

Sue Kraemer, PG, CEG, CEM Client Program Manager

Ms. Kraemer is a client program manager who has managed numerous complex projects including MGP site investigations, Superfund RI/FS and remediation programs, due diligence projects, and storm water compliance projects. She has managed hydrogeologic evaluations, assessed vadose zones using soil and soil gas data, designed and installed groundwater extraction and treatment systems, and performed aquifer testing. She has managed soil cleanups using SVE, dewatering and dual-phase extraction, bioventing, and soil composting. She has developed complex site conceptual models to understand and optimize site investigation programs and has integrated risk assessment and cost trade-off studies to develop effective remedial approaches. Her experience includes regular technical meetings and negotiations with federal, state and local agencies, as well as interested public groups. She has provided regulatory analysis, technical oversight and review for the EPA. Her involvement with the development of quantitative soil vapor sampling, in lieu of traditional soil sampling, led to her invitation to aid in the development of guidance documents on Expedited Site Assessment for the EPA Office of Underground Storage Tanks. She has provided expert testimony and assisted in litigation support.

Relevant Experience

Aerojet Superfund Site, Sacramento, CA.

Technical Director for the remedial investigation of the 10,000 acre site. Oversaw the work plan development and its implementation. The project included a pilot demonstration of the efficacy of using soil vapor sampling in lieu of soil sampling, resulting in the VOC characterization of the site using soil vapor. Integrated the work with ongoing effectiveness evaluation of the Groundwater Extraction and Treatment systems. Directed and reviewed the various Phases of RI sampling

Education

MS, Geology, California State University, Northridge; 1986

BS, Geology, University of California, Los Angeles; 1978

Registrations/Certifications

Professional Geologist, California #5625

Certified Engineering Geologist, California #1666

Certified Environmental Manager, Nevada

plans and alternative evaluations. Produced Optimization Technical Memorandum to greatly reduce the water quality monitoring. Additional project challenges were working within an aggressive Consent Decree Schedule, managing large volumes of data, addressing tentatively identified compounds and difficult geological conditions. The work required compliance with NCP; providing technical support for insurance litigation; developing remedial strategies and costs; and monthly technical updates and negotiations with EPA, DTSC, and the RWQCB. She later prepared a presentation to DHS to demonstrate the comprehensive approach completed to screen for all COPCs and to provide information that the program was protective of the public water supply.

Motorola 52nd Street Superfund Site, Phoenix

AZ – Project Manager for the RI/FS of the Motorola 52nd Street Superfund Site for U.S. EPA under US Corp of Engineers (USACE) contract. For Operable Unit (OU) 3 Completed a RI/FS Workplans for the groundwater investigation of a chlorinated plume. Incorporated public comments and supported at CAG meetings. Installed 28 wells in 14 clusters throughout downtown Phoenix using Rotasonic technique to depths of 320 feet below ground surface (bgs). Involved extensive community relations effort. OU3 effort also involved negotiation and oversight of PRPs in



OU3, supporting AOC negotiation, to reviewing work plans, RIs, to field oversight. Involve in strategic meetings with EPA and state on approach to small PRPs.

OU1 and OU2 oversight, included design review, construction oversight of the Interim Remedial Measures, monitoring of Operations & Maintenance, and evaluation of the system effectiveness. Review of quarterly groundwater monitoring, PRP workplans, and technical memorandums on bioventing, SVE, and other source site remediation.

Caltrans Stormwater- Siting and Design of Treatment Wetlands for Metals, Inorganics, and Sediment Control.

Task Leader for evaluation, siting and design of two constructed wetlands for treatment of stormwater runoff. Project included an extensive literature and internet search on constructed and treatment wetlands, survey of Caltrans roadways for site selection, and coordinating with USACE on Section 4 jurisdictional wetlands delineation.

Conducted field studies for geotechnical and environmental sampling for design basis and hazardous materials evaluation. Effort included evaluation of existing vegetation for wetland use and effect of variation of planting for treatment of N, P, and metals as well as effect on maintenance and vector controls.

Groundwater and Soil Remediation Program, South Lake Tahoe, CA and NV.

Project Manager of a high profile MtBE groundwater contamination site. The remedial program has included extensive permitting, operation and maintenance of four groundwater treatment systems, over 30 extraction wells, two injection galleries, discharge to POTW and a dual-phase extraction program. A 100+ monitoring well system was installed and extensive aquifer testing was performed. A complex 7-layer groundwater model was constructed to evaluate groundwater flow and contaminant transport to assess the system effectiveness to be protective

of the municipals wells. Work was completed on a fast track, often requiring extensive winter work, to meet aggressive Lahontan RWQCB requirements and comprehensive due to surrounding water supply wells. Provided expert witness testimony and supported the client in settlement with the RWQCB and Water District.

Casmalia Class I Hazardous Waste Superfund Site, CA.

Project Manager for a liquids management system at the Casmalia site. Directed O&M of remedial system to extract liquids from several extraction trenches, including solvent leachate collection points. Effort included management of disposal ponds for evaporation due to zero discharge requirement. Water budgets and flownet evaluations were prepared to evaluate seepage from dams at two ponds. Directed the treatment activities, which included GAC and bioreactor tanks used to treat DNAPL and miscible liquids. Supported client on additional issues such as "contained in" determination for extracted liquids, risk-based exit levels for treated liquids, NPDES permits, and compliance with the Endangered Species Act. Program included preparation of numerous work plans, SAPs, QAPPs, CR Plans and TMs to address varying tasks. Directed the development of the Hydrogeological Site Conceptual Model (HSCM), which was structured for eventual Technical Impracticability Evaluation in the EE/CA work plan. Evaluated the ongoing chemical and hydraulic data collection and integrated the large volume of data collected over ten years, including geological, geophysical, and geochemical data, which included stable isotopic data and hydraulic testing. HSCM completed a detailed assessment of the fractures, apertures, fill materials, orientations, and associated structural features to evaluate migration pathways for DNAPL and dissolved contamination.

Del Monte Superfund Site, HI. Technical Oversight Contractor for USEPA on the Del

Monte Fresh Produce Site, Oahu. Assisted in the negotiation of the Consent Decree and the Statement of Work. Worked closely with the EPA and the PRP to write the RI/FS work plan to investigate pesticide storage areas and assess impacts to water supply wells from a historical spill. Oversaw implementation of RI work plan, and provided comments on the RI Report, Baseline Risk Assessment, and Feasibility Study submitted by PRP contractors. Work on technical project on review for design of pilot testing of new phytoremediation application for DBCP and EDB by Del Monte, in conjunction with several institutions and the Department of Agriculture. Involved in public and private meetings with community leaders and residents to address concerns over groundwater contamination and Superfund process.

Work Experience

Shaw Environmental 1991 to present

2002 to current—Client Program Manager (Shaw Environmental)

1999-2002—Senior Project Manager (purchased IT Corporation)

1991-1999—Chief Hydrogeologist (IT Corporation purchased ICF Kaiser)

Roy F. Weston, Inc. 1986-1991 —Project Manager

California Department of Water Resources, Southern District, Water Quality Division

1984-1986 Geologist

California State University, Northridge, Geoscience Department -1983-1984 Part-time Faculty

HLE EXHIBIT 36



Shaw Environmental, Inc.