

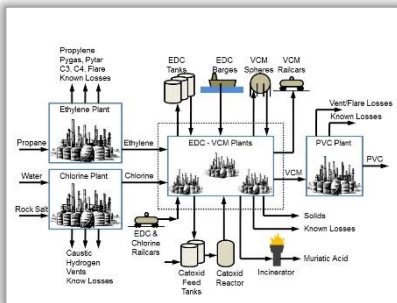
# Litigation Support and Environmental Consulting Services for Facility under U.S. EPA Oversight



For an entity in the southeastern United States, EKI provided litigation support and environmental consulting services pertaining to release of chlorinated volatile organic compounds (VOCs) to the subsurface, including dense non-aqueous phase liquids (NAPLs).

As part of litigation support activities, EKI staff used a 30 million node subsurface stratigraphy model to:

- Create north-south and east-west cross sections of subsurface stratigraphy at 20-foot intervals;
- Prepare interactive 3D visualizations of specific subsurface geologic units; and,
- Prepare isopach maps of geologic units of interest.



EKI also maintained a database of all groundwater, sediment, soil, and soil vapor samples and field data (e.g., water levels, dye testing results, etc.) collected over an approximately 50-year period. EKI staff used this data to:

- Prepare cross-sections that included a variety of data (e.g., water levels, analytical data, dye testing results, visual observations, etc.);
- Identify diagnostic chemical signatures for different chemical releases using principal component analysis;
- Develop mixing models to identify the approximate contributions of different source releases to a co-mingled plume;
- Estimate the total mass of chlorinated VOCs and groundwater captured and treated by a groundwater extraction and treatment system that included more than 50 groundwater extraction wells over approximately 25 years of operation;
- Conduct non-parametric concentration trend tests for several analytes in over 350 monitoring wells;
- Calculate NAPL partitioning thresholds for over 1,500 soil samples; and,
- Model chemical concentrations in soil as a function of time based on the dissolution of residual NAPL within specific geologic formations.

