GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Project Brief

Salt Waste Processing Facility

Client:

Department of Energy (DOE)

Location:

Aiken, SC

Services Provided:

- On-time completion of this intense, time-sensitive $250,000^{+}$ testing program
- Prior experience providing geotechnical testing services for nuclear safety-related projects
- Added fully automated sophisticated test equipment in days to meet time requirements of the project

Value Provided:

- Rapid geotechnical laboratory testing

Background & Project Challenges

This project included both preliminary and final design, construction and start-up of the Salt Waste Processing Facility (SWPF) at the Department of Energy's (DOE) Savannah River Site (SRS). This facility will handle roughly 37 million gallons of high-level radioactive liquid waste to separate actinides and remove radioactive cesium. The decontaminated salt solution will then be treated as low-level waste. The actinides and concentrated cesium waste will be further processed and disposed of in a high-level waste facility. The SWPF is part of the DOE's plans for an accelerated risk reduction and a cost-effective cleanup of the high level waste tanks at the Savannah River Site.

The major challenge for the testing laboratory was to emerge from the auditing and approval process swiftly in order to begin testing the enormous amount of samples as quickly as possible to keep pace with volume of samples being obtained from the field investigation.

GeoTesting Role & Accomplishments

GeoTesting Express, Inc. (GTX) played a key role on the team that performed the comprehensive geotechnical investigation in support of the final design of the SWPF. GTX performed laboratory testing on all of the undisturbed Shelby tube samples for the project.

The borderline classifications of some of these soils made the x-ray process a vital component in determining the condition of the samples prior to opening the tubes, and in allowing the best quality sample to be tested. In a roughly thirteen week period, GTX performed the following analyses:

- 340+ x-rays of Shelby tubes
- 340+ index tests (grain size analysis, Atterberg limits, moisture content, specific gravity, density, classification)
- 50+ UU triaxials
- 60+ constant-rate-of-strain consolidations
- 55+ CU triaxials
- 30+ permeabilities
- 20+ direct shear
- 20+ unconfined compressions

For More Information Contact:

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