

Laboratory Certification For  
Geo Search Laboratory

Lab ID: LCP-014

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Expiry date: Feb 17, 2017

This letter confirms the completion of inspection and certification for the Geo Search, which is located at House # 511, Street # 8, Kart-e-3, Kabul, Afghanistan. This laboratory should now be considered as certified for use by the US Army Corps of Engineers Transatlantic Afghanistan District (USACE TAA) and other clients, for all tests listed in Table 1 to Table 6, as attached to this letter. This certification will be included with records that are maintained at the ABA and USACE TAA Headquarters in Bagram Airbase, Afghanistan. Retaining the certification will require yearly inspections by the ABA. This certification is also contingent upon the following conditions:

- A. Continued employment of the following individuals while without their oversight, the laboratory will require recertification:
  1. Mohammad Reza Ahmadi the laboratory manager;
  2. Hussain Ali Ahmadi Geotechnical Engineer ; and
  3. Other technicians who were inspected and certified during the inspection, a list of certified technicians can be provided upon request;
- B. If the calibration certificates of equipments expire or become invalid as per the relevant ASTM or AASHTO standard;
- C. If the laboratory is moved to a new location, it will require recertification; and
- D. If the laboratory fails to comply by the approved lab quality management plan, safety standards, and other criteria set forth in the most up-to-date ABA lab certification manual, the lab certification may be suspended.

For verification and good standing of this certification please check our online directory of laboratories at <http://aba.af/lcp.html>. The inspection and certification process for the SSCL adhered to procedures outlined by the Materials Testing Center (MTC), which is located at the Geotechnical and Structures Laboratory (GSL), U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Mississippi, USA. The MTC is the USACE-authorized agency for certifying laboratories for use in quality control testing for USACE construction projects. To facilitate construction in Afghanistan, the USACE TAA has authorized the ABA to conduct laboratory certifications with strict adherence to MTC protocol. Qualifications of the authors for conducting these certifications include: 12 years of laboratory experience, 12 years of teaching classes on construction materials, and six years of teaching university-level construction classes.

Regards,

Naeem Yassin

President of Afghanistan Builders Association  
(ABA)



### Geo Search Certified Laboratory Tests

Table 1. List of Certified Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D 421	Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
2	ASTM D 422	Standard Test Method for Particle-Size Analysis of Soils
3	ASTM D 698	Standard Test Method for Compaction Characteristics by Standard Effort
4	ASTM D 854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
5	ASTM D 1140	Standard Test Method for Amount of Material in Soils Finer than 75 mm (No. 200) Sieve
6	ASTM D 1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand- Cone Method
7	ASTM D 1557	Laboratory Compaction Characteristics of Soil Using Standard Effort
8	ASTM D 1587	Thin-Walled Tube Sampling of Soils for Geotechnical Purpose
9	ASTM D 1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soil
10	ASTM D 2166	Unconfined Compressive Strength of Cohesive Soil
11	ASTM D 2216	Standard Test Method for Laboratory Determination of Water Content of Soil and Rock By Mass
12	ASTM D 2487	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
13	ASTM D 2488	Description and Identification of Soils (Visual-Manual Procedure)
14	ASTM D 3282	Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Process
15	ASTM D 4220	Practice for Preserving and Transporting Soil Samples
16	ASTM D 4318	Standard Test Method for Liquid & Plastic Limits & Plasticity Index of Soils
17	ASTM D 4718	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
18	ASTM D 4959	Determination of Water (Moisture) Content of Soil by Direct Heating
19	ASTM D 6951	Use of the Dynamic Cone Penetration in Shallow Pavement Applications
20	ASTM D 7263	Laboratory Determination of Density (Unit Weight) of Soil Specimens

**Table 2. List of Certified Aggregate (Fine and Course) Tests**

No	Test Method	Test Procedure Title
1	ASTM C 29	Standard Test Method for Bulk Density (Unit Weight) and Voids in Aggregate
2	ASTM C 70	Standard Test Method for Surface Moisture in Fine Aggregate
3	ASTM C 88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
4	ASTM C 117	Standard Test Method for Material Finer than 75 $\mu\text{m}$ (No. 200) Sieve
5	ASTM C 127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption in Coarse Aggregate
6	ASTM C 128	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption in Fine Aggregate
7	ASTM C 131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and impact in the Los Angeles Machine
8	ASTM C 136	Standard Test Method for Sieve Analysis of Aggregates
9	ASTM C 535-12	Standard Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and impact in the Los Angeles Machine
10	ASTM C 1252	Uncompacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface, Texture, and Grading)
11	ASTM D 75	Standard Practice for Sampling Aggregate
12	ASTM D 2419-09	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
13	ASTM D 4944	Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Test
14	ASTM D 5821	Standard Test Method for Determining Percentage of Fractured Particles in Coarse Aggregate
15	BS 812 Section 105.1	Determination of Particle Shape , Flakiness Index
16	BS 812 Section 105.2	Determination of Particle Shape, Elongation Index for Coarse Aggregate
17	BS 812 Sec 110	Determination of Aggregate Crushing Value
18	BS 812 Sec 112	Determination of Aggregate Impact Value

**Table 3. List of Certified Cement, Grout, Mortar, & Concrete Tests**

No	Test Method	Test Procedure Title
1	ASTM C 31	Standard Practice for Making and Curing Test Specimens in the Field
2	ASTM C 31M	On site Sampling, Making, Curing, Capping, and Compressive Strength of each Specimen
3	ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Specimens
4	ASTM C 109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
5	ASTM C 143	Standard Test Method for Slump of Hydraulic-Cement Concrete

No	Test Method	Test Procedure Title
6	ASTM C 172	Standard Practice for Sampling Freshly Mixed Concrete
7	ASTM C 174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
8	ASTM C 185	Standard Test Method for Air Content of Hydraulic Cement Mortar
9	ASTM C 187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement paste
10	ASTM C 188	Density of Hydraulic Cement
11	ASTM C 191	Time Setting of hydraulic Cement by Vicat Needle
12	ASCTM C 192	Standard Practice for Making and Curing Concrete Test Specimens
13	ASTM C 204	Fineness of Hydraulic Cement by Air-Permeability Apparatus
14	ASTM C 231	Standard Test Method for Air Content of Freshly Mixed Concrete by Pressure Method
15	ASTM C 232	Bleeding of Concrete
16	ASTM C 451	Early Stiffening of Hydraulic Cement (Paste Method)
17	ASTM C 470	Standard Specification for Molds for Forming Concrete Test Cylinders Vertically
18	ASTM C 617	Standard Practice for Capping Cylindrical Concrete Specimens
19	ASTM C 642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
20	ASTM C 805	Standard Test Method for Rebound Number of Hardened Concrete
21	ASTM C 1019	Standard Test Method for Sampling and Testing Grout
22	ASTM C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
23	ASTM C 1437	Flow of Hydraulic Cement Mortar
24	ACI 211, ACI 318	Concrete Mix Design
25	ASTM C 270	Mortar Mix Design
26	ASTM C 90	Mix Design of CMU
27	ASTM C 476	Mix Design of Grout
28	ASTM C 926	Mix Design of Plaster

**Table 4. List of Certified Bricks, Stone, & CMU's Tests**

No	Test Method	Test Procedure Title
1	ASTM C 97	Absorption and Bulk Specific Gravity of Dimension Stone
2	ASTM C 140	Sampling and Testing Concrete Masonry and Related Units
3	ASTM C 1552	Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing

**Table 5. List of Certified Advanced Soil Tests**

No	Test Method	Test Procedure Title
1	ASTM D 1194	Bearing Capacity of Soil for Static Load and Spread Footings
2	ASTM D 1586	Penetration Test and Split-Barrel Sampling of Soils
3	ASTM D 2434	Permeability of Granular Soils (Constant Head)
4	ASTM D 2435	One-Dimensional Consolidation Properties of Soils Using Incremental Loading
5	ASTM D 2573	Field Vane Shear Test in Cohesive Soil
6	ASTM D 3080	Direct Shear Test of Soils Under Consolidated Drained Conditions
7	ASTM D 4221	Dispersive Characteristics of Clay Soil by Double Hydrometer
8	ASTM D 4546	One-Dimensional Swell or Settlement Potential of Cohesive Soil
9	ASTM D 4647	Identification and Classification of Dispersive Clay Soil by the Pinhole Test
10	ASTM D 4648	Laboratory Miniature Vane Shear Test for Saturated Fin-Grained Clayey Soil
11	ASTM D 4829	Expansion Index of Soils
12	ASTM D 5084	Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
13	ASTM D 5333	Measurement of Collapse Potential of Soils
14	ASTM D 6572	Determining Dispersive Characteristics of Clayey Soils by the Crumb Test
15	ASTM G 57	Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method

**Table 6. List of Certified Rocks Tests**

No	Test Method	Test Procedure Title
1	ASTM D 2113	Rock Core Drilling and Sampling of Rock for Site Investigation
2	ASTM D 2216	Test Method for Laboratory Determination of Water (Moisture) Content of Rock
3	ASTM D 2938	Unconfined Compressive Strength of Intact Rock Core Specimens
4	ASTM D 5079	Practices for Preserving and Transporting Rock Core Samples
5	ASTM D 5312	Evaluation of Durability of Rock for Erosion Control Under Freezing and Thawing Conditions
6	ASTM D 5313	Evaluation of Durability of Rock for Erosion Control under Wetting and Drying Conditions

No	Test Method	Test Procedure Title
7	ASTM D 5731	Determination of the Point Load Strength Index of Rock
8	ASTM D 5873	Test Method for Determination of Rock Hardness by Rebound Hammer Method
9	ASTM D 6032	Determining Rock Quality Designation (RQD) or Rock Core