

Laboratory Certification For

Shawal Construction & Geotechnical Company

Lab ID: LCP-024

Issue date: Jan 11th, 2018

Expiry date: April 10th, 2018

This letter confirms the completion of inspection and certification for Shawal, which is located at House # 1646, Street # 3, Najaran Street, Adjacent to Behzad Private School, District # 3, Dehburgi, Kabul Afghanistan. This laboratory should now be considered as **Certified for a period of 3-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 Afghanistan District (USACE TAA) and other clients, for all tests listed in Table 1 to Table 6, as attached to this letter. The following tests (**ASTM D3080, ASTM D422, ASTM D2922, ASTM C430, ASTM D4791, ASTM C78, ASTM C231, ASTM D113, ASTM D2435, ASTM D5333, and ASTM E8/T68**) are not permitted under this period of Certification. 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. The inspection and certification process for the 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 74 tests, as shown on attached sheets and summarized as:

Table 1: 11

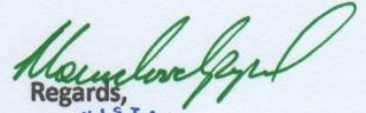
Table 2: 14

Table 3: 15

Table 4: 23

Table 5: 8

Table 6: 3


Regards,

Mowsood Popal

President of Afghanistan Builders Association



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 D698	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 KN-m/m ³))
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 D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
9	ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
10	ASTM D6951	Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
11	ASTM D2166	Unconfined Compressive Strength of Cohesive Soil

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
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 C702	Reducing Samples of Aggregate to Testing Size

No	Test Method	Test Procedure Title
11	ASTM D2419	Sand Equivalent of Soils and Fine Aggregate
12	ASTM D4944	Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
13	ASTM D5821	Determining the Percentage of Fractured Particles in Coarse Aggregate
14	CRD-C 171	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 C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
2	ASTM C42	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
3	ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
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 C187	Normal Consistency of Hydraulic Cement
8	ASTM C188	Density of Hydraulic Cement
9	ASTM C191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
10	ASTM C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
11	ASTM C617	Standard Practice for Capping Cylindrical Concrete Specimens
12	ASTM C642	Density, Absorption, and Voids in Hardened Concrete
13	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
14	ASTM C1064	Temperature of Freshly Mixed Portland Cement Concrete
15	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

No	Test Method	Test Procedure Title
5	ASTM D140	Sampling Bituminous Materials
6	ASTM D242	Mineral Filler for Bituminous Paving Mixtures
7	ASTM D546	Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
8	ASTM D979	Sampling Bituminous Paving Mixtures
9	ASTM D1074	Compressive Strength of Bituminous Paving Mixtures
10	ASTM D2041	Theoretical Maximum Specific Gravity and Density of Bituminous Pavement Mixtures
11	ASTM D2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
12	ASTM D2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
13	ASTM D3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
14	ASTM D3549	Thickness or Height of Compacted Bituminous Paving Mixture Specimens
15	ASTM D5361	Sampling Compacted Bituminous Mixtures for Laboratory Testing
16	ASTM D5444	Mechanical Size Analysis of Extracted Aggregate
17	ASTM D6926	Preparation of Bituminous Specimens Using Marshall Apparatus
18	ASTM D6927	Marshall Stability and Flow of Bituminous Mixtures
19	CRD-C 649	Standard Test Method for Unit Weight, Marshall Stability, and Flow of Bituminous Mixtures
20	CRD-C 650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
21	CRD-C 652	Standard Test Method for Measurement of Reduction in Marshall Stability of Bituminous Mixtures Caused by Immersion in Water
22	AASHTO T 182	Coating and Stripping of Bitumen-Aggregate Mixtures
23	AASHTO T 230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures

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 C90	Load bearing Concrete Masonry Units
4	ASTM C97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
5	ASTM C140	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
6	ASTM C170	Standard Test Method for Compressive Strength of Dimension Stone
7	ASTM C880	Flexural Strength of Dimension Stone
8	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 A615	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
3	T244/A370	Bend Test for Bars for Concrete Reinforcement