

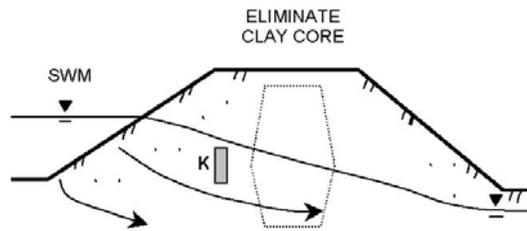
*Balter's team of
experienced professionals
provides technically excellent
and cost- effective solutions
to solve the most unique and
challenging issues that may arise.*



The company's laboratories are accredited by AASHTO, Corp of Engineers, and WACEL for 74 procedures. Each laboratory conforms to the requirements of ASTM D3740 (soils), ASTM C1077 (Concrete), applicable sections of ASTM E-329, and AASHTO R-18, and are inspected by AMRL and CCRL. Under the supervision of professional engineers, laboratory managers direct a staff of technicians with certifications by NICET, ACI, MARTCP, VDOT, FAA-ERLPM, and WACEL.

Advanced geotechnical tests are performed on fully automated research-grade apparatus resulting in exceptionally rapid and error-free detailed test reports. Resources allow high volume and quick turnaround of a comprehensive array of tests including soils, rock, concrete, aggregate, asphalt, fireproofing, and water tests. Such automation permits cost-effective generation of highly sophisticated test results.

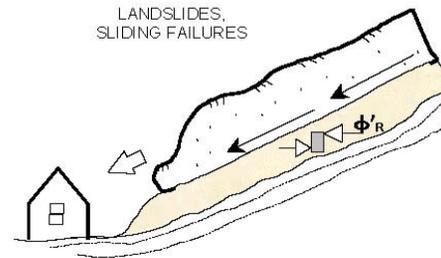
With advanced Permeability testing, Balter eliminated clay cores from 6 storm water ponds at a huge residential project near Laurel, Maryland, for a saving in the order of \$300,000.



Flex Wall Permeability (ASTM D5084)

- ◆ Automated Back Pressure Saturation
- ◆ Isotropic, Anisotropic or K_0 Consolidation
- ◆ Any flow rates can be programmed
- ◆ Permeabilities of 10^{-1} to 10^{-9} cm/sec
- ◆ *Complete in two days typically*

DIRECT/RESIDUAL SHEAR



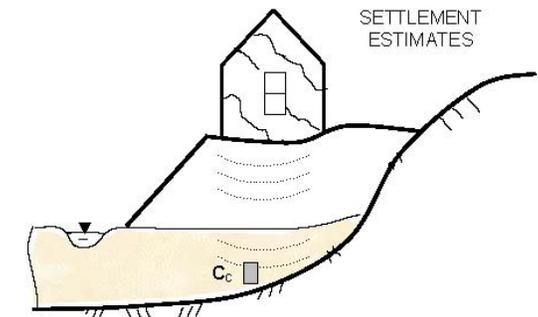
With Residual Shear testing, Balter analyzed a major landslide in Baltimore County, MD, and selected the most cost-effective of 12 preliminary solutions, for savings up to \$900,000.

Direct/Residual Shear

(ASTM D3080, AASHTO T236)

- ◆ Control consolidation to 32 increments
- ◆ Control shear strain rate or force rate
- ◆ Very slow rates for fully drained condition
- ◆ Automated cyclic residual shear stages
- ◆ *Complete in one to two days typically*

With sophisticated Consolidation testing and analyses, Balter replaced Pile foundations with Shallow Footings and special site prep at a new facility in Aberdeen Proving Ground, Maryland, for savings in the order of \$600,000.



1-D Consolidation

(ASTM D2435, AASHTO T216)

- ◆ Up to 32 load/unload increments, to 32 tsf
- ◆ Better estimates of maximum past pressures
- ◆ Multiple load/unload cycles at any stress ranges
- ◆ Varied swell methods can be used
- ◆ *Complete primary curve in two days typically*





***The Robert B. Balter Company is a
multi-disciplinary geotechnical engineering firm.
The company has extensive experience with a wide range of projects
including educational, military, commercial, institutional,
water/wastewater, master planning, industrial, recreational, residential
and transportation.***

The Robert B. Balter Company
18 Music Fair Road
Owings Mills, MD 21117
410 363 1555
www.balterco.com