

Laboratory Certification For

HASK Engineering Services Laboratory

Lab ID: LCP-009

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Expiry date: Dec 16th, 2018


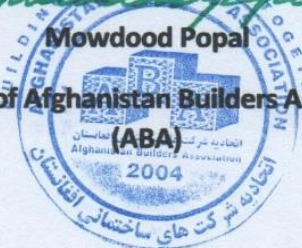
This letter confirms the completion of inspection and certification for the HASK, which is located 4th street, Taimani Project Near to Salim Karwan Square, Kabul, Afghanistan. This laboratory should now be considered **Certified for a period of 3-months** from the date of this letter. This laboratory 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 D2435, ASTM D4791, ASTM D3080, and ASTM D4643**) 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. Eng. Shekarandoi Jalal 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 the HASK 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 85 tests, as shown on attached sheets and summarized as:

- Table 1: 15
Table 2: 16
Table 3: 17
Table 4: 23
Table 5: 7
Table 6: 7

Regards,

Mowdood Popal
President of Afghanistan Builders Association


HASK Certified Laboratory Tests

Table 1. List of Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D421	Dry Preparation for Particle Size Distribution & Soil Constants
2	ASTM D698	Compaction Characteristics by Standard Effort
3	ASTM D854	Specific Gravity of Soils
4	ASTM D1140	Material Finer than 75 mm (No. 200) Sieve
5	ASTM D1556	Density & Unit Weight by Sand Cone
6	ASTM D1557	Compaction Characteristics by Modified Effort
7	ASTM D1883	California Bearing Ratio (CBR)
8	ASTM D2216	Water Content
9	ASTM D2487	Classification of Soils
10	ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purpose
11	ASTM D4318	Liquid & Plastic Limits & Plasticity Index
12	ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
13	AASHTO T093	Standard Method of Test for Determining the Field Moisture Equivalent of Soils
14	AASHTO T224	Correction for Coarse Particles in the Soil Compaction Test
15	ASTM D422	Standard Test Method for Particle-Size Analysis of Soil

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

No	Test Method	Test Procedure Title
1	ASTM C29	Unit Weight and Voids in Aggregate
2	ASTM C70	Surface Moisture in Fine Aggregate
3	ASTM C88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
4	ASTM C117	Material Finer than 75 μ m (No. 200) Sieve
5	ASTM C127	Specific Gravity & Absorption in Coarse Aggregate
6	ASTM C128	Specific Gravity & Absorption in Fine Aggregate
7	ASTM C131	Los Angeles Abrasion Resistance on Small-Size Coarse Aggregate
8	ASTM C136	Sieve Analysis of Aggregates
9	ASTM C142	Clay Lumps
10	ASTM C566	Total Moisture Content
11	ASTM C702	Reducing Samples to Testing Size
12	ASTM D75	Standard Practice for Sampling Aggregate
13	ASTM D2419	Sand Equivalent Value
14	ASTM D4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by The Calcium Carbide Gas Pressure Tester
15	ASTM D5821	Percentage of Fractured Particles in Coarse Aggregate
16	CRD-C 171	Percentage of Crushed Particles in Aggregate

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

No	Test Method	Test Procedure Title
1	ASTM C31	Making and Curing Test Specimens in the Field
2	ASTM C39	Compressive Strength of Cylindrical Specimens
3	ASTM C42	Obtaining and Testing Drilled Cores and Sewed Beams of Concrete
4	ASTM C109	Compressive Strength of Hydraulic Cement Mortars
5	ASTM C143	Slump
6	ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
7	ASTM C174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
8	ASCTM C188	Standard Test Method for Density of Hydraulic Cement
9	ASCTM C191	Standard Test Method for Time Setting of Hydraulic Cement by Vicat Needle
10	ASTM C192	Making and Curing Test Specimens in Laboratory
11	ASTM C231	Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method
12	ASTM C232	Bleeding of Concrete
13	ASTM C430	Standard Test Method for Fineness of Hydraulic Cement by the 45-um (No.325)
14	ASTM C617	Capping Cylindrical Specimens
15	ASTM C805	Rebound Number of Hardened Concrete
16	ASTM C1019	Standard Test Method for Sampling and Testing Grout
17	ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete

Table 4. 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	Softening Point
3	ASTM D70	Specific Gravity & Density
4	ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
5	ASTM D140	Sampling Bituminous Materials
6	ASTM D546	Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
7	ASTM D979	Sampling Bituminous Paving Mixtures
8	ASTM D2041	Theoretical Maximum Specific Gravity & Density (Rice)
9	ASTM D2172	Quantitative Extraction
10	ASTM D2489	Estimating Degree of Particle Coating of Bituminous Aggregate Mixtures
11	ASTM D2726	Bulk Specific Gravity and Density
12	ASTM D3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
13	ASTM D3549	Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
14	ASTM D5361	Sampling Compacted Bituminous Mixtures for Laboratory Testing

15	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
16	ASTM D6926	Preparation of Bituminous Specimens Using Marshall Apparatus
17	ASTM D6927	Marshall Stability and Flow of Bituminous Mixtures
18	CRD-C 649	Standard Test Method for Unit Weight, Marshall Stability, and Flow of Bituminous Mixtures
19	CRD-C650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
20	CRD-C652	Standard Test Method for Measurement of Reduction in Marshall Stability of Bituminous Mixtures Caused by Immersion in Water
21	AASHTO T79	Flash Point with Tag Open-Cup Apparatus for use with Material having a Flash less than 93.3°C (200°F)
22	AASHTO T182	Coating and Stripping of Bitumen-Aggregate Mixtures
23	AASHTO T230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures

Table 5. List of Bricks, Stone, & CMU's Tests

No	Test Method	Test Procedure Title
1	ASTM C67	Sampling and Testing Bricks and Structural Clay Tile
2	ASTM C90	Standard Specification for loadbearing Concrete Masonry Unit
3	ASTM C97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
4	ASTM C99	Modulus of Rupture of Dimension Stone
5	ASTM C140	Sampling and Testing Concrete Masonry and Related Units
6	ASTM C170	Compressive Strength of Dimension Stone
7	ASTM C1552	Capping CMU/Related Units/Masonry Prisms for Compression Testing

Table 6. List of Advanced Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D1195	Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
2	ASTM D1196	Non repetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
3	ASTM D1586	Penetration Test and Split-Barrel Sampling of Soils
4	ASTM D2166	Unconfined Compressive Strength
5	ASTM D5333	Standard Test Method for Measurement of Collapse Potential of Soils
6	ASTM D6951	Dynamic Cone Penetration Test
7	ASTM D6032	Determination of RQD (Rock Quality Designation)