Subsurface Investigations & Soil Mechanics Laboratory Testing

Regional Center of Expertise: The North Atlantic Division’s Regional Center of Expertise for Subsurface Investigations & Soil Mechanics Laboratory Testing team is located in the Baltimore District. Services include subsurface geotechnical, hydrogeologic, and geo-environmental investigations, soil mechanics laboratory testing, construction quality assurance field testing, and borehole instrumentation.

The team is broken up into two units: The Field Exploration Unit (FEU) and the Materials & Instrumentation Unit (MIU). The FEU has drilling resources not widely available in the private sector as well as contracts with local drilling firms that aid with rapid response.

Drill teams have broad experience with drilling and sampling in a wide array of geologic conditions throughout the eastern part of the United States. Drill crews are experienced with wireline coring in vertical and angled boreholes; pressure testing during rock coring; air and mud rotary drilling; casing advancers through soil and rock; hollow stem augering; drive casing and washing methods for geotechnical, hydrogeologic, and geo-environmental investigations. Projects include dam and levee safety; design of military facilities; investigations in support of civil works design; development of groundwater resources, including construction and testing of water supply wells; and environmental investigations, including construction of single screen and multilevel monitoring wells.

Baltimore District’s Geotechnical Branch FEU and MIU have been in existence for many decades and have been critical throughout USACE mission areas. The FEU is a full service operation which provides clearing utilities, obtaining permits where necessary, surveying of borings for vertical and horizontal locations, and site restoration.

Field work for the MIU Laboratory also includes installation, maintenance, levee pipe inspections using robotic camera, and reading of instrumentation such as piezometers, water level observation wells, and slope inclinometers and extensometers.

Who We Are

Geotechnical Branch: 410-962-2002
Geology and Investigation Section: 410-962-4450
Field Exploration Unit: 410-962-4044


Contact
Our Goal: To be the Armed Forces’ and the Nation’s provider of choice for geological, hydrogeological, and environmental expertise.

Our Objectives
- Sustain capabilities as a USACE national asset
- Develop emerging technologies
- Share resources to assure successful mission execution
- Promote on-the-job training opportunities to develop new staff, refresh and invigorate experienced employees, and hone specialized knowledge, skills, and operational expertise and procedures
- Promote professional interactions with the drilling and subsurface exploration industry to assure a strong governmental presence and perspective
- Assure in-house subsurface exploration expertise is available to the nation in times of crisis
- Sustain a high level of readiness to quickly react to dam safety, natural disasters, and other emergencies
- Promote standardization of practices between DOD and industry

What We Do

Expertise includes:
- Geotechnical subsurface investigations with soil, undisturbed, and rock sampling
- In-situ testing such as bedrock pressure testing, Marchetti Dilatometer testing, permeability, pump testing, and geophysical well logging
- Design, construction, and maintenance of small to large diameter piezometers, relief wells, water observation wells, single screened monitoring wells, and multi-level or multiport wells, water supply well design & construction
- Geo-environmental subsurface investigations and decontamination on HTRW sites for work in Levels D through B
- Soil mechanics laboratory testing
- Installation, maintenance, and reading of instrumentation, levee pipe inspections using robotic camera, and field QA services.

Customers have included USACE divisions, military installations, sponsors such as the Maryland Port Authority, the City of Scranton, and City of Lock Haven, as well as other federal agencies including USGS, US Fish & Wildlife Service, Environmental Protection Agency, National Park Service, FAA, NAVFAC, and Arlington National Cemetery

Baltimore District Capabilities
- 7 Traditional Drill Rigs
- 1 Failing F-6 Tilt-bed Crawler
- 2 CME 55 Trucks
- 1 CME 750X ATV
- 1 CME 45 Crawler
- 1 CME 45 Skid (with floating platform)
- 1 Acker AD II Truck
- 2 Portable Drills
- 1 Acker Tri-Pod Portable Drill
- 1 Longyear CP-65 Compressed Air Drill
- Geophysical Tools
  - Mt. Sopris with caliper, gamma, resistivity, s-p, borehole deviation
  - Slope-Indicator inclinometer
  - 2 borehole cameras, horizontal/vertical viewing
- 10 Core Drill FTEs