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### **What we do:**

- **Risk Assessments**
  - Under MCP and Federal Superfund Guidance
  - Method 1,2, and 3 Risk Characterizations
  - Imminent Hazard Evaluations
  - Targeted risk assessments to support audits, insurance, etc.
  - Critiques of other risk assessments
- **Fate and Transport Analysis**
  - Numeric and analytical models to predict migration of chemicals into air and water
  - Evaluation of leaching potential
  - Evaluate if remediation is naturally occurring
  - Assessment as to whether implemented remedy is working

### **For more information, please contact:**

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# Risk Assessment / Fate and Transport



Goldman Environmental Consultants, Inc. (GEC) conducts fate and transport analyses and risk assessments to support response actions at hazardous waste sites. GEC's experienced risk assessors, hydrogeologists, and scientists design and implement its assessments and analyses consistent with applicable state and federal regulations and policies. Our cost-effective and innovative approach to hazardous waste site response actions has helped significantly reduce or eliminate remediation needs at many sites.

### **OUR APPROACH TO RISK ASSESSMENT / FATE AND TRANSPORT**

GEC has expended considerable effort in developing integrated tools and templates for human health risk assessments and fate and transport analyses. These easily adaptable tools allow GEC to efficiently calculate cancer and non-cancer risk, as well as toxicity values for approximately 130 chemicals. Exposure values are set with either USEPA or MassDEP default values or site-specific values. Integrated tools are also used for numeric fate and transport models using accepted analytical models. These cost-effective tools have been utilized at simple sites as well as sites requiring remediation or further comprehensive response actions. Activity and Use Limitation (AUL) requirements can be composed to address issues driving the risk assessment. GEC's risk assessments normally experience favorable outcomes in MassDEP audits and policies.

### **GEC'S METHOD**

GEC works with clients to understand their goals, resources, and future plans for the site in order to conduct the appropriate risk assessment to protect public health, safety, and the welfare of the environment. The Risk Assessment and fate and transport models comply with applicable regulations, policies, and existing guidance. GEC has conducted numerous fate and transport analyses, which often include one or more numeric or analytical models. For complex models, a conceptual site model will be developed with appropriate input values, then calibrated, and run. The results are used to develop exposure point concentrations for risk assessments, evaluate the future migration of contamination, and identifying site conditions for comparison to applicable regulations and standards.

### **GEC'S EXPERIENCE**

GEC has years of experience conducting risk assessments following the MCP, federal Superfund guidance, and state-specific guidance. We have conducted Imminent Hazard Evaluations for Phase I—Initial Site Investigations and Downgradient Property Status submittals. Examples of targeted exposure scenarios include indoor workers' inhalation of vapor and dermal contact of contamination in production, well water, and a construction worker's potential exposure to vinyl chloride as vapor in outdoor air. GEC conducts Method-1, -2, and -3 risk assessments, where exposure scenarios include ingestion of potable water, garden produce, and fish; incidental ingestion of soils or of surface water while swimming; dermal contact to soils, sediments, surface water, potable water or process water; and inhalation of dusts and vapor in indoor and outdoor air.