**Laboratory Certification For**

**Atlas Construction Material Testing Laboratory (ACMTL)**

**Lab ID: LCP-029**

**Issue date: May 4th, 2017**
**Expiry date: Nov 4th, 2017**

This letter confirms the completion of inspection and certification for the ACMTL, which is located at House # 397, Public Hospital Square, Kabul-Jalalabad Main road, 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 5, 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:
   1. Noor ul Amin the laboratory manager;
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_directory.php. The inspection and certification process for the ACMTL 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 54 tests, as shown on attached sheets and summarized as:
Table 1: 9
Table 2: 13
Table 3: 11
Table 4: 5
Table 5: 16

**Regards,**

**Naeem Yassin**

**President of Afghanistan Builders Association (ABA)**

## ACMTL Certified Laboratory Tests

**Table 1. List of Soil Tests for ACMTL**

| No | Test Method | Test Procedure Title |
|---|---|---|
| 1 | ASTM C136 | Standard Test Method for Particle Analysis of Soils |
| 2 | ASTM D854 | Standard Test Methods for Amount of Material in Soil Solids by Water Pycnometer |
| 3 | ASTM D1140 | Standard Test Methods for Amount of Material in Soils Finer than No. 200(75-75 µm) |
| 4 | ASTM D1556 | Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method |
| 5 | ASTM D1557 | Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort |
| 6 | ASTM D2487 | Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) |
| 7 | ASTM D4318 | Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils |
| 8 | ASTM D4643 | Lab Determination of Water (Moisture) content of Soil by Oven Heating |
| 9 | ASSHTO T224 | Correction for Coarse Particles in the Soil Compaction Test |

**Table 2. List of 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 C70 | Test Method for Surface Moisture in Fine Aggregate |
| 3 | ASTM C88 | Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate |
| 4 | ASTM C117 | Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing |
| 5 | ASTM C127 | Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate |
| 6 | ASTM C128 | Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate |
| 7 | ASTM C136 | Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates |
| 8 | ASTM C142 | Standard Test Method for Clay Lumps and Friable Particles in Aggregates |
| 9 | ASTM C535 | Standard Test Method for Resistance to Degradation of Small-Size & Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine |
| 10 | ASTM D75 | Standard Practice for Sampling Aggregates |
| 11 | ASTM D2419 | Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate |

| No | Test Method | Test Procedure Title |
|---|---|---|
| 12 | BS 812 | Flat and Elongated Particles in Coarse Aggregates |
| 13 | 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 C31 | Standard Practice for Making and Curing Concrete Test Specimens in the Field |
| 2 | ASTM C39 | Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens |
| 3 | ASTM C42 | Standard Test Method for Obtaining and Testing Drilled Cores and Sewed Beams of Concrete |
| 4 | ASTM C109 | Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens) |
| 5 | ASTM C143 | Standard Test Method for Slump of Hydraulic-Cement Concrete |
| 6 | ASTM C172 | Standard Practice for Sampling Freshly Mixed Concrete |
| 7 | ASTM C231 | Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure 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 C1064 | Standard Test Method for Temperature of Freshly Mixed Hydraulic Cement Concrete |
| 11 | ACI 211 | Concrete Mix Design |

**Table 4. List of Stone, 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 Units and Related Units |
| 3 | ASTM C170 | Standard Test Method for Compressive Strength of Dimension Stone |
| 4 | ASTM C1019 | Standard Test Method for Sampling and Testing Grout |
| 5 | ASTM C1552 | Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing |

**Table 5. List of 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 Bituminous Materials (Pycnometer Method) |
| 4 | ASTM D92 | Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester |
| 5 | ASTM D140 | Standard Practice for Sampling Bituminous Materials |
| 6 | ASTM D979 | Standard Practice for Sampling Bituminous Paving Mixtures |
| 7 | ASTM D1664 | Standard Test Method for Coating and Stripping of Bitumen-Aggregate Mixtures |
| 8 | ASTM D2041 | Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures |
| 9 | ASTM D2172 | Standard Test Methods for Quantitative Extraction |
| 10 | ASTM D2726 | Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures |
| 11 | ASTM D3203 | Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures |
| 12 | ASTM D3549 | Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens |
| 13 | ASTM D5361 | Standard Practice for Sampling compacted Bituminous Mixtures for Laboratory Testing |

| No | Test Method | Test Procedure Title |
|---|---|---|
| 14 | ASTM D6926 | Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus |
| 15 | ASTM D6927 | Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures |
| 16 | MS -2 | Asphalt Mix Design(JMF) |