



Groundwater monitoring is a core component of environmental site assessment work and a requirement for many permitted environmental facilities. SynTerra performs groundwater monitoring in a wide range of settings, including brownfield redevelopment projects, industrial and commercial landfills, wastewater treatment facilities, groundwater remediation sites, coal combustion residual sites, and industrial facilities. Since 1993, SynTerra has collected samples from almost 2,000 groundwater monitoring wells and delivered approximately 1,000 related compliance reports.

SynTerra professionals bring extensive knowledge and experience interpreting regulations and implementing field techniques to achieve compliance and reporting goals. We apply industry best practices to collect meaningful data in a cost-effective manner, and we implement appropriate solutions based on evaluation of that data. SynTerra's experience collecting and interpreting groundwater data includes mountainous, hard rock regions in the Blue Ridge and Piedmont geologic provinces, the limestone terrane of North Alabama, coastal plain sites from Mississippi to Virginia, and areas of the Floridian Aquifer.



# Sampling, data, and evaluation that get beneath the surface

This work is more than collecting samples and reporting numbers. It is about reliable, representative data that accurately reflect site conditions. SynTerra technicians and field scientists use sampling equipment and techniques specifically suited for each site. Field data and observations are recorded to document anomalous conditions. Analytical data are evaluated for precision, accuracy, and completeness prior to use in statistical analyses and reports. Reviewed data are incorporated into data management software for storage, retrieval, and analysis.

Statistical analyses are performed on data from most sites. SynTerra statisticians carefully select methods for using the appropriate data to establish background conditions and determine compliance. Clients are apprised of monitoring results at every step in the process. Confirmation sampling is performed prior to declaring a statistically significant increase. Groundwater flow direction and rate are carefully evaluated for conformance with site conditions such as topography, mounding sources, and seeps or springs.

SynTerra also offers a full complement of groundwater flow and transport modeling and geochemical modeling services that supplement data collected in the field. Those models often distinguish groundwater quality variations resulting from changing site conditions or potentially from release in a source area.

## SYNTERRA GROUNDWATER CAPABILITIES

### General Experience

- Sample collection and related field documentation
- Data quality validation
- Database management
- Statistical analysis
- Landfill compliance
- Brownfield and industrial site assessments
- Coal combustion residual (CCR) compliance
- Groundwater flow and transport modeling
- Groundwater geochemical modeling
- Remediation system effectiveness evaluation

