

Laboratory Certification For
HASK Engineering Services Laboratory

Lab ID: LCP-009

Issue date: July 5th, 2017

Expiry date: July 4th, 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 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. 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. Abasin Bahir 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 88 tests, as shown on attached sheets and summarized as:

Table 1:	15
Table 2:	18
Table 3:	19
Table 4:	21
Table 5:	7
Table 6:	8

Regards,

Naeem Yassin

President of Afghanistan Builders Association
(ABA)



HASK Certified Laboratory Tests

Table 1. List of Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D 421	Dry Preparation for Particle Size Distribution & Soil Constants
2	ASTM D 698	Compaction Characteristics by Standard Effort
3	ASTM D 854	Specific Gravity of Soils
4	ASTM D 1140	Material Finer than 75 mm (No. 200) Sieve
5	ASTM D 1556	Density & Unit Weight by Sand Cone
6	ASTM D 1557	Compaction Characteristics by Modified Effort
7	ASTM D 1883	California Bearing Ratio (CBR)
8	ASTM D 2216	Water Content
9	ASTM D 2487	Classification of Soils
10	ASTM D 3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purpose
11	ASTM D 4318	Liquid & Plastic Limits & Plasticity Index
12	ASTM D 4643	Determination of Water Content of Soil by Microwave Oven
13	ASTM D 4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
14	AASHTO T 093	Standard Method of Test for Determining the Field Moisture Equivalent of Soils
15	AASHTO T 224	Correction for Coarse Particles in the Soil Compaction Test

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

No	Test Method	Test Procedure Title
1	ASTM C 29	Unit Weight and Voids in Aggregate
2	ASTM C 70	Surface Moisture in Fine Aggregate
3	ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
4	ASTM C 117	Material Finer than 75 μ m (No. 200) Sieve
5	ASTM C 127	Specific Gravity & Absorption in Coarse Aggregate
6	ASTM C 128	Specific Gravity & Absorption in Fine Aggregate
7	ASTM C 131	Los Angeles Abrasion Resistance on Small-Size Coarse Aggregate
8	ASTM C 136	Sieve Analysis of Aggregates
9	ASTM C 142	Clay Lumps
10	ASTM C 566	Total Moisture Content
11	ASTM C 702	Reducing Samples to Testing Size
12	ASTM D 75	Standard Practice for Sampling Aggregate
13	ASTM D 2419	Sand Equivalent Value
14	ASTM D 4791	Flat or Elongated Particles
15	ASTM D 4944	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by The Calcium Carbide Gas Pressure Tester
16	ASTM D 5821	Percentage of Fractured Particles in Coarse Aggregate
17	CRD-C 171	Percentage of Crushed Particles in Aggregate

No	Test Method	Test Procedure Title
18	BS 812 Section 105.1 and Section 105.2	Testing Aggregates. Methods for Determination of Particle Shape Flakiness Index and Elongation Index for Coarse Aggregate.

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

No	Test Method	Test Procedure Title
1	ASTM C 31	Making and Curing Test Specimens in the Field
2	ASTM C 39	Compressive Strength of Cylindrical Specimens
3	ASTM C 42	Obtaining and Testing Drilled Cores and Sewed Beams of Concrete
4	ASTM C 109	Compressive Strength of Hydraulic Cement Mortars
5	ASTM C 143	Slump
6	ASTM C 172	Standard Practice for Sampling Freshly Mixed Concrete
7	ASTM C 174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
8	ASCTM C 188	Standard Test Method for Density of Hydraulic Cement
9	ASCTM C 191	Standard Test Method for Time Setting of Hydraulic Cement by Vicat Needle
10	ASTM C 192	Making and Curing Test Specimens in Laboratory
11	ASTM C 231	Standard Test Methods for Air Content of Freshly Mixed Concrete by the Pressure Method
12	ASTM C 232	Bleeding of Concrete
13	ASTM C 430	Standard Test Method for Fineness of Hydraulic Cement by the 45-um (No.325)
14	ASTM C 511	Water Storage Tanks
15	ASTM C 617	Capping Cylindrical Specimens
16	ASTM C 805	Rebound Number of Hardened Concrete
17	ASTM C 1019	Standard Test Method for Sampling and Testing Grout
18	ASTM C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
19	ASTM C 1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

Table 4. List of Asphalt Cement and Asphalt Concrete Tests

No	Test Method	Test Procedure Title
1	ASTM D 5	Standard Test Method for Penetration of Bituminous Materials
2	ASTM D 36	Softening Point
3	ASTM D 70	Specific Gravity & Density
4	ASTM D 92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
5	ASTM D 140	Sampling Bituminous Materials
6	ASTM D 546	Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
7	ASTM D 979	Sampling Bituminous Paving Mixtures

8	ASTM D 2041	Theoretical Maximum Specific Gravity & Density (Rice)
9	ASTM D 2172	Quantitative Extraction
10	ASTM D 2489	Estimating Degree of Particle Coating of Bituminous Aggregate Mixtures
11	ASTM D 2726	Bulk Specific Gravity and Density
12	ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
13	ASTM D 3549	Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
14	ASTM D 5361	Sampling Compacted Bituminous Mixtures for Laboratory Testing
15	ASTM D 5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
16	ASTM D 6926	Preparation of Bituminous Specimens Using Marshall Apparatus
17	ASTM D 6927	Marshall Stability and Flow of Bituminous Mixtures
18	CRD-C 650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
19	CRD-C 652	Standard Test Method for Measurement of Reduction in Marshall Stability of Bituminous Mixtures Caused by Immersion in Water
20	AASHTO T 182	Coating and Stripping of Bitumen-Aggregate Mixtures
21	AASHTO T 230	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 C 67	Sampling and Testing Bricks and Structural Clay Tile
2	ASTM C 90	Standard Specification for loadbearing Concrete Masonry Unit
3	ASTM C 97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
4	ASTM C 99	Modulus of Rupture of Dimension Stone
5	ASTM C 140	Sampling and Testing Concrete Masonry and Related Units
6	ASTM C 170	Compressive Strength of Dimension Stone
7	ASTM C 1552	Capping CMU/Related Units/Masonry Prisms for Compression Testing

Table 6. List of Advanced Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D 1195	Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
2	ASTM D 1196	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 D 1586	Penetration Test and Split-Barrel Sampling of Soils

4	ASTM D 2166	Unconfined Compressive Strength
5	ASTM D 6951	Dynamic Cone Penetration Test
6	ASTM D 6032-08	Determination of RQD (Rock Quality Designation)
7	ASTM D2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
8	ASTM D5333	Standard Test Method for Measurement of Collapse Potential of Soils