

USACE- Certified Laboratory

Shawal Construction & Geotechnical Company

Lab ID: LCP-024

Issue date: Sept 1<sup>st</sup>, 2020

Expiry date: Aug 31<sup>st</sup>, 2021

This letter confirms the completion of inspection and certification for the Shawal Lab, which is located at House # 1646, Street # 3, Najaran Street, Adjacent to Behzad Private School, District # 3, Dehberi, 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 U.S. 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. Ashraf Masoud 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 SHAWAL 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 77 tests, as shown on attached sheets and summarized as:

Table 1: 12  
Table 2: 15  
Table 3: 23  
Table 4: 17  
Table 5: 6  
Table 6: 4

Regards,



  
Ferdaws Mirza

ABA Laboratory Certification Program Manager  
(ABA-LCP)

Shawal CGC Certified Laboratory Tests

Table 1. List of Certified Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D421	Standard Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
2	ASTM D422	Standard Test Method for Particle-Size Analysis of Soils
3	ASTM D854	Standard Test Methods for Specific Gravity of Soil Solids by Water Pycnometer
4	ASTM D1140	Standard Test Methods for Amount of Material in Soils Finer than No. 200 (75 µm) Sieve
5	ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
6	ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
7	ASTM D1883	Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils
8	ASTM D2216	Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
9	ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
10	ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
11	ASTM D6951	Use of the Dynamic Cone Penetrometer 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 Test

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

No	Test Method	Test Procedure Title
1	ASTM C29	Unit Weight and Voids in Aggregate
2	ASTM C88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
3	ASTM C117	Material Finer than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing
4	ASTM C127	Specific Gravity and Absorption of Coarse Aggregate
5	ASTM C128	Specific Gravity and Absorption of Fine Aggregate
6	ASTM C131	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
7	ASTM C136	Sieve Analysis of Fine and Coarse Aggregates



No	Test Method	Test Procedure Title
8	ASTM C142	Clay Lumps and Friable Particles in Aggregates
9	ASTM C535	Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
10	ASTM D75	Standard Practice for Sampling Aggregates
11	ASTM C702	Reducing Samples of Aggregate to Testing Size
12	ASTM D2419	Sand Equivalent of Soils and Fine Aggregate
13	ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
14	ASTM D5821	Determining the Percentage of Fractured Particles in Coarse Aggregate
15	CRD-C171	Standard Test Method for Determining Percentage of Crushed Particles in Aggregate

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

No	Test Method	Test Procedure Title
1	ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
2	ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
3	ASTM C42	Obtaining and Testing Drilled Cores without (Sawed Beams) of Concrete
4	ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
5	ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
6	ASTM C174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
7	ASTM C184	Standard Test Method for Fineness of Hydraulic Cement by the 150-Micrometer (No. 100) and 75-Micrometer (No. 200) Sieves
8	ASTM C187	Normal Consistency of Hydraulic Cement
9	ASTM C188	Density of Hydraulic Cement
10	ASTM C189	Soundness of Portland Cement
11	ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
12	ASTM C191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
13	ASTM C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory



No	Test Method	Test Procedure Title
14	ASTM C204	Standard Test Method for Fineness of Hydraulic Cement by Air Permeability Apparatus
15	ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
16	ASTM C359	Standard Test Method for Early Stiffening of Hydraulic Cement (Mortar Method)
17	ASTM C430	Fineness of Hydraulic Cement by the 45- $\mu$ m (No. 325) Sieve
18	ASTM C451	Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
19	ASTM C617	Standard Practice for Capping Cylindrical Concrete Specimens
20	ASTM C642	Density, Absorption, and Voids in Hardened Concrete
21	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
22	ASTM C1064	Temperature of Freshly Mixed Portland Cement Concrete
23	ASTM C1437	Standard Test Method for Flow of Hydraulic Cement Mortar

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

No	Test Method	Test Procedure Title
1	ASTM D5	Penetration of Bituminous Materials
2	ASTM D36	Softening Point of Bitumen (Ring-and-Ball Apparatus)
3	ASTM D70	Density of Semi-Solid Bituminous Materials (Pycnometer Method)
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 D979	Sampling Bituminous Paving Mixtures
7	ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Asphalt Mixture
8	ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
9	ASTM D2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
10	ASTM D3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
11	ASTM D5361	Sampling Compacted Bituminous Mixtures for Laboratory Testing
12	ASTM D6926	Preparation of Bituminous Specimens Using Marshall Apparatus
13	ASTM D6927	Marshall Stability and Flow of Bituminous Mixtures
14	AASHTO T209	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Asphalt Mixture
15	AASHTO T230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures



No	Test Method	Test Procedure Title
16	CRD-C650	Standard Test Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
17	CRD-C652	Standard Test Method for Measurement of Reduction in Marshall Stability of Bituminous Paving Mixtures caused by Immersion in Water

Table 5. List of Certified Stone, Bricks & Masonry Units Tests

No	Test Method	Test Procedure Title
1	ASTM C62	Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)
2	ASTM C67	Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
3	ASTM C97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
4	ASTM C140	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
5	ASTM C170	Standard Test Method for Compressive Strength of Dimension Stone
6	ASTM C1552	Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing

Table 6. List of Certified Steel Tests

No	Test Method	Test Procedure Title
1	ASTM A370	Test Methods and Definitions for Mechanical Testing of Steel Products
2	ASTM E8	Standard Test Methods for Tension Testing of Metallic Materials
3	AASHTO T68	Standard Test Methods for Tension Testing of Metallic Materials
4	AASHTO T285	Bend Test for Bars for Concrete Reinforcement