SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Laboratory Testing Capabilities

A Unique Approach

Our approach to laboratory testing is unique in today's consulting environment- *We do not just perform testing, we get involved with our clients to ensure that testing requirements are met.* All testing is performed on equipment calibrated and standardized at regularly scheduled intervals. The presentation of test data is computer generated to ensure both clarity and quality. The U.S. Army Corps of Engineers (USACE), California Department of Transportation (CALTRANS), the American Society for Testing and Materials (ASTM) and American Association of State and Highway Transportation Officials (AASHTO-AMRL / CCRL) certify our procedures and laboratory personnel in soil and aggregate testing.

Our goal is to provide, technically accurate, computer drafted, test results in a timely manner; without compromising established procedures and recommended standards. Providing quality laboratory testing involves listening carefully and being responsive. We believe that you should get cost-effective and technically advanced testing excellence. It's that simple.

Laboratory Testing Experience You Can Count On

Testing services are performed in our state-of-the art materials testing laboratory. We provide expert laboratory testing on all types of soil with projects throughout the United States and Pacific Rim. A partial list of soils testing services offered by our laboratory is listed below:

- Consolidation
- Direct Shear
- Hydraulic Conductivity (Triaxial & Constant Head)
- Moisture Density Relation
- Organic Content
- Particle Size Analysis
- Plasticity Index
- Residual Shear
- Resistance 'R' Value
- Soundness/Durability
- Swell
- Triaxial Compression
- Unconfined Compression
- Vane Shear

Construction Materials Conformance/Quality Control Testing: We test material for landfill liners/covers, waste water treatment and heap leach mining pond liners, and other facilities requiring low permeability materials. We provide specific tests on projects that require materials conformance and quality control. These often include grain size distribution, plasticity index (Atterberg Limits), moisture-density relations, and hydraulic conductivity (permeability). Our laboratory features 76 stations dedicated to hydraulic conductivity testing of sample sizes from 1.4 to 12.0 inches in diameter. We also conduct studies to determine admix and slurry proportioning of soil/bentonite or other mixtures to determine how to produce a low permeability product capable of meeting regulatory mandates.

Strength Parameters/Settlement Analysis: We conduct unconfined compression, direct shear, and sophisticated triaxial testing to help determine strength characteristics of soil and rock. Our laboratory features 24 stations with five load frames for triaxial testing including 6.0 & 12.0 inch sample diameter capacity. We test embankment and dam materials for slope stability and undisturbed materials for foundation design. We also perform residual shear testing for landslide analysis utilizing a total of 9 direct shear machines. Consolidation tests are performed on any of our 19 units to help predict settlement under loading stress.

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Aggregate Materials Analysis: Testing is provided on aggregate materials to determine their conformance with federal, state, and local agency quality control requirements. Our laboratory offers a unique opportunity for both the materials supplier and aggregate consultant. We operate a laboratory crushing facility that is able to model full scale crushing operations from the primary and secondary washing through the jaw and cone crushing stages. These facilities give the owner or consultant an ability to test both insitu supplied product verse crushed product before any full scale crushing facilities are mobilized or mining property is even purchased. This facility is able to handle cored material as well as alluvial bulk samples. Screening equipment and large scale drying ovens enable the segregation of a specific size split or the manufacture of a specific product type from either provided core sample or bulk alluvial samples. We have performed quality, feasibility, and mining potential studies for a variety of rock product suppliers and Federal Government agencies throughout the Western States.

Treatability Study: Sierra Testing Laboratories, Inc. is a leader in the testing and modeling of contaminate remediation through bench scale treatabilty studies. Our extensive background in the creation and testing of soil stabilization material per ASTM and API test standards makes the institution of treatability analysis possible. Creating a turn key engineered mix design that remediate's the site as well as meeting pump ability requirements is essential in a treatability study. We specialize in the laboratory modeling the stabilization agent through the processes of grout plant creation, grout injection or mixing. Through these processes we have the ability to retrieve soil and air samples in order to monitor the treatment application and its effectiveness.

Partial List of Clients: Aerojet, Agra Earth & Environmental, GENTERRA Consultants, Inc., Baldwin Contracting Co., BSK, CDM, Engineers and Constructors, Inc., CH2M Hill, Condon Johnson & Associates, Inc., Consolidated Engineering Labs, ENSR International, ENVIROCON, Fisher Industries, Inc., Fugro Corp., Geo-Con, Geo-Solutions, Inc. Golder Associates, Inc., Granite Construction Co., Harza, Inc., Hayward Baker, HDR, Inc., Hecla Mining, Inquip, Inc., Kiewit Pacific Co., Kleinfelder Inc., Levine Fricke, Lowney Associates, Inc., MATEC Engineering, Ninyo and Moore, Inc., Nordic Industries, Inc., Pacchiosi Drill, Inc., RAITO, Inc., RECON, Inc., Shaw Environmental, and Infrastructure, Soletanche, Inc., SRK, Severn Trent Laboratories, Inc., Taber Consultants, Teichert Aggregates, Inc., Terramatrix, Tetra Tech, TRC Environmental Solutions, Inc., Treadwell and Rollo, TREVI Corp., Triangle Rock Products, Inc., U.S. Army Corps of Engineers – Pacific Division, URS Corp., Wallace Kuhl & Associates, Western Technologies, Inc. and Wood Rodgers.

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