

### Laboratory Certification For

### Delta Afghan Technical Engineering Services (DATES)

Lab ID: LCP-026

Issue date: Sept 4, 2016

Expiry date: Sept 3, 2017

This letter confirms the completion of inspection and certification for Delta Afghan Technical Engineering Services, which is located at Darulaman Road, Serahi Alauddin, Opposite Isteqlal Hospital, 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 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 following individuals while without their oversight, the laboratory will require recertification:
  1. Badri Zaman Badar 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/Lab-certification-program.html> . The inspection and certification process for the DATES 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)



### DATES Certified Laboratory Tests

Table 1. List of Certified Soil Tests for DATES

No	Test Method	Test Procedure Title
1	ASTM D 6938	Standard Test Method for In Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth) (Use instead of ASTM D 2922)
2	ASTM D 421	Standard Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
3	ASTM D 422	Standard Test Method for Particle Size Analysis of Soils
4	ASTM D 2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
5	ASTM D 4944	Standard Test Method for Field Determination of Water (Moisture Content of Soil by the Calcium Gas Pressure Tester
6	ASTM D 1883	Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils
7	ASTM D 4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
8	ASTM D 1556	Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
9	ASSHTO T 224	Correction for Coarse Particles in the Soil Compaction Test
10	ASTM D 2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
11	ASTM D 698	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft <sup>3</sup> ( 2,700 KN-m/m <sup>3</sup> ))
12	ASTM D 1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
13	ASTM D 558	Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
14	ASTM D 1140	Standard Test Methods for Amount of Material in Soils Finer than No. 200(75-75 μm) S
15	ASTM D 854	Standard Test Methods for Amount of Material in Soil Solids by Water Pycnometer
16	ASTM D 4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
17	ASTM D 2216	Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
18	ASTM D 6951	Standard Test Method for Use of the Dynamic Cone Penetration in Shallow Pavement Applications

**Table 2. List of Certified Aggregate (Fine and Coarse) Tests for DATES**

No	Test Method	Test Procedure Title
1	ASTM C 702	Standard Practice for Reducing Samples of Aggregate to Testing Size
2	ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
3	ASTM C 127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
4	ASTM C 128	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
5	ASTM C 142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
6	ASTM C 117	Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing
7	ASTM C 88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
8	ASTM D 2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
9	BS 812 Part 105.1 & 105.2	Flakiness and Elongation
10	ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
11	ASTM C 131 C 535	Standard Test Method for Resistance to Degradation of Small-Size & Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
12	ASTM D 5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
13	BS 812	Aggregate Impact Value
14	BS 812	Aggregate Crushing Value
15	BS 812	Aggregate 10% Fine Value

**Table 3. List of Certified Cement, Grout, Mortar, & Concrete Tests for DATES**

No	Test Method	Test Procedure Title
1	ASTM C 109	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
2	ASTM C 187	Normal Consistency of Hydraulic Cement
3	ASTM C 191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
4	ASTM C 451	Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
5	ASTM C 188	Standard Test Method for Density of Hydraulic Cement

No	Test Method	Test Procedure Title
6	ASTM C 204	Standard Test Methods for fineness of Hydraulic Cement by Air-Permeability Apparatus
7	ASTM C 305	Standard Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency
8	BS 4550 Part 3	Soundness of Cement
9	ASTM C 897 & C 926	Complete Plaster Mix Design
10	ASTM C 172	Standard Practice for Sampling Freshly Mixed Concrete
11	ASTM C 511	Standard Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cement and Concretes
12	ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
13	ASTM C 192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
14	ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
15	ASTM C 174	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
16	ASTM C 42	Standard Test Method for Obtaining and Testing Drilled Cores and Sewed Beams of Concrete
17	ASTM C 116	Test Method for Compressive Strength of Concrete Using Portions of Beams Broken in Flexure
18	ASTM C 70	Test Method for Surface Moisture in Fine Aggregate
19	ASTM C 78	Standard Test Method for Flexural Strength of Concrete(Using Simple Beam with Third-Point Loading)
20	ASTM C 293	Standard Test Method for Flexural Strength of Concrete(Using Simple Beam with Center-Point Loading)
21	ASTM C 143	Standard Test Method for Slump of Hydraulic-Cement Concrete
22	ASTM C 231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
23	ASTM C 233	Test Method for Air-Entraining Admixtures for Concrete
24	ASTM C 566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
25	ASTM C 617	Standard Practice for Capping Cylindrical Concrete Specimens
26	ASTM C 642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
27	ASTM C 805	Standard Test Method for Rebound Number of Hardened Concrete



No	Test Method	Test Procedure Title
28	ASTM C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic Cement Concrete
29	ASMT C 918	Test Method for Measuring Early-Age Compressive Strength and Projecting Later-Age Strength
30	ASTM C 1074	Standard Practice for Estimating concrete Strength by the Maturity Method
31	ACI 211	Concrete Mix Design
32	ASTM C 1019 & C 39	Standard Test Method for Sampling and Testing Grout Cube
33	ASTM C 476	Standard Specification for Grout for Masonry
34	ASTM C 140	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
35	ASTM C 1552	Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compressive Testing
36	As per ACI	Complete CMU Mix Design

**Table 4. List of Certified Asphalt Cement and Asphalt Concrete Tests for DATES**

No	Test Method	Test Procedure Title
1	ASTM D 979	Standard Practice for Sampling Bituminous Paving Mixtures
2	ASTM D 242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
3	ASTM D 6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
4	ASTM D 2172	Standard Test Methods for Quantitative Extraction
5	ASTM D 6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
6	ASTM D 2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
7	ASTM D 1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
8	ASTM D 2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
9	ASTM D 5361	Standard Practice for Sampling compacted Bituminous Mixtures for Laboratory Testing
10	ASTM D 2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
11	ASTM D 3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures

No	Test Method	Test Procedure Title
12	ASTM D 3549	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixtures Specimens
13	ASTM D 5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
14	AASHTO 182	Standard Test Method for coating and Stripping of Bituminous Aggregate Mixtures
15	AASHTO 230	Standard Method of Test for Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
16	MS-2 Sixth Edition	Complete Mix Design of Asphalt Base Course
17	MS-2 Sixth Edition	Complete Minx Design of Asphalt Wearing Course
18	ASTM D 140	Standard Practice for Sampling Bituminous Materials
19	ASTM D 113	Standard Test Method for Ductility of Bituminous Materials
20	ASTM D 36	Standard Test Method for Softening Point of Bitumen (Ring-and Ball Apparatus)
21	ASTM D 5	Standard Test Method for Penetration of Bituminous Materials
22	ASTM D 92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
23	ASTM D 70	Standard Test Method for Density of Semi-Solid Bituminous Materials (Pycnometer Method)

**Table 5. List of Certified Stone, Bricks & Masonry Units Tests for DATES**

No	Test Method	Test Procedure Title
1	ASTM C 67	Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
2	ASTM C 170	Standard Test Method for Compressive Strength of Dimension Stone
3	ASTM C 97	Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone