

Laboratory Certification For

Diamond Geo Engineering Services Lab

Lab ID: LCP-018

Issue date: Sept 18, 2016

Expiry date: March 17, 2017

This letter confirms the completion of inspection and certification for Diamond Geo Engineering Services lab, which is located at House # 247, Street # 4, Kart-e- 3, 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. Mohammad Salem Hossaini 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>. The inspection and certification process for the Diamond lab 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)



Diamond Geo Engineering Services lab Tests

Table 1. List of Certified Soil Tests for Diamond Lab

No	Test Method	Test Procedure Title
1	ASTM D 422	Standard Test Method for Particle Size Analysis of Soils
2	ASTM D 698	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 Kn-m/m ³))
3	ASTM D 854	Standard Test Methods for Specific Gravity of Soil Solids by Water Pycnometer
4	ASTM D 1140	Standard Test Methods for Amount of Material in Soils Finer than No. 200 (75 μm) Sieve
5	ASTM D 1556	Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
6	ASTM D 1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
7	ASTM D 1883	Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils
8	ASTM D 2166	Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
9	ASTM D 2216	Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
10	ASTM D 2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
11	ASTM D 4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

Table 2. List of Certified Advance Soil Tests for Diamond Lab

No	Test Method	Test Procedure Title
1	ASTM D 1196	Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavement
2	ASTM D 1586	Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils
3	ASTM D 2434	Permeability of Granular Soils (Constant Head)
4	ASTM D 2435	Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
5	ASTM D 3080	Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions (No Calibration Certificate)

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

No	Test Method	Test Procedure Title
1	ASTM C 29	Standard Test Method for Unit Weight and Voids in Aggregate
2	ASTM C 127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
3	ASTM C 128	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
4	ASTM C 131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
5	ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
6	ASTM C 142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
7	ASTM C 295	Standard Guide for Petrographic Examination of Aggregate for Concrete
8	ASTM C 1260	Standard Test Method for Potential Alkali Reactivity of Aggregate (Mortar Bar Method)
9	ASTM D 4944	Standard Test Method for Field Determination of Water(Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
10	ASTM D 5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
11	BS 812 Section 105.1	Testing aggregates- Part 105: Methods for Determination of Particle Shape. Flakiness Index
12	BS 812 Section 105.2	Testing aggregates- Part 105: Methods for Determination of Particle Shape. Elongation Index for Concrete

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

No	Test Method	Test Procedure Title
1	ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
2	ASTM C 143	Standard Test Method for Slump of Hydraulic-Cement Concrete
3	ASTM C 187	Normal Consistency of Hydraulic Cement
4	ASTM C 188	Standard Test Method for Density of Hydraulic Cement
5	ASTM C 191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
6	ASTM C 192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
7	ASTM C 231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
8	ASTM C 805	Standard Test Method for Rebound Number of Hardened Concrete

No	Test Method	Test Procedure Title
9	ASTM C 1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
10	ASTM C 1437	Standard Test Method for Flow of Hydraulic Cement Mortar

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

No	Test Method	Test Procedure Title
1	ASTM D 36	Standard Test Method for Softening Point
2	ASTM D 92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
3	ASTM D 2172	Standard Test Methods for Quantitative Extraction
4	ASTM D 3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
5	ASTM D 5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
6	ASTM D 6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
7	ASTM D 6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures

Table 6. List of Certified Stone, Bricks & Masonry Units Tests for Diamond

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 90	Standard Specification for Loadbearing Concrete Masonry Units
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 170	Standard Test Method for Compressive Strength of Dimension Stone