

Laboratory Certification For

Base Consultant and Research Corporation (BCRCo)

Lab ID: LCP-020

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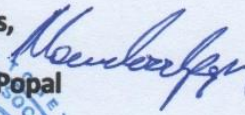
This letter confirms the completion of inspection and certification for the BCRCo Laboratory, which is located at 5th Street, Block A, Dispuchery, Kabul, Afghanistan. This laboratory should now be considered as **Certified for a period of 6-months** from the date of this letter. This laboratory should 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 7, as attached to this letter. The following tests (**ASTM D422, ASTM D4791, 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. Mr. Ajmal Osmani 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 BCRCo 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 87 tests, as shown on attached sheets and summarized as:

Table 1:	15
Table 2:	11
Table 3:	15
Table 4:	18
Table 5:	19
Table 6:	6
Table 7:	3

Regards,

Mowdood Popal
President of Afghanistan Builders Association



BCRCo Certified Laboratory Tests

Table 1. List of Certified Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D421	Standard Practice for Dry Preparation for Particle Size Distribution & Determination of Soil Constants
2	ASTM D854	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
3	ASTM D1140	Standard Test Methods for Amount of Material in Soils Finer than No.200 (75- μ m) Sieve
4	ASTM D1556	Standard Test Method for Density & Unit Weight of Soils in Place by Sand- Cone Method
5	ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics by Modified Effort
6	ASTM D1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soil
7	ASTM D2166	Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
8	ASTM D2216	Standard Test Method for Laboratory Determination of Water(moisture) Content of Soil and Rock By Mas
9	ASTM D2487	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
10	ASTM D2488	Standard Practice for Description and Identification of Soils (Visual Manual Procedure)
11	ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
12	ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
13	ASTM D4959	Standard Test Method for Determination of Water (Moisture) Content of Soil by Direct Heating
14	ASTM D6913	Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
15	ASTM D6951	Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications

Table 2. List of Certified Advance Soil Tests

No	Test Method	Test Procedure Title
1	ASTM D1452	Practice for Soil Exploration and Sampling by Auger Borings
2	ASTM D1586	Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
3	ASTM D1587	Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes
4	ASTM D2113	Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation
5	ASTM D2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soil Using Incremental Loading

No	Test Method	Test Procedure Title
6	ASTM D3080	Standard Test Method for Direct Shear Test of Soil under Consolidated Drained Condition
7	ASTM D4972	Standard Test Method for pH of Soils
8	ASTM D5333	Standard Test Method for Measurement of Collapse Potential Soils
9	ASTM D5434	Standard Guide for Field Logging of Subsurface Exploration of Soil and Rock
10	ASTM D6032	Standard Test Method for Determining Rock Quality Designation (RQD) of Rock Core
11	ASTM D6151	Standard Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling

Table 3. List of Certified 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 C40	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
3	ASTM C88	Standard Test Method for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
4	ASTM C117	Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregate by Washing
5	ASTM C127	Standard Test Method for Specific Gravity & Absorption in Coarse Aggregate
6	ASTM C128	Standard Test Method for Specific Gravity & Absorption in Fine Aggregate
7	ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
8	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregate
9	ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
10	ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
11	ASTM C702	Standard Practice for Reducing Samples of Aggregate to Testing Size
12	ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
13	ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
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	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

Table 4. 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 Field
2	ASTM C39	Standard Test Method for Compressive Strength of Cylindrical
3	ASTM C42	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
4	ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
5	ASTM C109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [5-mm] Cube Specimens
6	ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
7	ASTM C187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
8	ASTM C188	Standard Test Method for Density of Hydraulic Cement
9	ASTM C191	Standard Test Method for Time of Setting of Hydraulic Cement by Vicat Needle
10	ASTM C192	Standard Practice for Making and Curing Test Specimens in Laboratory
11	ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
12	ASTM C451	Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
13	ASTM C617	Standard Practice for Capping Cylindrical Concrete Specimens
14	ASTM C805	Standard Test Method for Rebound Number of Hardened Concrete
15	ASTM C1019	Standard Test Method for Sampling and Testing Grout
16	ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
17	ASTM C1231	Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders
18	ASTM C1437	Standard Test Method for Flow of Hydraulic Cement Mortar

Table 5. List of Certified 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
3	ASTM D70	Standard Test Method for Density of Semi-Solid of Bituminous Materials
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 D546	Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
7	ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures

No	Test Method	Test Procedure Title
8	ASTM D1074	Standard Test Method for Compressive Strength of Bituminous Mixtures
9	ASTM D1754	Standard Test Method for Effect of Heat and Air on Asphaltic Materials (Thin-film Oven Test)
10	ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
11	ASTM D2042	Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene
12	ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
13	ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
14	ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
15	ASTM D3549	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
16	ASTM D5361	Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing
17	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
18	ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
19	ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures

Table 6. List of Certified 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 C97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
3	ASTM C99	Standard Test Method for Modulus of Rupture 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 7. List of Certified Steel Tests

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