

# Manu Sharma, M.S., P.E.

## President

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Mr. Sharma is a licensed professional environmental engineer with over 30 years of domestic and international consulting experience. He has led investigations, risk assessments, feasibility studies, and conceptual remedial designs at Superfund, RCRA, state-lead, brownfields, and merger and acquisition-related Sites. Types of facilities evaluated include: chemical/petrochemicals, large-scale manufacturing, mineral processing, manufactured gas plants, and waste disposal. Mr. Sharma has experience in assessing a wide range of contaminants, including chlorinated solvents, NAPLs, PCBs, PFAS, petroleum hydrocarbons, mercury and other trace metals. He has also evaluated the fate and transport and potential risks from chemicals associated with a diverse group of products, ranging from personal care to hydraulic fracturing.

Mr. Sharma has served as a consulting and/or testifying expert on litigation matters related to contaminant fate and transport, remedy appropriateness/reasonableness, environmental liability evaluation, cost recovery/allocation, water resources, and environmental forensics.

## Representative Projects

**PFAS Fate and Transport:** Provided expert testimony at an administrative hearing regarding the effectiveness of the leachate collection liner system at a solid waste landfill and the fate and transport of Per- and Poly-fluoroalkyl substances (PFAS) and 1,4-dioxane in groundwater.

**LNAPL Fate Evaluation:** Provided expert testimony regarding the transport of and remedial strategy for a large gasoline LNAPL plume associated with a petroleum refinery that was the subject of a RCRA health endangerment lawsuit.

**Remediation Standard of Care:** Provided expert testimony at an arbitration regarding the standard of care used by an environmental contractor in designing and implementing a groundwater pump and treat remedy at a Superfund Site that failed due to metals precipitation.

**DNAPL Remedial Strategy:** Led a multi-year investigation and remedy development process at a complex, multi-party Superfund Site with pine tar and creosote related groundwater and sediment contamination.

**Urban Waterway Cost Allocation:** Developed a risk-based cost allocation model that accounted for sources and relative risks posed by mercury, dioxins, and PAHs in sediments.

**Sediment Remediation and Forensics:** Developed an ecological risk-based sediment remediation strategy for a stream affected by PCBs and PAHs contributed by multiple sources. Reassessed the impact of the presence of perfluorinated compounds on selected remedy.

**Hydraulic Fracturing Risk Evaluation:** Assessed fate/transport and human health risks associated with HF additives and flowback constituents in tight shale formations in the US. Submitted work to US EPA and other agencies.

**Personal Care Product Risk Assessment:** Developed a framework to conduct screening-level environmental risk assessments for personal care product ingredients, which is being used to rank ingredients and make substitution decisions.

**Remedy Negotiations & Design:** Developed a risk-based soil and groundwater remedial strategy for a chemical plant, which was part of a property transaction between two multi-national companies. Chemicals of concern were VOCs and pesticides.

## Areas of Expertise

- Contaminant Fate & Transport
- Risk-Based Remediation
- Cost Recovery/Allocation
- Remedy Reasonableness
- Environmental Forensics
- Water Resources

## Education

M.S., Civil Engineering, Syracuse University

M.B.A., Boston College

B.Tech., Civil Engineering, IIT, Bombay

Licensed Professional Engineer

## Selected Presentations and Publications

Flewelling, SA; **Sharma, M.** 2014.

"Constraints on upward migration of hydraulic fracturing fluid and brine." *Groundwater*, 52(1):9-19.

**Sharma, M.** 2011. "Modeling Drinking Water Related Human Health Risks from Hydraulic Fracturing (HF) Additives." Presented at US EPA Hydraulic Fracturing Workshop, Arlington, VA, March.

Thakali, S; **Sharma, M**; Verslycke, T. 2008. "Environmental Safety Ranking Framework for Surfactants in Personal Care Products (PCPs)." Poster presented at the Society for Risk Analysis (SRA) 2008 Annual Meeting, Boston, MA, December.

**Sharma, M.** 2004. "Vapor intrusion – EPA vapor intrusion model reliability and role of background concentrations in risk assessments." *Risk Policy Rep.* 11(8):42-43.

**Sharma, M**; Saba, T; Bittner, A. 2003. "Optimization of Groundwater Pump and Treat Systems Using Numerical Modeling and the Monte Carlo Approach." National Groundwater Association Mid-South Focus Conference, Nashville, TN, September 19.



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