MIR SEYEDABBASI, PHD, PE

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SUMMARY

A Senior Project Manager – Environmental Services and a registered Professional Engineer with over 15 years of environmental consulting, remediation, litigation support, and environmental modeling experience. Modeling expertise includes fate & transport modeling, risk modeling, and onshore oil spill modeling. Managed multiple environmental investigations, remedies and monitoring programs at oil refineries, chemical plants, and USEPA Superfund sites; and has worked with cross-functional teams including site staff, subcontractors, regulators, and clients to implement environmental corrective actions. Has conducted and published research on a variety of areas related to subsurface contamination, site investigation and characterization, and multi-phase multi-component fate and transport modeling.

EDUCATION

Ph.D. Environmental Engineering, University of Delaware, 2008

M.S., Environmental Engineering, Sharif University of Technology, Tehran, Iran, 2003

B.Sc., Civil Engineering, Shiraz University, Shiraz, Iran, 2001

LICENSURE

Registered Professional Engineer
Texas P.E. (2012) – No. 111697

CERTIFICATIONS

OSHA 40-hr Hazardous Waste Operations and Emergency Response (HAZWOPER) Training

HAZWOPER 8-hr OSHA Site Supervisor Training

AFFILIATIONS

National Ground Water Association (NGWA)
Interstate Technology & Regulatory Council (ITRC)
Petroleum Environmental Research Forum (PERF)

MODELING SKILLS

MODFLOW, MODSharp, MT3DMS, RT3D, Visual MODFLOW, Groundwater Vistas, GMS – Flow and transport in saturated porous media

OLOF, ERGO, RISC – Oil spill, risk, and prevention modeling

UTCHEM, TOUGH2, TMVOC, Petrasim, HYDRUS – Multi-phase flow and transport in unsaturated and saturated porous media

S3GRAF, HydroGeo Analyst, ArcGIS, ArcView - Visualization of hydrogeologic and contaminant systems

HSSM, LDRM - Light Non-aqueous Phase Liquid (LNAPL) flow and transport, and recovery performance analysis

BIOSCREEN, BIOCHLOR - Natural attenuation of dissolved petroleum hydrocarbons and chlorinated volatile organic compounds

RESRAD, RESRAD-OFFSITE – Environmental risk and does modeling, radiation doses and risks from residual radioactive materials

EXPERIENCE

Over 15 years of experience in soil and groundwater investigations, remediation, litigation support, and environmental fate & transport modeling, academic research and environmental consulting.

Environmental Modeling: Extensive experience in developing, troubleshooting and reviewing flow and transport models for subsurface contamination evaluations and water resource management. Worked on modeling projects spanning a wide range of schedules and budgets, of multiple spatial and temporal scales, complex geological settings, diverse climatic conditions, unique water/contaminant management issues and challenging numerical conditions. Experience in multi-phase multi-component modeling capabilities by using widely tested and successfully applied programs for reactive transport simulations.

Litigation Support: Experience in environmental litigation support including roles as consulting the testifying expert for numerous cases involving forensic analysis of environmental impacts, natural resource damage assessment, remediation of soil, groundwater, creating and reviewing environmental fate & transport, spill and risk models, and allocation of liability for projects in the U.S., Latin America, the Middle East, and Central Asia.

Site Investigation & Remediation: Experience in developing Site Conceptual Models (SCM), site investigation, characterization, and remediation. Also, experienced with installation, performance evaluation and optimization of various soil and groundwater in-situ and ex-situ remediation technologies. Project management experience including development of proposals, work plans, technical reports, and managing budget and junior staff. Performed and managed the teams conducting various hydrogeological investigation activities including monitoring well installation; soil, vapor and groundwater sampling and plume delineation; hydraulic conductivity testing.

PROJECT WORK

Performed site investigation and remediation, litigation support, and modeling for multiple projects, including:

- ***Chemical Manufacturing Facility, Gulf Coast, Texas -*** conducted radiological assessment for Radioactive Material License (RML) application including environmental risk and dose modeling with RESRAD and RESRAD-OFFSITE software and infiltration rate calculations using SAM and HELP models.
- ***Commercial Hazardous Waste Disposal Facility, Houston Ship Channel, Texas –*** RCRA Permit Renewal application for a facility permitted for 7 container storage areas and 50 tanks, including updating and verification of facility plans, waste analysis plan, engineering reports, and closure plans.
- ***Manufacturing Plant, Cypress, Texas –*** Prepared the Response Action Plan including the environmental sampling and analysis program to complete affected property assessments and response actions under the Texas Risk Reduction Program (TRRP).
- ***Gas Plant Site, Midland Texas –*** Site investigation and affected property assessment, technical support for a soil and groundwater site investigation to delineate the extent of the affected soil and groundwater at a Gas Plant site.
- ***Active Chemical Plant, Galveston, Texas –*** Remediation activities at a site impacted by chlorinated compounds, involving injections of chemical oxidant and electron donor for sustained enhanced reductive dechlorination involving 165 injection locations.
- ***USEPA Superfund Sites, Sauget and Cahokia, Illinois -*** Remedial investigation and feasibility study, evaluation of remedial action alternatives developed for multiple sites and cost estimation for different remediation alternatives using RACER.
- ***Active Refinery, Carson, California –*** Remedial investigation and feasibility study, evaluation of remedial action alternatives developed for unsaturated zone remediation of Light Non-aqueous Phase Liquid (LNAPL) product.
- ***Active Refinery, Carson, California –*** Site characterization, system design, implementation, performance evaluation, and optimization of a modified diffusion-based bioventing system to treat residual LNAPL and soil vapor from the vadose zone.
- ***Former Chemical Plant, Houston, Texas –*** Groundwater investigation including installation, development, and sampling of temporary piezometers and permanent monitoring wells to define local groundwater conditions for completion of affected property assessments under TRRP.
- ***Former Terminal, Jackson, Michigan –*** Fate and transport modeling of natural attenuation of dissolved petroleum hydrocarbons using USEPA's BIOSCREEN in overburden and bedrock aquifers.
- ***Former Marcus Hook Refinery, Trainer, Pennsylvania –*** Phase I and II Vapor Intrusion assessments, sheen mitigation, soil and groundwater remediation.
- ***Former Refinery, Casper, Wyoming –*** 2,650-feet long slurry wall installation using in-situ soil mixing method. Pre-design assessments including geotechnical investigation, soil-bentonite backfill mix permeability bench-scale testing.
- ***Duck Club, Utah –*** Pilot Test and Bench-scale study to evaluate in-situ treatment additives followed by remedial system design of shallow- and deep-well injection system.
- ***Former Refinery, Hammond, Indiana –*** Sheet-pile wall installation pre-design assessment of soil and groundwater, fate and transport modeling, oil control barrier and bank control Basis of Design repot. Pipeline removal, soil excavation, and disposal.
- ***Former Refinery, Greybull, Wyoming –*** Site Investigation and Groundwater Hotspot Remediation. NAPL source identification utilizing data from Rapid Optical Screening Tool (ROST) using Laser Induced Fluorescence (LIF).
- ***Retail Gas Station Sites in NJ, DC, NY, WV, SC, NC,OH, PA, FL, KY –*** Site Conceptual Model (SCM) creation, remedy selection including chemical and biological injection, soil vapor extraction (SVE), excavation, and pump & treat technologies.
- ***Former Terminal, Port Newark, New Jersey –*** Groundwater flow and contaminant transport modeling for a feasibility study; created a groundwater flow and solute transport model to evaluate the potential migration of benzene in the aquifer under various remediation corrective action scenarios.
- ***Former Refinery, Casper, Wyoming –*** LNAPL recovery modeling; developing, calibrating, and conducting sensitivity analyses of a groundwater flow and transport model to evaluate the performance of existing recovery system capture zones and determination of new recovery well locations.
- ***Former Refinery, Casper, Wyoming –*** Surfactant-Enhanced Aquifer Remediation (SEAR) modeling, surfactant injection system design, implementation and monitoring.
- ***Multiple Sites in South Carolina, New York and California –*** Matrix Diffusion modeling to characterize the role of contaminant mass storage and transport from low permeability layers in the persistence of large and dilute plumes.
- ***Retail Gas Stations, West Hempstead, New York –*** Litigation and expert witness support by conducting site assessments, and evaluating environmental operations against regulations, conducting historic and current standards of practice, and allocating remediation costs among all potentially responsible parties (PRPs).
- ***Semiconductor Facility, Palo Alto, California –*** Litigation expert witness support; fate and transport modeling, chemical fingerprinting, and DNAPL penetration and distribution.