

USACE-Certified Laboratory Certification For
Geo Search Construction & Engineering Company

Lab ID: LCP-014

Issue date: June 23rd, 2021

Expiry date: June 22nd, 2022

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 **USACE-Certified for a period of 12-months** from the date of this letter. This laboratory should now be considered as certified for use by the US Army Corps of Engineers Transatlantic Expeditionary District (USACE-TAE) and other clients, for all tests listed in Table 1 to Table 5, as attached to this letter. This certification will be included with records that are maintained at the ABA and USACE-TAE Headquarters. Retaining the certification will require yearly inspections by the ABA. This certification is also contingent upon the following conditions:

- A. Continued employment of the below individual while without his oversight, the laboratory will require recertification:
 - a. Mr. Hussain Ali Ahmadi the laboratory manager;
- B. If the calibration certificates of equipments expire or become invalid as per the relevant 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_directory.php. The inspection and certification process for Geo Search 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 has authorized the ABA to conduct laboratory certification evaluations 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.

Certified to perform 69 tests, as shown on attached sheets and summarized as:

Table 1: 23
Table 2: 12
Table 3: 12
Table 4: 5
Table 5: 17

Regards,



A handwritten signature in green ink, appearing to read "Ferdaws Khaliqi".

Ferdaws Khaliqi, PMP

ABA Laboratory Certification Program Manager
(ABA-LCP)

Geo Search Certified Laboratory Tests

Table 1. List of Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D422	Standard Test Method for Particle-Size Analysis of Soils
2	ASTM D698	Standard Test Method for Compaction Characteristics by Standard Effort
3	ASTM D854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
4	ASTM D1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand- Cone Method
5	ASTM D1557	Laboratory Compaction Characteristics of Soil Using Standard Effort
6	ASTM D1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils
7	ASTM D2166	Unconfined Compressive Strength of Cohesive Soil
8	ASTM D2216	Standard Test Method for Laboratory Determination of Water Content of Soil and Rock By Mass
9	ASTM D4318	Standard Test Method for Liquid & Plastic Limits & Plasticity Index of Soils
10	ASTM D4429	Standard Test Method for CBR (California Bearing Ratio) of Soils in Place
11	ASTM D6951	Standard Test Method for Use of the Dynamic Cone Penetration in Shallow Pavement Applications
12	ASTM D4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
13	ASTM G57	Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method
14	ASTM D1194	Standard Test Method for Bearing Capacity of Soil for Static Load and Spread Footings
15	ASTM D2434	Standard Test Method for Permeability of Granular Soils (Constant Head)
16	ASTM D2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
17	ASTM D3080	Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions
18	ASTM D5333	Standard Test Method for Measurement of Collapse Potential of Soils
19	ASTM D2850	Standard Test Method for Unconsolidated -Undrained Triaxial Compression Test on Cohesive Soils
20	ASTM D4767	Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils
21	ASTM D7181	Standard Test Methods for Consolidated Drained Triaxial Compression Test for Soils
22	ASTM D4221	Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer
23	ASTM D1143	Standard Test Methods for Deep Foundations Under Static Axial Compressive Load



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

No	Test Method	Test Procedure Title
1	ASTM C29	Standard Test Method for Bulk Density (Unit Weight) and Voids in Aggregate
2	ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
3	ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption in Coarse Aggregate
4	ASTM C128	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption in Fine Aggregate
5	ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and impact in the Los Angeles Machine
6	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
7	ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
8	ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
9	ASTM C40	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
10	ASTM C227	Standard Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations
11	ASTM C289	Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates
12	ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

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

No	Test Method	Test Procedure Title
1	ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Specimens
2	ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
3	ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
4	ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
5	ASTM C188	Standard Test Method for Density of Hydraulic Cement
6	ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by Pressure Method
7	ASTM C451	Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
8	ASTM C617	Standard Practice for Capping Cylindrical Concrete Specimens
9	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
10	ASTM C1019	Standard Test Method for Sampling and Testing Grout
11	ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
12	ASTM C1437	Standard Test Method for Flow of Hydraulic Cement Mortar



Table 4. List of Rocks Tests

No	Test Method	Test Procedure Title
1	ASTM D7012	Standard Test Methods for Compression Strength and Elastic Moduli of Intact Rock Core Specimens (Under Constant State of Stress and Temperatures, ASTM D7012-Metho D)
2	ASTM D5731	Standard Test Method for Determination of the Point Load Strength Index of Rock
3	ASTM D7012	Standard Test Method for Triaxial Compressive Strength of Intact Rock Core Specimens Without Pore Pressure Measurements (ASTM D7012-Method B)
4	ASTM D3967	Standard Test Method for Splitting Tensile Strength of Intact Rock Core Specimens
5	ASTM D6032	Standard Test Method for Determining Rock Quality Designation (RQD) of Rock Core

Table 5. List of Certified Asphalt Cement and Asphalt Concrete Tests

No	Test Method	Test Procedure Title
1	ASTM D5/AASHTO T49	Standard Test Method for Penetration of Bituminous Materials Penetration of Bituminous Materials
2	ASTM D36/AASHTO T53	Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)
3	ASTM D70/AASHTO T228	Standard Test Method for Density of Semi-Solid Asphalt Binder (Pycnometer Method)
4	ASTM D92/AASHTO T48	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
5	ASTM D113/AASHTO T51	Standard Test Method for Ductility of Bituminous Materials
6	ASTM D2041/AASHTO T209	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Pavement Mixtures
7	ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
8	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
9	ASTM D6926	Standard Practice for Preparation of Asphalt Mixture Specimens Using Marshall Apparatus
10	ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
11	AASHTO T79	Standard Method Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Less Than 93.3 °C (200 °F)
12	AASHTO T44	Solubility of Bituminous Materials
13	AASHTO T55	Water in Petroleum Products and Bituminous Materials by Distillation
14	AASHTO T179	Effect of Heat and Air on Asphalt Materials (Thin Film Oven Test)
15	AASHTO T240	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin Film Oven Test)
16	AASHTO T201	Kinematic Viscosity of Asphalts (Bitumen)
17	AASHTO T102	Standard Method of Test for Spot Test of Asphaltic Materials

