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CENTER FOR INFRASTRUCTURE ENGINEERING STUDIES

24th Geotechnical Laboratory Testing Short Course

by

Rick Stephenson



**UTC
ETT192**

**A University Transportation Center Program
at Missouri University of Science & Technology**

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Technical Report Documentation Page

1. Report No. UTC ETT192	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle 24th Geotechnical Laboratory Testing Short Course		5. Report Date February 2008	
		6. Performing Organization Code	
7. Author/s Rick Stephenson		8. Performing Organization Report No. 00016042	
9. Performing Organization Name and Address Center for Infrastructure Engineering Studies/UTC program Missouri University of Science & Technology 223 Engineering Research Lab Rolla, MO 65409		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. DTRS98-G-0021	
12. Sponsoring Organization Name and Address U.S. Department of Transportation Research and Special Programs Administration 400 7 th Street, SW Washington, DC 20590-0001		13. Type of Report and Period Covered Final	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract This is a 3-day workshop/short course to teach practicing professionals techniques and procedures for conducting high quality geotechnical laboratory tests. Transportation facility design and construction begins with an investigation of the type, extent and quality of the foundation materials. The determination of the appropriate and accurate parameters is paramount in executing safe and economical design.			
17. Key Words Technology transfer	18. Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161.		
19. Security Classification (of this report) unclassified	20. Security Classification (of this page) unclassified	21. No. Of Pages 2	22. Price

24rd GEOTECHNICAL LABORATORY TESTING SHORT COURSE
July 11-13, 2007

Date: July 11-13, 2007

Format: This 3-day course has been offered for over 20 years and has become an important source of training for engineers, geologists, technicians and laboratory managers who wish to improve their knowledge of geotechnical laboratory procedures and techniques. The course includes laboratory demonstrations in UMR's state-of-the-art geotechnical engineering laboratories. After successful completion of the course, individuals will earn 2.7 CEUs, which is equivalent to 27.0 Professional Development Hours.

Attendees: 30 Professionals

QUALITY GEOTECHNICAL LABORATORY TESTING

MONDAY

- 7:30-8:00 a.m. - Final Registration
- 8:00-8:20 a.m. - Objectives – (Stephenson)
- 8:20-9:10 a.m. - Consolidation Testing: Overview Applications and Uses (Petry)
- 9:20-12:00 p.m. - The Consolidation Test. Equipment, Procedures, Errors, Reduction of Data, including Back Pressure and Controlled Gradient Tests(Petry)
- 1:00-1:50 p.m. – Consolidation continued(Petry)
- 2:00-3:50 p.m. - Permeability (Hydraulic Conductivity) Testing of Clays and Silts(Stephenson)
- 4:00-7:00 p.m. - On a rotating basis, work groups
 1. Consolidation Testing Instructional Laboratory (Luna)
 2. Permeability (Conductivity) Testing Demonstration of Coarse grained and Fine-grained Soil (Stephenson)

TUESDAY

- 8:00-8:50 a.m. – Back pressure and controlled gradient consolidation tests. (Petry)
- 9:00-9:50 a.m. – Graphical Construction and Plotting Results of the Consolidation Test (Petry)
- 10:00-10:50 a.m. -Shear Testing - Types of Apparatus and Tests (Stephenson)
- 11:10-12:00 p.m. - Direct Shear Testing (Stephenson)
- 1:00-2:20 p.m. - The Basic Principles of Triaxial Testing (Luna)
- 2:30-3:50 p.m. - Triaxial Shear Tests - CD, CU, and UU (Luna)
- 4:00-7:00 p.m. -On a rotating basis, work groups
 1. Triaxial Instructional Laboratory (Stephenson)
 2. Demonstration of Direct Shear Testing (Luna)

WEDNESDAY

- 8:00 -9:50 a.m. – Triaxial Tests Continued: Methods of Applying Confining Pressure, Measurement of Axial Applied Forces and Bushing Friction
- 10:00-12:00 p.m.-Effects of Membranes and Drains, Leakage through Membranes, Valves and Fittings, End Restraint, Loading Rates for Drained Tests (S Tests) (Luna)
- 1:00-4:00 p.m. - Triaxial Shear Tests - Measurement of Pore Water Pressure, Loading Rates When Pore Pressures are to be Measured (Stephenson)

