



# Hydrogeologic Services

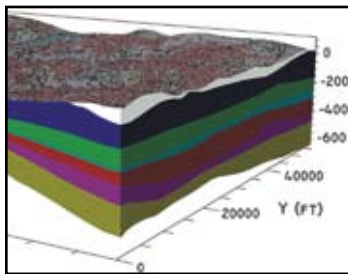
## Setting the stage for effective site remediation, expansion, or re-use

### Cost-Effective Groundwater and Subsurface Solutions

Cornerstone's Hydrogeology group specializes in providing groundwater and other subsurface-related services that result in cost-effective solutions. Our experience includes both operating and inactive landfills, industrial facilities, abandoned hazardous waste sites, and commercial facilities. We have the capabilities to address every phase of the project, from initial site characterization through post-remediation compliance monitoring.

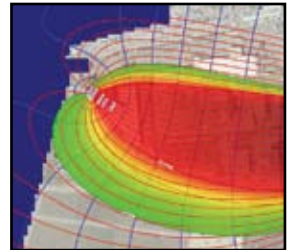
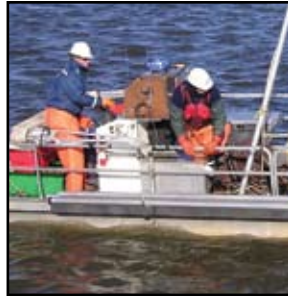


Cornerstone provides a full spectrum of services tailored to accommodate the size and complexity of any site. Our services have addressed a wide range of contaminants, including volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), manufactured gas plant (MGP) wastes and metals, as well as both dense and light non-aqueous phase liquids (DNAPLs and LNAPL).



### What Sets Cornerstone Apart?

- **Integrating hydrogeology and engineering** – We understand that site characterization and its relationship to engineering design is key to success.
- **Creative, customized approaches** – Our experts are skilled at developing focused investigations that target key data necessary to achieve project objectives and/or site use goals.
- **Groundwater flow and transport modeling expertise** – We are skilled in the art and science of using numerical modeling to simulate the dynamic processes of groundwater flow and contaminant transport.
- **Data management and visualization expertise** – Cornerstone uses innovative visualization techniques to display model results and data to support project objectives.
- **Nationwide presence** – Offering both regional perspective and knowledge of the local geology gained by working with local drilling contractors.



For More Information, contact William Soukup, P.G., at (845) 695-0253

*Building lifetime relationships with our clients and employees.*





## Hydrology Services Provided

- **Site investigations** – Cornerstone conducts thorough yet focused site investigations to attain economically sensible cleanup strategies to improve efficiency and reduce costs. Examples of techniques used to improve efficiency and reduce costs include Simulprobe samplers for simultaneous collection of soil and groundwater samples with real time groundwater analyses; water FLUTe systems in bedrock well installations to provide cost-effective multi-depth sampling ports in a single open borehole; and development of a real-time data management system in combination with GIS to quickly compare soil data to cleanup criteria.
- **Groundwater modeling** – Our nationally-recognized hydrogeologists and engineers each have more than 30 years of groundwater modeling experience, ranging from simple, analytical-based programs to fully three-dimensional numerical codes supported by graphics-based pre- and post-processors.
- **Water supply services** – Cornerstone’s water supply capabilities cover the entire process, from the initial hydrogeologic investigation to the design and testing of production wells, to the permitting of both supply wells and treatment systems.
- **Data management/GIS** – Closely aligned with Cornerstone’s data collection capabilities is the ability to compile, store and display these data in an efficient way. Using databases like Microsoft Access and GIS applications such as Arcview, data are easily managed in a variety of innovative ways to support project objectives.
- **Data visualization** – Cornerstone’s visualization capabilities include animations with and without voice-overs, web-based interfaces, 3-dimensional displays, and GIS. Data can be depicted as contours, with or without color-shading, or iso-surfaces. Model results can be displayed in plan view, cross-section, or in three dimensions.
- **Support services** – In addition to the technical services described above, Cornerstone has extensive experience in agency negotiations, public participation, and litigation support.

## Recent Cornerstone Experience

Cornerstone prides itself on establishing close and productive relationships with its clients. A few recent examples of our hydrogeologic assignments include:



**Confidential Client (NJ)** – Conducted investigations to define the extent of a groundwater plume of hexavalent chromium, including drilling, bedrock well installation, aquifer testing, sediment sampling and tidal studies. Also conducted groundwater modeling as part of groundwater containment remedy design.

**Wickham Water District (NY)** – Identified and delineated a prolific shallow water-bearing aquifer within this primarily residential water district in southern NY. Installed, tested, and permitted a 250 gallon per minute potable water supply well to supplement the existing old and failing bedrock wells.

**Des Moines TCE Superfund Site (IA)** – Conducted aquifer testing to define the complex relationship between groundwater and surface water along the banks of the Raccoon River and succeeded in reducing the EPA planned remedy to a manageable groundwater containment system.



**Nascolite Site PRP Group (NJ)** – Conducted groundwater investigations and groundwater modeling for the design of a groundwater containment remedy that includes groundwater pumping, on-site treatment and re-injection into the aquifer.



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