

# Groundwater Investigation and Pump & Treat Remediation

Electrical Component Manufacturing Facility, Oconee County, SC

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## Site Description

TCE was identified in the groundwater and surface water along the down-gradient property boundary of this active manufacturing facility. The impacted aquifer zones consist primarily of tightly fractured bedrock in the source area and alluvium and saprolite zones in the lower portion of the Site. A thorough characterization of the contaminant distribution and hydrogeology was critical for a timely design and implementation of a suitable remedy.



## Rogers & Callcott Services and Results

**Site Investigation** - A Site investigation was conducted in multiple phases. Some of the methods used were Geoprobe® soil sampling, packer testing, well installation, slug tests, step-drawdown tests, 72-hour pumping tests, surface water and sediment sampling, stream flow measurements, fracture trace analysis, groundwater and bedrock surface mapping, evaluation of vertical and horizontal groundwater and contaminant movement, determining aquifer characteristics and pumping well capture zone, evaluating aquifer geochemistry and interplay among precipitation, surface water and groundwater flow and quality and groundwater flow modeling. The result was a properly placed and cost effective remedy designed to take advantage of the site-specific geologic features and flow regimes.

**Remedy Design and Implementation** - After evaluating several alternatives, Rogers and Callcott designed a hydraulic barrier system that has been successful in mitigating contaminant migration into the surface water. The system consists of groundwater recovery and treatment by air-stripping. In addition to design engineering, our role included:

- Obtaining permits for all aspects of the project
- Bidding for construction
- Contract document preparation
- Contract management
- Construction observation
- Engineering certification
- System performance evaluation
- Groundwater, surface water and sediment sampling and analysis
- Oversight of system operation
- Data evaluation and reporting

The resulting system is being effective in achieving its remedial goals through the use of state of the art data recording and communication technologies to function in sync with changing aquifer conditions as they are significantly affected by precipitation and surface water flow.