation, assessment, and remediation. She has managed and conducted numerous human health risk assessments that addressed chemicals in soil, air, and groundwater. She has completed several assessments of indoor and ambient air exposure that included modeling, soil vapor measurements, and indoor/ambient air measurements. She has a detailed understanding of a broad cross section of environmental regulations, which she has applied to environmental audits, regulatory impact analyses, property transaction assessments, and training programs. Related to her experience, she has provided risk communication and litigation support on several projects. She has published and presented papers on a wide variety of topics, including Monte Carlo analysis of the conservatism in risk assessment, environmental fate and transport of groundwater contaminants, and environmental auditing.

Education

Master of Public Policy, Georgetown University, Washington, DC, 1996
B.S., Chemistry, University of California, Irvine, 1987

Memberships/Affiliations

American Chemical Society
Society of Risk Analysis

Representative projects

Preliminary Endangerment Assessment under a Voluntary Cleanup Agreement, Former Industrial Asphalt Plant, Vulcan Materials Company, Anaheim, CA

Developed and managed the site characterization and evaluation at a former asphalt plant where the current property owner (the Irvine Company) was requesting future unrestricted site use with concurrence from an oversight agency. Based on our review of the historical data, residual asphalt material remained in soil at the site beyond the extent of previous excavations associated with three separate tank removals. The Underground Storage Tank (UST) closures had been approved by the City of Anaheim for future site use as a road or parking lot. Oversaw a test-pit investigation to characterize the extent and chemical composition of the residual asphalt material. Once the results of this investigation were available, the City of Anaheim deferred oversight to the Department of Toxic Substance Control (DTSC)-Cypress because the data suggested residual impact was not associated primarily with the USTs. AMEC Geomatrix worked with the client and DTSC to obtain oversight through a Voluntary Cleanup Agreement (VCA), and submitted historical documents, including a health risk assessment, that together provided the equivalent of a PEA. DTSC considered the PEA complete, but requested collection of additional groundwater data.

St. Helena Human Health Risk Assessment, Pacific Gas and Electric Company, St. Helena, CA
Managed a risk-based site investigation to collect data necessary to supplement previous investigations and perform a human health risk assessment at a former manufactured gas plant. Key chemicals of interest included arsenic, lead, volatile polychlorinated biphenyls (PCBs), organic compounds, and polycyclic aromatic hydrocarbons. Oversaw development of a sampling and analysis plan, health and safety plan, quality assurance project plan, community profile, and risk assessment work plan for approval by Department of Toxic Substances Control (DTSC)-Berkeley, the lead agency. Managed the field investigation and prepared the remedial investigation report, which included a risk assessment to evaluate potential human health risks under current and future land uses as well as a screening assessment for ecological receptors. A risk management approach was proposed to address residual chemicals at the site under the proposed future use by the City of St. Helena as a parking lot and road. The site investigation and human health risk assessment report was approved by DTSC, allowing Pacific Gas and Electric Company and the City of St. Helena to begin negotiations regarding future remediation and sale of the property.

Remedial Investigation, Feasibility Study, and Risk Assessment, Department of Toxic Substances Control (DTSC), Bell Gardens, CA.

As lead risk assessor for a facility investigation at a former metals plating facility, conducted a Health Risk Assessment (HRA) to analyze the potential for adverse health effects as a result of potential exposure to COPCs, primarily metals, in soil, soil gas, and groundwater. The RA process consisted of data evaluation, exposure assessment, toxicity assessment, and risk characterization. The HRA followed standard guidance as specified in U.S. EPA and DTSC guidance documents. Risk-based remediation goals were developed for the COPCs to assist in the evaluation of remedial alternatives. The Remedial Investigation, Risk Assessment, and Feasibility Study were completed simultaneously within a three month period, and were approved by DTSC.

Vapor Intrusion Risk Assessment, Confidential Client, Santa Monica, CA

Lead risk assessor for human health risk assessment consulting services for a former manufacturing facility in southern California. Subsequent to demolition of the facility in the 1970s and redevelopment as a business park, VOCs, primarily TCE, were detected in subsurface soil, groundwater, and soil vapor. Investigations in the 2000s identified the nature and extent of VOCs in the subsurface and identified vapor intrusion as a potential exposure pathway for current site occupants. To evaluate the potential for human health risks, developed a work plan for an indoor air sampling program and off-site evaluation of the extent of the soil vapor plume, which was approved by the Regional Water Quality Control Board (the Water Board), the lead agency for the site. For the investigations, limited the list of analytes to 20 key chemicals based on historic site data for inclusion in the indoor air sampling and off-site soil vapor sampling programs. Once indoor air sampling was completed for each building, conducted a screening risk evaluation of indoor air sampling results, which demonstrated no significant risk to occupants of the buildings. AMEC Geomatrix communicated indoor air results individually to each building owner verbally and in writing and is in the process of preparing a comprehensive summary report to the Water Board. For off-site soil vapor, developed site-specific soil vapor screening levels for comparison to off-site soil vapor measurements, which demonstrated that the TCE plume did not extend off site at significant concentrations.

Casey Avenue Risk-Based Remediation Goals, Aplera, Mountain View, CA

Used a sophisticated risk-based approach to reduce our client's liability at a former electronics manufacturing plant. The current property owner had detected chlorinated solvents in soil and groundwater, and approached the former property owner (Aplera) for \$4 million to cover proposed remediation costs. In coordination with the San Francisco Bay Regional Water Quality Control Board (RWQCB), developed a risk-based strategy for evaluating potential health effects associated with chlorinated solvents in soil and groundwater. Because a high content of total dissolved solids

rendered the aquifer unusable as a drinking water source, the RWQCB was willing to consider alternatives to requiring that the site meet maximum contaminant levels for drinking water. The strategy assumed that chemical concentrations in groundwater could not be remediated quickly, so that potential human health risks from these chemicals would not change in the near future. The focus of the evaluation became identifying soil remediation that would be protective of public health for current and future property use. Developed soil cleanup levels for chlorinated solvents to be protective of human health considering the existing contribution to risk from groundwater. The California DTSC version of the Johnson and Ettinger model was used to predict potential health risk from chlorinated solvents in groundwater and to establish cleanup levels for soil based on potential exposure to indoor air, the primary exposure pathway for the site.

SPI Arcata Human Health and Ecological Risk Assessment, Sierra Pacific Industries, Arcata, CA Managed a human health and ecological risk assessment for on-site and off-site impacts in a slough from an operating lumber mill. Data had been collected on site and off site by previous consultants. Chemicals associated with wood surface protection activities, specifically pentachlorophenol and dioxins/furans, were detected in soil, groundwater, surface water, and/or sediments in the adjacent slough. Other chemicals of potential concern associated with truck shop and maintenance activities were identified in on-site soil and groundwater, including volatile organic compounds (VOCs), petroleum hydrocarbons, and metals. Oversaw development of the baseline human health risk assessment (baseline assessment), which demonstrated that health risks for current receptors were within levels acceptable to regulatory agencies. She also developed cleanup levels in the baseline assessment to evaluate subsequent data collected at the site.

Also managed the scoping ecological and off-site human health risk assessment (scoping assessment) to evaluate ecological and human health risks associated with chemicals present in the slough. She developed a collaborative relationship with the oversight agencies, including the North Bay Regional Water Quality Control Board; California Department of Fish and Game; and the Office of Environmental Health Hazard Assessment (OEHHA). Interim deliverables were submitted and discussed in conference calls or meetings prior to preparation of the scoping assessment. The scoping assessment narrowed the list of chemicals of potential concern from the long list of chemicals analyzed in sediment for other purposes, including metals, pesticides, semivolatile organic compounds (SVOCs), and VOCs. Dioxins/furans and zinc were identified as the chemicals of potential concern. Based on the results of the scoping assessment, ecological receptors in the slough and nearby bay were not impacted under current conditions. Identified two data gaps (pentachlorophenol detection limits in sediment and fish analyses for human health risk assessment) and continues to manage additional activities to address these gaps.

Hassan Amini, PhD, CHG, PG

Principal Hydrogeologist

Professional summary

Dr. Amini has more than 23 years of experience assessing the extent of soil and groundwater contamination in complex geologic and hydrogeologic settings, investigating the fate and transport of contaminants in soil and groundwater, preparing remedial investigation and feasibility study (RI/FS) reports, developing remedial action plans (RAPs), developing cost estimates, and providing project management for hazardous materials release sites.

Dr. Amini has experience with fate and transport analysis and remediation of a wide range of chemical contaminants including perchlorate, methyl tertiary butyl ether (MTBE), chlorinated solvents, fuel hydrocarbons, herbicides and pesticides, and toxic metals. His range of experience spans numerous sites, regulatory drivers, scopes of work, and industry types. He has assisted clients involved as potentially responsible parties (PRPs) in Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) matters related to soil and groundwater cleanup of regional Superfund sites. He developed and implemented Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) work plans and corrective actions for a project involving 16 solid waste management units (SWMUs) and 13 areas of concern (AOCs) with a contract value of more than \$7 million. Soil and groundwater remediation projects have ranged from neighborhood gas station sites to multi-million-dollar plant yard cleanups. He has provided strategic planning, technical direction, and consulting services for numerous sites under RCRA and CERCLA, and has managed multiple landfill investigation and closure projects in the southern and Central Valley areas of California. Dr. Amini has also developed comprehensive remedial action plans, negotiated cleanup levels, and provided expert opinion and testimony on topics related to his expertise.

His regulatory agency interface and liaison experience includes negotiations with U.S. EPA Region IX, U.S. Army Corps of Engineers, California Department of Toxic Substances Control (DTSC), California State Water Resources Control Board, California Regional Water Quality Control Boards (CRWQCB; Los Angeles, Santa Ana, San Diego, Central Valley, and Colorado River regions), California Department of Fish and Game, California Division of Oil, Gas, and Geothermal Resources, Los Angeles County Department of Public Works, Orange County Health Care Agency, and a number of local agencies. Negotiations have involved presentation and approval of site investigation work plans and reports, discussion of local and regional groundwater issues, remedial action plans, negotiation of cleanup levels, and potentially responsible parties.

Professional qualifications/registration(s)

Certified Hydrogeologist, CA No. HG691, 2000

Professional Geologist, CA No. GEO4738, 1990

Registered Environmental Assessor, CA No. 01219, 1989

Education

Ph.D., Geological Sciences, University of Colorado, Boulder, 1983

M.S., Geological Sciences, University of Colorado, Boulder, 1978

B.S., Geology, University of Tabriz, Iran, 1974

Memberships/Affiliations

National Ground Water Association

Association of Hazardous Materials Professionals

Representative projects

Brownfield Development

Program Management and Coordination, Whittaker Corporation, Santa Clarita, CA

Responsible for overseeing the regulatory and community activities of a group of consultants and contractors involved with the environmental characterization and remediation of the former Whittaker-Bermite facility. The facility consists of 996-acres historically utilized for the design, development, formulation, fabrication, and assembly of explosives, propellants, munitions, and pyrotechnic devices. To facilitate the investigation and cleanup activities, the site has been divided into six soil operable units (OU1-6) and one groundwater operable unit (OU7), and appropriate interim measures have been taken to prevent off-site transport of chemicals of concern (perchlorate and chlorinated solvents) in surface and groundwater.

Based on a series of feasibility studies, including pilot and bench-scale tests, enhanced bioremediation was selected to address impacted soils at the site. Remediation of impacted soils within OU1 was recently completed with soils from large perchlorate-impacted areas being excavated and amended to enhance biodegradation of perchlorate under controlled conditions. Areas impacted by chlorinated solvents were treated by several soil vapor extraction and treatment units.

The remedial action plan for OUs 2-6, as well as a comprehensive feasibility study that addresses impacted groundwater, was recently submitted to the California Dept. of Toxic Substances Control and is expected to be offered for public comment. The plan proposes taking a risk-based decision analysis approach to allocate resources and maximize cleanup results. The property is being offered to Brownfield development companies and coordination of site remediation and development plans is currently underway.

Brownfield Development Program, City of Montebello, CA

Assisted the City of Montebello Economic Development Department in securing a grant from the U.S. EPA to design and implement an assessment and remediation program to allow future development of the area. Also assisted the City with all aspects of their Brownfield program.

Environmental/Remedial Investigation

Characterization and Remediation of Perchlorate Impact to Soil and Groundwater, Orange County, CA

Directed characterization of impact of perchlorate to soil and groundwater at an industrial facility in Orange County, California. Prepared work plan for review and approval of the CRWQCB and performed characterization and fate and transport analysis of the impact of perchlorate to soil and groundwater beneath and off site of the facility. Utilized hydraulic push probes and cone penetrometer testing (CPT) rig to characterize the impact of perchlorate to multiple water-bearing zones beneath the site and selected strategic locations for groundwater monitoring wells. Conducted multiple-track investigation of potential risk to deeper drinking water aquifers and interacted with water quality authorities and water purveyors. Performed hydraulic control and mass removal of the dissolved perchlorate through aggressive pumping from strategic locations. Performed feasibility study to select long-term remedies for soil and groundwater.

RCRA Facility Investigation, Chino Hills, CA

Principal-in-charge of RFI of 16 SWMUs and 13 AOCs for an aerospace company. The 800-acre facility was used for loading, assembly, testing, and packaging operations for munitions systems, along with developing and manufacturing proprietary organic chemicals, explosives, and propellants. Generated a Current Conditions Report describing historical activities and presented the pertinent information related to the facility operation and the chemical handling practices. Chemicals of concern (COCs) included explosive chemicals (perchlorate, RDX, HMX, tear gas), proprietary

chemicals, polychlorinated biphenyls (PCBs), dioxins, depleted uranium (DU), and other toxic metals. Obtained DTSC approval for comprehensive soil, surface water, and groundwater sampling plan. Obtained agency approval of a risk-based cleanup strategy for COCs. Implemented various sampling and analytical methods, including expedited site characterization, immunoassay, and conventional techniques during remedial investigation activities. Prepared and obtained approval of RCRA Corrective Measure Work Plan (CMW) and conducted remediation of soil impacted with COCs. Utilized specialty subcontractors for ordnance sweep and removal of unexploded ordnance (UXO) and DU surveys and removal. Prepared RCRA Corrective Measures Completion Report for agency review in pursue of site closure. Assisted in preparation of a Public Participation Plan and served as public and agency liaison.

Petroleum Impact Assessment, City of Culver City, CA

Assessed the extent of petroleum impact to the subsurface from an underground storage tank and fueling system at a city fire station. Performed a fate and transport analysis of fuel additives to soils and groundwater beneath the area. Assisted the Department of Public Works and the City Attorney's Office by providing technical advice in connection with regional groundwater contamination issues.

Oil Field Redevelopment Project, Dominguez Hills, CA

Provided technical and strategic input for a project involving redevelopment of a former oil field property in the Dominguez Hills area of Los Angeles County. The project involved site characterization, remedial excavation of impacted soil, health risk assessment, land farming treatment of soils to reduce hydrocarbon concentrations to levels suitable for residential land use, and documentation of site activities. One part of the site that was used for industrial purposes will be developed as a sports complex.

Soil and Groundwater Contamination, Baldwin Park Operable Unit, San Gabriel Valley, CA

Provided technical support for a medical products company in connection with soil and groundwater contamination at the Baldwin Park Operable Unit in the San Gabriel Valley Superfund area. Reviewed results of previous studies, installed multi-level soil gas probes to a depth of 150 feet, and designed and implemented a groundwater investigation plan, including installing groundwater monitoring wells. Supporting activities included soil gas migration modeling, chemical plume fate and transport modeling, agency file review for other PRPs, participation in PRP technical committees, and negotiations with the Los Angeles RWQCB and Environmental Protection Agency on behalf of the client.

Investigation of Vapor Generation Potential, Sky Harbor International Airport, Phoenix, AZ

Conducted investigation of potential vapor (methane and hydrocarbon gases) from a large-scale release of jet fuel to subsurface soil and groundwater in Terminal 2 of the Phoenix Sky Harbor International Airport. Prepared work plans for review and approval of the client parties (fueling company and most major airlines) and the City of Phoenix. Installed soil vapor monitoring probes throughout the impacted area (3,500 feet long and 1,500 feet wide), designed and constructed multi-port vapor monitoring wells to 75-foot depth, and experimented with and selected appropriate field monitoring equipment and analytical methods to detect and delineate the potential vapor buildup underneath the airport parking lot and other structures. Supported investigation of potential exposure and interacted with the client parties and the airport/city authorities throughout the project.

Groundwater Investigations, Locations throughout Southern CA

Conducted groundwater investigations at numerous industrial facilities in the San Fernando and San Gabriel Superfund areas. Performed all work in accordance with National Contingency Plan (NCP) guidelines and RWQCB-specified Well Investigation Program (WIP) standards. Work included soil vapor survey and soil and groundwater investigations. In two cases, studies included regional studies and identification of the groundwater quality study of the other PRPs.

Remedial Investigation Studies, Superfund Site, San Gabriel Valley, CA

Conducted remedial investigation studies and groundwater/soil gas monitoring in an industrial facility within the San Gabriel Valley Superfund area. Obtained case closure from the RWQCB in pursuit of exclusion from CERCLA liability.

Remedial Investigation/Feasibility Study, Paramount, CA

Performed remedial investigation and feasibility study and developed a RAP for a 13-acre construction yard. Fourteen underground storage tanks, one clarifier, one wash water sump, and the associated piping were removed from the yard. Used cone penetrometer testing (CPT) and GeoProbe® to expedite site characterization and determine optimum location of groundwater monitoring wells. Following delineation of the plume of the aromatic and chlorinated hydrocarbons in water, and as part of the feasibility study, conducted aquifer, soil vapor extraction, and dual-phase extraction tests to determine yielding properties of the geologic formations beneath the site. Employed BioPlume II model to predict the fate and transport of the dissolved chemicals in time based on several hypothetical extraction scenarios. Obtained approval from Los Angeles RWQCB for recommended alternative cleanup levels (substantially higher than maximum contaminant levels [MCLs]).

Hydrologic Investigation, Los Angeles, CA

Conducted geologic and hydrogeologic investigations, and directed feasibility studies and remediation planning for a hazardous material release site. The groundwater contamination included more than 250,000 gallons of free petroleum product and extensive dissolved contamination species.

Environmental Investigation/Study, Long Beach, CA

Provided investigation, feasibility study, remedial action plan, estimate of environmental liabilities, and technical support for joint party cost allocation efforts. Issues concerned PCE impact to soil and groundwater beneath a shopping mall and neighboring hospital property. The release was connected to a former dry cleaning operation.

Environmental Assessment, Los Angeles County, California:

Project manager for the environmental assessment of 960 acres of industrial property slated for multi-track housing development. The site was historically utilized for manufacturing and testing of pyrotechnics, including ammunition and flares. Reviewed historic aerial photographs, conducted geophysical surveys to identify buried trenches and concealed objects, excavation and soil sampling at the target locations

Environmental Assessment, Long Beach, CA

Project Manager. Responsible for environmental assessment of a commercial center for the purpose of redeveloping a historic oil field site. Investigations revealed 17 abandoned oil wells, two mud pits, one aboveground tank farm, and several improperly abandoned pipelines.

Contamination Assessment, Santa Fe Springs, CA

Assessed and evaluated the type and extent of soil and groundwater contamination caused by multiple spills and leaks at a petroleum refinery. This assessment included hydrogeologic and geochemical investigations and development of groundwater flow and transport models.

Environmental Assessment, Redondo Beach, CA

Project Manager. Responsible for environmental assessment of a former aerospace facility involved in research, development and production of rivets and nuts. The investigation was part of plant closure and site redevelopment as a supermarket. Work included assessment of the impact of chlorinated hydrocarbons to soil and groundwater, preparation of a feasibility study and remedial action plan, and estimating the costs for remediation of soil and groundwater.

Soil and Groundwater Investigation, Culver City, CA

Conducted soil and groundwater investigation of a city block formerly used by an aircraft manufacturing company. Assessed chlorinated VOCs, petroleum hydrocarbons, and PCBs in soil and performed removal actions to mitigate impacted areas. Installed groundwater monitoring wells to different depths to monitor two separate water-bearing zones. Obtained closure status for groundwater and mitigated soil.

Remedial Investigation, Long Beach, CA

Conducted remedial investigation using cone penetrometer testing (CPT), hydropunch, BAT sampling, and conventional investigation methods to assess lateral and vertical extent of soil and groundwater contamination and potential off-site migration at a retail property. Performed a feasibility study to determine the most viable remedial measure for mitigation of impacted soil and shallow groundwater.

Remedial Investigation/Feasibility Study, Chemical Products Storage and Blending Facility, Santa Fe Springs, CA

Project work consisted of soil and groundwater characterization, feasibility study, and development of remedial action plan. Performed soil vapor survey to identify target areas where chemical compounds had been released. Conducted soil boring and sampling program to identify lateral and vertical extent of contamination in soil. Installed numerous nested groundwater monitoring wells in two aquifers, and conducted a feasibility study to develop the most effective remedial technology for the site. Developed interim remedial action plan for removal of free-phase halocarbons and mitigation of the first groundwater aquifer.

Remedial Investigation/Feasibility Study, Los Angeles, CA

Conducted remedial investigation and feasibility study of an entire city block, the site of the future expansion of a major medical center. Used state-of-the-art techniques to determine the nature and extent of contamination in soil and groundwater and assist the client in identifying potentially responsible parties (PRPs). All work was conducted in accordance with NCP guidelines. Prepared feasibility study to identify most appropriate remedial technology for soil impacted by volatile organic compounds.

Site Investigation, San Juan Capistrano, CA

Conducted site investigation in support of a RCRA facility closure. The study included extensive sampling of the aerospace components firing range and testing facilities.

Fate and transport

Fate and Transport Modeling, Superfund Site, Salinas, CA

Participated in a groundwater fate and transport modeling effort for a Superfund site. Used model to predict future configuration of dissolved chlorinated hydrocarbon plume under various pump-and-treat scenarios.

Litigation support

VOC Remediation, Expert Testimony, Carson, CA

Conducted assessment and removal of an unauthorized release of petroleum sludge containing hazardous levels of volatile compounds and industrial waste containing hazardous levels of lead to a wetland and stream channel bed. Interacted with the U.S. Army Corps of Engineers, State Department of Fish and Game, Los Angeles RWQCB, California Department of Transportation, Los Angeles County Flood Control District, and Department of Toxic Substances Control to designate a lead agency and provide coordination with all interested agencies in the assessment and mitigation of the impact to the wetlands. Conducted studies, including collection of soil and surface water samples, prepared a remedial action plan, performed remediation, and obtained a closure status from the lead agency. Provided expert testimony in connection with cost recovery aspects of the

project in the high-profile case known as Carson Harbor vs. Unocal.

Litigation Support/Expert Witness, Manhattan Beach, CA

Provided litigation support and expert testimony in support of cost recovery actions involving a petroleum hydrocarbon release to the soil and methane gas mitigation issues for a commercial mall development project in Manhattan Beach.

Litigation Support/Expert Testimony, Costa Mesa, CA

Provided litigation support and expert testimony concerning cost recovery for the remediation of petroleum product releases to soil and groundwater from former fuel station operations in Costa Mesa. Work involved identifying the source of the release, fate and transport of petroleum products in soil and groundwater, and assessment of potential off-site sources and commingling of multiple sources.

Expert Witness, West Los Angeles, CA

Expert witness for cost recovery efforts in connection with the assessment and remediation of soil and groundwater beneath a subterranean parking structure in West Los Angeles. Identified substantial releases of petroleum products, acetone, PCE, and other VOCs, which were caused by historic petroleum exploration, refined petroleum products storage, and dry cleaning operations at or near the subject site.

Litigation Support/Expert Witness, Norco, CA

Provided litigation support and expert witness in support of Western Pacific Housing as defendants in a lawsuit related to alleged property devaluation, and stigma problems.

Litigation Support/Expert Testimony, CA

Provided litigation support and expert testimony in support of a defendant party in a lawsuit involving soil and groundwater remediation costs associated with release of tetrachloroethene (PCE) from a drycleaner operation, based on the review of operations history, ownership records, regulatory and municipal agencies files, and fate and transport analysis.

Landfill/solid waste disposal

Geologic Study, Solano County, CA

Performed subsurface geologic study of a Class I hazardous waste disposal site. Project was conducted as part of a fault investigation related to the RCRA Part B Permit process. Work included deep boring and logging, down-hole geophysical investigation and structural analysis.

Solid Waste Assessment Tests, City of Los Angeles, California:

Managed and conducted water quality Solid Waste Assessment Tests (SWATs) for municipal landfills/solid waste disposal sites. Performed SWATs for four City of Los Angeles Bureau of Sanitation landfills and three Department of Water and Power owned solid waste disposal sites to determine compliance with California Water Code requirements. Prepared proposals and work plans, supervised drilling operations and soil and groundwater sampling, performed data analysis, and prepared report and presentations to the RWQCB.

Contamination Investigation, Bixby Ranch Company, Tulare County, CA

Determined impact of unauthorized pesticide and herbicide disposal into an agricultural waste disposal site. Performed geologic and hydrogeologic investigation including soil and groundwater sampling.

Waste Characterization Review, Orange County, CA

Reviewed waste characterization and disposal methods of an aerospace support facility's industrial waste. Researched methodology for delisting a California Designated Waste, designed a waste TTLC/STLC variability and leaching capacity study, and reviewed regulatory status of the receptor disposal sites.

Site Investigation for Class I Landfill, Imperial Valley, CA

Investigated surface and subsurface conditions of an Imperial Valley area to determine its suitability for siting a Class I landfill. Assessed depth and thickness of underlying geologic units, geologic hazards, and surface and groundwater conditions.

SWAT Testing, City of Los Angeles Bureau of Sanitation and Department of Water and Power, Southern CA

Managed and conducted water quality Solid Waste Assessment Tests (SWATs) for municipal landfills/solid waste disposal sites. Performed SWATs for four landfills and three solid waste disposal sites to determine compliance with California Water Code requirements. Prepared proposals and work plans, supervised drilling operations and soil and groundwater sampling, performed data analysis, and prepared report and presentations to the RWQCB.

Treatment systems

Groundwater Extraction and Treatment System, Cedar Sinai Medical Center, Los Angeles, CA
Project Manager. Oversaw design and installation of a groundwater extraction and treatment system consisting of 22 groundwater extraction wells equipped with electric pumps and high pressure activated carbon vessels for primary and secondary adsorption units. The system extracted and treated approximately 750,000 gallons per day of groundwater that contained dissolved chlorinated hydrocarbons compounds.

Groundwater Pump-and-Treat, Locations throughout Southern CA

Project Manager. Responsible for design and installation of three groundwater pump-and-treat operations in Malibu, Santa Monica, and Cerritos. Developed groundwater models to select optimum locations of extraction wells for free-phase and dissolved petroleum product recovery. Also used models to predict the configuration of the plumes in the future under various pumping scenarios. Selected appropriate pumping rates based on the modeling studies. Assisted the client in securing NPDES permits for wastewater discharge.

Miscellaneous

Environmental Compliance Review, Los Angeles County, CA

Performed environmental compliance status review of a major rockets and firearms research and production plant in Los Angeles County including 12 RCRA sites and a groundwater pump-and-treat operation.

PCE Mitigation, CA

Interfaced between client and the Los Angeles RWQCB in an effort to mitigate a release of PCE to soil from a former dry cleaning operation. Represented owner of a commercial mall property. Obtained a "no further action status" for the project.

Agency Coordination, Confidential Insurance Company, Orange County, CA

Helped coordinate agency involvement responding to catastrophic hazardous materials release incidents that impacted a surface water retention and groundwater recharge basin for the county.

Oversight Support, City of Manhattan Beach, CA

Participated in monthly technical presentations to agency representatives and community involvement groups regarding major and multiple release of hazardous materials to soil and groundwater from a refinery operation.

Permit Assistance, Various Clients, Various Locations, CA

Assisted clients with preparation of waste treatment and discharge applications and expeditious processing of NPDES permits.

Joseph M. Bahde, PG

Senior Hydrogeologist

Professional summary

Mr. Bahde has more than 15 years of experience in the consulting and geotechnical professions. He has overseen and implemented all aspects of remedial investigations, including preparation of work plans/RAPs, drilling and sampling, monitor well installation, health and safety oversight, data evaluation, agency negotiations, public participation, and preparation of closure reports. Mr. Bahde has conducted and managed numerous RI/FS projects at facilities throughout southern California ranging from simple grab sample investigations for private companies to RCRA and Superfund remedial investigations of MEC sites with budgets in excess of \$10 million.

Mr. Bahde's expertise is the design and implementation of remedial investigations for both private sector and government clients. His industry experience includes manufacturing, petro- and agricultural-chemical, financial, municipality, and aerospace facilities. In addition to managing numerous remedial investigations involving petroleum hydrocarbons and/or solvents, Mr. Bahde designed RI/FS projects characterizing chemicals such as pesticides, metals, explosives, depleted uranium (DU) and chemical warfare agents and oversaw remedial activities. These investigations and remedial activities were overseen by local, state, and federal agencies including the California Department of Toxic Substances Control (DTSC), Department of Public Health, Radiological Survey Branch, and the U.S. EPA.

Professional qualifications/registration(s)

Professional Geologist, CA No. 7058, 2000

Education

B.S., Geology, California State University, Fullerton, 1993

A.A., Cypress College, Cypress, CA, 1990

Memberships/Affiliations

National Ground Water Association

Groundwater Resources Association of California

American Society of Civil Engineers

Representative projects

Munitions and Explosives of Concern

RCRA Investigation and MEC Removal, Aerojet, Chino Hills, CA.

Project manager, currently completing an RCRA Facility Investigation (RFI) for an aerospace facility in southern California that specializes in explosives/ordnance assembly and testing. Client is seeking clean closure of an 800-acre site for redevelopment. Prepared work plans for and implemented sampling of soil, groundwater, and surface water at 16 Solid Waste Management Units (SWMUs) and 13 Areas of Concern (AOCs) identified at the facility. Prepared the RFI Report and RFI Addendum Report summarizing results of over 1,300 samples analyzed for explosives, perchlorate, metals, VOCs, SVOCs, warfare agents, and CS or "tear gas." This report provided justification through risk and ecological assessments for assigning a "no further action" status to 19 of the 29 SWMUs/AOCs. Prepared the Corrective Measures Work plan (CMW) describing the implementation of corrective measures (CMs) for the remaining 10 units. Assisted DTSC in the preparation of California Environmental Quality Act (CEQA) documentation and the issuance of a Negative Declaration for implementing the CMs. As part of CEQA, presented the results of the RFI and CMW

to the public and City Council officials on multiple occasions. No injury or workday loss occurred among staff while CM activities were completed.

Also overseeing removal of MEC from the facility. Prepared Geophysical Prove-Out (GPO) Work plan to evaluate a variety of instrument types including Schonstedt, Geometrics G858, Geonics EM 61 MK2 (MK2), Multisensor Towed Array Detection System (MTADS), and White's all metal detectors. Prepared GPO Report ranking the equipment types based on probability of detection, false positives, production rates, cost, and safety. Oversaw ordnance sweeps covering over 450 acres of the site in which more than 1,700 MEC items were found, removed, and destroyed. In areas where concentration of MEC or metal was too high to implement ordnance sweeps (e.g. impact areas, open burn/open detonation area, disposal pits), designed CMs to excavate and process soil through a screening plant to remove MEC. Screened/segregated more than 78,000 tons of ordnance-containing soil and recovered over 72,000 MEC related items, while demonstrating 98% recovery efficiency. Prepared Conceptual Site Model for MEC describing the project area and its environmental conditions, MEC sources and potential receptors, interactions that potentially link these variables, and completion of MEC removal activities. This project is being conducted under the oversight of DTSC which reviewed and approved the above-listed documents.

MEC Removal Oversight, Whittaker Corporation, Santa Clarita, CA

Task manager providing technical support and oversight of MEC and DU removal activities at a site undergoing remedial effort for eventual residential redevelopment. Provided technical review for contractor's work scope documents on the MEC and DU removal activities; documents included Historical Site Assessment report, MEC and DU Removal Work Plans, GPO Work Plan, and Health and Safety Plan. Oversaw contractor's implementation of geophysical equipment prove-out activities, and provided review and technical comments on their GPO Report. DU removal activities were completed in 2010. MEC investigation and removal activities are scheduled to begin 2011.

MEC Removal Quality Assurance Review, Fort Ord, Monterey, CA

Project manager assisting DTSC in QA review of USACE documents on MEC removal activities conducted at the Fort Ord site. Assembled team of specialty subcontractors to assist in reviewing several MEC clearance operations. Prepared summary reports describing QA review and any recommendations.

Lawrence Hudgins

USA Unexploded Ordnance (UXO) Lead

Professional summary

Mr. Hudgins have over 38 years of experience in the UXO environmental engineering and other related fields at Department of Energy (DOE) and Department of Defense (DOD) sites. He has participated in various aspects of projects ranging from emergency response involving unexploded ordnance and toxic chemical, biological and radiological releases to managing detailed and complex field investigations, remediation sites, extensive range clearances and reconnaissance activities, and explosive investigations and studies. As a Master Explosive Ordnance Disposal (EOD) technician, he spent 13 years assigned to a specialized unit responsible for handling Radiological and Chemical Warfare Material for the DOD. As manager of the EPA's Region IV Technical Assistance Team (TAT), he was responsible for conducting emergency responses to provide technical advice and assistance to the EPA's On-Scene Coordinators. As a quality control engineer on numerous projects, responsible for developing, implementing the quality performance metrics for the projects, delegating QC tasking, conducting numerous audits and verifying corrections of nonconforming work and unsafe activities. Also responsible for performing all QC procedures including measuring the attributes and performance of all processes and services to verify that they met the project and scope requirements.

Education

B.S., Environmental Engineering, Kennedy-Western University, Thousand Oaks, California, 1994

Representative projects

MEC Investigation and Removal Action, Engineer Proving Ground, Fort Belvoir, VA.

Senior Project Manager for munitions and Explosives of Concern (MEC) investigation/ removal involving geophysical mapping and subsurface clearance of MEC at multiple ranges. Subsurface anomalies were investigated, documented, and disposed of. Developed the technical approach, Explosive Safety Submission amendment, work and safety plans. Managed over 50 UXO personnel ensuring all schedule milestones were met within the funding limitation.

UXO Source Investigation, Massachusetts Military Reservation (MMR), Cape Cod, MA.

Senior Project Manager for 40 multi-disciplined personnel for site investigations to determine the source(s) of explosive contamination in soil and the sole-source groundwater aquifer that supplies drinking water to Cape Cod. Investigations involved range clearances, explosive demolition operations, geophysical surveys, and multi-media sampling. Provided UXO expertise to Federal and state regulators.

Military Munitions Response Program (MMRP) Guidance Document Revision, USAESCH

Senior Project Manager for revision of the MMRP technical guidance (Engineer Pamphlet 1110-1-18) for the USACE to integrate the procedures for performing MMRP response activities. Detailed requirements for responses to military munitions and chemical residues at locations other than operational ranges, and clarified reporting of environmental liabilities. Conducted several onboard reviews with the PDT to ensure compliance with DERP and CERCLA.

Remedial Investigation/Feasibility Study (RI/FS), Former Southwest Proving Ground, Hempstead County, AR

Senior Project Manager responsible for the CERCLA remedial investigation to develop and evaluate effective remedial alternatives, assess risk to human health, safety, and the environment, and to conduct a feasibility study of remedial alternatives. Facilitate regulator and stakeholder participation.

MPPEH/MD/Range-Related Debris Management, Camp Withycombe, OR

UXO Technical Lead for evaluation of the procedures used to ensure compliance with DOD and USACE guidance in the proper management of MPPEH and MD to final disposal. Conducted a thorough review of transportation and disposal documentation to verify that all procedures were followed to ensure final disposal by shredding/smelting. Submitted a detailed MPPEH/MD Management and Disposal Report outlining the procedures followed to ensure no explosive hazards existed.