

Laboratory Certification For

Base Consultant & Research Corporation Construction Material Testing Laboratory

Lab ID: LCP-020

Issue date: Oct 13, 2016

Expiry date: April 12, 2017

This Extension 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 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 following individuals while without their oversight, the laboratory will require recertification:
 1. Mr. Ajmal Osmani the laboratory manager; and
 2. Other Senior Technicians who were inspected and certified during the inspection, a list of certified technicians can be provided upon request;
- 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.html>. 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.

Regards,

Naeem Yassin

President of Afghanistan Builders Association
(ABA)



BCRCo Certified Laboratory Tests

Table 1. List of Certified Soil Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM D 421-85	Standard Practice for Dry Preparation for Particle Size Distribution & Determination of Soil Constants
2	ASTM D 422-63	Standard Test Method for Particle Size Analysis of Soils
3	ASTM D 854-10	Standard Test Method for Specific Gravity of Soils by Water Pycnometer
4	ASTM D 1140-00	Standard Test Methods for Amount of Material in Soils Finer than No.200 (75- μ m) Sieve
5	ASTM D 1556-07	Standard Test Method for Density & Unit Weight of Soils in Place by Sand- Cone Method
6	ASTM D 1557-12	Standard Test Methods for Laboratory Compaction Characteristics by Modified Effort
7	ASTM D 1883-07	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soil
8	ASTM D 2216-10	Standard Test Method for Laboratory Determination of Water(moisture) Content of Soil and Rock By Mas
9	ASTM D 2487-11	Standard Practice for Classification of Soils for Engineering Purpose (Unified Soil Classification System)
10	ASTM D 2488-09a	Standard Practice for Description and Identification of Soils (Visual Manual Procedure)
11	ASTM D 3282-09	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
12	ASTM D 3740-12a	Standard Practice for Minimum Requirements for Agencies Engaged in Testing and / or Inspection of Soil and Rock as Used in Engineering Design and Construction
13	ASTM D 4318-10	Standard Test Methods Liquid & Plastic Limits & Plasticity Index
14	ASTM D 4959-07	Standard Test Method for Determination of Water (Moisture) Content of Soil by Direct Heating
15	ASTM D 6938-10	In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth)

Table 2. List of Certified Advance Soil Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM D 1196-12	Standard Test Method for Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and High Pavements
2	ASTM D 1452-09	Practice for Soil Exploration and Sampling by Auger Borings
3	ASTM D 1586-11	Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
4	ASTM D 1587-08	Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes
5	ASTM D 2113-08	Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation
6	ASTM D 2435-11	Standard Test Methods for One-Dimensional Consolidation Properties of Soil Using Incremental Loading
7	ASTM D 3080-11	Standard Test Method for Direct Shear Test of Soil under Consolidated Drained Condition
8	ASTM D 4972-01	Standard Test Method for pH of Soils
9	ASTM D 5434-12	Standard Guide for Field Logging of Subsurface Exploration of Soil and Rock
10	ASTM D 6032-08	Standard Test Method for Determining Rock Quality Designation (RQD) of Rock Core
11	ASTM D 6151-08	Standard Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling
12	ASTM G 0057-06	Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method

Table 3. List of Certified Aggregate (Fine and Coarse) Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM C 29-09	Standard Test Method for Unit Weight and Voids in Aggregate
2	ASTM C 40-11	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
3	ASTM C 88-13	Standard Test Method for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
4	ASTM C 117-13	Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregate by Washing
5	ASTM C 127-12	Standard Test Method for Specific Gravity & Absorption in Coarse Aggregate
6	ASTM C 128-12	Standard Test Method for Specific Gravity & Absorption in Fine Aggregate
7	ASTM C 131-06	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
8	ASTM C 136-06	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregate
9	ASTM C 142-10	Standard Test Method for Clay Lumps and Friable Particles in Aggregates

No	Test Method	Test Procedure Title
10	ASTM C 144-11	Standard Specification for Aggregate for Masonry Mortar
11	ASTM C 404-11	Standard Specification for Aggregate for Masonry Grout
12	ASTM C 566-12	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
13	ASTM C 1260-07	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
14	ASTM D 2419-09	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
15	ASTM D 4791-10	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
16	ASTM D 4944-11	Standard Test Method for Field Determination of Water (Moisture) Content of Soil by The Calcium Carbide Gas Pressure Tester
17	ASTM D 5821-13	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

Table 4. List of Certified Cement, Grout, Mortar, & Concrete Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM C 31-12	Standard Practice for Making and Curing Concrete Test Specimens in the Field
2	ASTM C 39-12A	Standard Test Method for Compressive Strength of Cylindrical
3	ASTM C 42-13	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
4	ASTM C 78-10	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
5	ASTM C 109-12	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or [5-mm] Cube Specimens
6	ASTM C 143-12	Standard Test Method for Slump of Hydraulic-Cement Concrete
7	ASTM C 150-12	Specification for Portland Cement
8	ASTM C 187-11	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
9	ASTM C 188-09	Standard Test Method for Density of Hydraulic Cement
10	ASTM C 191-08	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
11	ASTM C 192-13	Standard Practice for Making and Curing Test Specimens in Laboratory
12	ASTM C 231-10	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
13	ASTM C 270-12a	Standard Specification for Mortar for Unit Masonry
14	ASTM C 451-08	Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
15	ASTM C 476-10	Standard Specification for Grout for Masonry
16	ASTM C 617-12	Standard Practice for Capping Cylindrical Concrete Specimens
17	ASTM C 805-13	Standard Test Method for Rebound Number of Hardened Concrete

No	Test Method	Test Procedure Title
18	ASTM C 926-12a	Standard Specification for Application of Portland Cement-Based Plaster
19	ASTM C 1019-13	Standard Test Method for Sampling and Testing Grout
20	ASTM C 1064-12	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
21	ASTM C 1437-13	Standard Test Method for Flow of Hydraulic Cement Mortar
22	ASTM C 1602-12	Standard Specification for Mixing Water Used in the Production of hydraulic Cement Concrete

Table 5. List of Certified Asphalt Cement and Asphalt Concrete Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM D 5-13	Standard Test Method for Penetration of Bituminous Materials
2	ASTM D 36-12	Standard Test Method for Softening Point
3	ASTM D 70-09	Standard Test Method for Density of Semi-Solid of Bituminous Materials
4	ASTM D 88-07	Standard Test Method for Saybolt Viscosity
5	ASTM D 92-12b	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
6	ASTM D 113-07	Standard Test Method for Ductility of Bituminous Materials
7	ASTM D 242-09	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
8	ASTM D 546-10	Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures
9	ASTM D 979-12	Standard Practice for Sampling Bituminous Paving Mixtures
10	ASTM D 1074-09	Standard Test Method for Compressive Strength of Bituminous Mixtures
11	ASTM D 1754-09	Standard Test Method for Effects of Heat and Air on Asphalt Materials
12	ASTM D 2041-11	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
13	ASTM D 2172-11	Standard Test Methods for Quantitative Extraction
14	ASTM D 2726-13	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
15	ASTM D 3203-11	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
16	ASTM D 3549-11	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
17	ASTM D 3666-13	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
18	ASTM D 5361-11	Standard Practice for Sampling compacted Bituminous Mixtures for Laboratory Testing
19	ASTM D 5444-08	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
20	ASTM D 6926-10	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus

No	Test Method	Test Procedure Title
21	ASTM D 6927-06	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures

Table 6. List of Certified Bricks & Masonry Units Tests for BCRCo

No	Test Method	Test Procedure Title
1	ASTM C 97-09	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone
2	ASTM C 140-13a	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
3	ASTM C 170-09	Standard Test Method for Compressive Strength of Dimension Stone
4	ASTM C 1093-13	Standard Practice for Accreditation of Testing Agencies for Masonry
5	ASTM C 1552-12	Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing