

**USACE-Certified Laboratory**

**Geo Scientific Material Testing Laboratory (GSMTL)**

Lab ID: LCP-019

Issue date: Nov 18<sup>th</sup>, 2020

Expiry date: Nov 17<sup>th</sup>, 2021

This letter confirms the completion of inspection and certification for the GSMTL, which is located at House No-10, Street No-1, opposite the North Gate of Ghazi High School, Kart-e-Char, 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 is considered 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 below individual while without his oversight, the laboratory will require recertification:
  - a. Mr. Mir Tohmas the laboratory manager;
- B. If the calibration certificates of equipment 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](http://aba.af/lcp_directory.php). The inspection and certification process for GSMTL 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.

Certified to perform 94 tests, as shown on attached sheets and summarized as:

Table 1: 22

Table 2: 19

Table 3: 25

Table 4: 21

Table 5: 4

Table 6: 3

Regards,



Ferdaws Mirza

ABA-Laboratory Certification Program Manager  
(ABA-LCP)

**GSMTL Certified Laboratory Tests**

**Table 1. List of Certified Soil & Advance Soil Tests**

No	Test Method	Test Procedure Title
1	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
2	ASTM D421	Standard Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
3	ASTM D422	Standard Test Method for Particle Size Analysis of Soils
4	ASTM D427	Standard Test Method for Shrinkage Factors of Soils by the Mercury Method
5	ASTM D558	Moisture- Density (Unit Weight) Relation of Soil-Cement Mixtures
6	ASTM D698	Standard Test Method for Compaction Characteristics by Standard Effort
7	ASTM D854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
8	ASTM D1140	Standard Test Method for Amount of Material in Soils Finer than 75 mm (No. 200) Sieve
9	ASTM D1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand-Cone Method
10	ASTM D1557	Standard Test Method for Laboratory Compaction Characteristics by Modified Effort
11	ASTM D1883	Standard Test Method for CBR (California Bearing Ratio) of Laboratory-Compacted Soils
12	ASTM D2216	Standard Test Method for Laboratory Determination of Water(moisture) Content of Soil and Rock By Mass
13	ASTM D2487	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
14	ASTM D2488	Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)
15	ASTM D4318	Standard Test Methods Liquid & Plastic Limits & Plasticity Index
16	ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
17	ASTM D6951	Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
18	ASTM D3282	Standard Practice for Classification of Soil and Soil Aggregate Mixtures for Highway Construction Purposes
19	ASTM D3385	Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer
20	ASTM D2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
21	ASTM D5333	Standard Test Method for Measurement of Collapse Potential of Soils
22	ASTM D3080	Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions



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

No	Test Method	Test Procedure Title
1	ASTM C29	Standard Test Method for Unit Weight and Voids in Aggregate
2	ASTM C40	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
3	ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate
4	ASTM C88	Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate Method
5	ASTM C117	Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing <sup>1</sup>
6	ASTM C127	Standard Test Method for Specific Gravity & Absorption in Coarse Aggregate
7	ASTM C128	Standard Test Method for Specific Gravity & Absorption in Fine Aggregate
8	ASTM C535	Standard Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
9	ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
10	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
11	ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
12	ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
13	ASTM C702	Standard Practice for Reducing Samples to Testing Size
14	ASTM D75	Standard Practice for Sampling Aggregates
15	ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
16	ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
17	ASTM D4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
18	ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
19	ASTM C1252	Standard Test Method for Uncompacted Void Content of Fine Aggregate (as influenced by Particle Shape, Surface Texture, and Grading)



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

No	Test Method	Test Procedure Title
1	ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [50-mm] Cube Specimens)
2	ASTM C184	Standard Test Method for Fineness of Hydraulic Cement by # 100 and # 200 Sieve
3	ASTM C185	Standard Test Method for Air Content of Hydraulic Cement Mortar
4	ASTM C187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
5	ASTM C188	Standard Test Method for Density of Hydraulic Cement
6	ASTM C191	Standard Test Method for Time Setting of Hydraulic Cement by Vicat Needle
7	ASTM C204	Standard Test Methods for Fineness of Hydraulic Cement by Air-Permeability Apparatus
8	ASTM C359	Standard Test Method for Early Stiffening of Hydraulic Cement (Mortar Method)
9	ASTM C430	Standard Test Method for Fineness of Hydraulic Cement by the 45- $\mu$ m (No. 325) Sieve
10	ASTM C451	Standard Test Method for Early Stiffening of Hydraulic Cement( Paste Method)
11	ASTM C31	Standard Practice for Making and Curing Concrete Specimens in the Field
12	ASTM C1019	Standard Test Method for Sampling and Testing Grout
13	ASTM C39	Standard Test Method for Compressive Strength of Cylindrical
14	ASTM C42	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
15	ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
16	ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
17	ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
18	ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
19	ASTM C192	Standard Practice for Making and Curing Test Specimens in Laboratory
20	ASTM C231	Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method
21	ASTM C567	Standard Test Method for Determining Density of Structural Lightweight Concrete
22	ASTM C617	Standard Practice for Capping Cylindrical Specimens
23	ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
24	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
25	ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete



**Table 4. List of Certified Asphalt Cement and Asphalt Concrete Tests**

No	Test Method	Test Procedure Title
1	ASTM D5	Standard Test Method for Penetration of Bituminous Materials
2	ASTM D36	Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)
3	ASTM D70	Standard Test Method for Density of Semi-Solid of Bituminous Materials
4	ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
5	ASTM D113	Standard Test Method for Ductility of bituminous Materials
6	ASTM D140	Standard Practice for Sampling Bituminous Materials
7	ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
8	ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity & Density of Bituminous Paving Mixture
9	ASTM D2042	Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene
10	ASTM D2172	Standard Test Methods for Quantitative Extraction
11	ASTM D2489	Standard Test Method for Estimating Degree of Particle Coating of Asphalt Mixtures
12	ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
13	ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
14	ASTM D3549	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
15	ASTM D5361	Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing
16	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
17	ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
18	ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
19	ASTM D1664	Coating and Stripping of Bituminous Aggregate Mixtures
20	AASHTO T230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
21	AASHTO T275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin's Coated Specimen



**Table 5. List of Certified Bricks & Masonry Units Tests**

No	Test Method	Test Procedure Title
1	ASTM C67	Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
2	ASTM C140	Standard Test Methods for Sampling and Testing Concrete Masonry and Related Units
3	ASTM C170	Standard Test Method for Compressive Strength of Dimension Stone
4	ASTM C1552	Standard Practice for Capping CMU/Related Units/Masonry Prisms for Compression Testing

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

No	Test Method	Test Procedure Title
1	ASTM A370	Standard Test Methods and Definition for Mechanical Testing for Steel Products
2	ASTM E8	Standard Test Methods for Tension Testing of Metallic Materials
3	AASHTO T285	Standard Method of Tests for Bend Test of Bars for Concrete Reinforcement

