



Web-based Data Visualization and Access

Client: Bauer Foundation Corporation

Services Provided:

- ✓ Construction Data Management
- ✓ Instrumentation Data Visualization
- ✓ Verticality and Continuity Data Analysis
- ✓ Quality Control Support



Project Objective

The Center Hill Dam is located on Center Hill Lake near Smithville, TN. Due to ongoing seepage problems in the foundation, Center Hill Dam has become a U.S. Army Corps of Engineers (USACE) priority. USACE and its primary contractor, Bauer Foundation Corporation of Florida (Bauer) initiated design and construction of a deep hydraulic barrier wall along the dam.

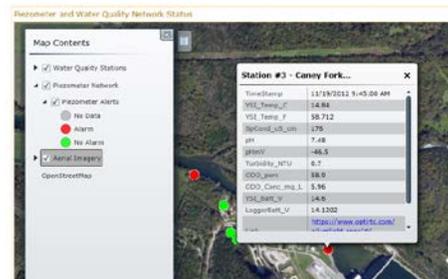
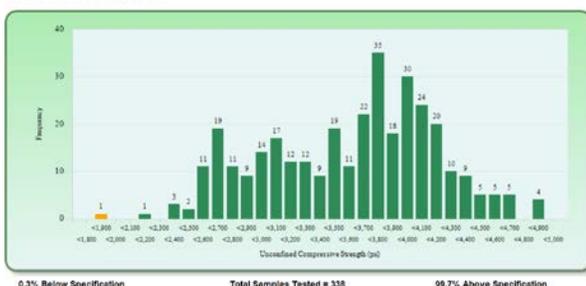
Geosyntec's Scope of Services

In addition to Foundation Engineering, Submittal support and other geotechnical services, Bauer retained Geosyntec to meet USACE's detailed data management specification. Geosyntec customized the WallTracker Information Management System, previously deployed in Bauer's work at the Herbert Hoover Dike repair, to address these needs and more. WallTracker uses enterprise database, Geographical Information Systems (GIS), File Transfer Protocol (FTP) and other technologies to compile all data associated with construction into a single web-based system. These data include investigation borehole logs (including a connection to a gINT database), raw data generated from excavation rigs and post-excavation verticality measurements (made with Koden and other technologies), automated and manual instrumentation records, slurry records and analyses, and more. Data are accessible via live web-based reports, interactive GIS tools, and direct database connections to raw and processed data tables.

Notable Accomplishments

Geosyntec's WallTracker implementation allows the owner (USACE) and all permitted members of the contractor and subcontractor teams to access data in a single common operating platform. This way, all data can be visualized quickly and clearly, and used to meet challenges associated with disparate data. For example, users can view the verticality and continuity of barrier wall panels calculated from different verticality measurement devices. QA personnel can immediately view real-time piezometer data and query construction activities that might be responsible for an instrumentation spike or anomaly. Contractor team leads can predict the depth to rock of each cutter wheel by entering a stationing value into a report that queries historical boring log data and recent grouting records.

Distribution of Unconfined Compressive Strength (28 day) in Concrete Samples



Real-time access to alarm status data