

Laboratory Certification For  
Omran Geotechnical Company (OGC)

Lab ID: LCP-005

Issue date: Sept 20, 2016

Expiry date: March 19, 2017

This letter confirms the completion of inspection and certification for Omran Geotechnical Company, which is located at House 4, Right Side of Kabul River, Police Station of District 3, Kart-e- Se, 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 8, 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:

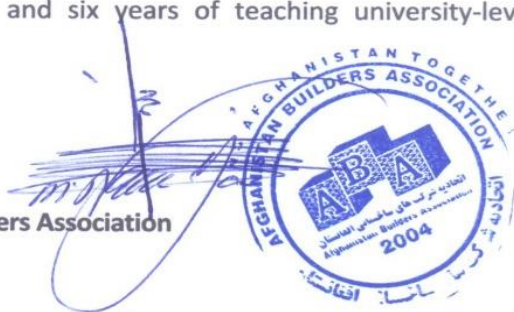
- A. Continued employment of the following individuals while without their oversight, the laboratory will require recertification:
  1. Samad Heidari laboratory manager; and
  2. Other Senior Technicians who were inspected and certified during the inspection, a list of certified technicians can be provided 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 OGC 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)



### OGC Certified Laboratory Tests

Table 1. List of Certified Soil Tests for OGC

No	Test Method	Test Procedure Title
1	ASTM D 421	Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
2	ASTM D 422	Particle-Size Analysis of Soils
3	ASTM D 558	Moisture-Density Relations of Soil-Cement Mixtures
4	ASTM D 698	Laboratory Compaction Characteristics of Soil Using Standard Effort
5	ASTM D 854	Specific Gravity of Soil Solids by Water Pycnometer
6	ASTM D 1140	Amount of Material in Soils Finer than the No. 200 (75-um) Sieve
7	ASTM D 1556	Density and Unit Weight of Soil in Place by the Sand Cone Method
8	ASTM D 1557	Laboratory Compaction Characteristics of Soil Using Modified Effort
9	ASTM D 1883	CBR (California Bearing Ratio) of Laboratory-Compacted Soils
10	ASTM D 2166	Unconfined Compressive Strength of Cohesive Soil
11	ASTM D 2216	Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
12	ASTM D 2487	Classification of Soils for Engineering Purposes
13	ASTM D 3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
14	ASTM D 3740	Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
15	ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
16	ASTM D 4718	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
17	ASTM D 6951	Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
18	AASHTO T 92	Determining the Shrinkage Factors of Soils
19	AASHTO T 93	Determining the Field Moisture Equivalent of Soils
20	AASHTO T 224	Correction for Coarse Particles in the Soil Compaction Test
21	ASTM D 2922	Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
22	ASTM D 3017	Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)

No	Test Method	Test Procedure Title
24	ASTM D 1195	Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
25	ASTMD 1196	Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
26	CRD-C 655-95	Standard Test Method for Modulus of Soil Reaction
27	ASTMD 1586	Penetration Test and Split-Barrel Sampling of Soils
28	ASTMD 1587	Thin-Walled Tube Sampling of soils for geotechnical purposes
29	ASTMD 2113	Rock Core Drilling and Sampling of Rock for Site Investigation
30	ASTMD 2488	Description and Identification of soil (Visual-Manner Procedure)
31	ASTMD 4220	Preserving and Transporting Soil Samples
32	ASTMD 5434	Field Logging of Subsurface Explorations of Soil and Rock
33	ASTMD 6032	Standard Test Method for Determining Rock Quality Designation (RQD) of Rock Core
34	ASTMD 3550	Standard Practice for Thick Wall, Ring-Lined, Split Barrel, Drive Sampling of Soils
35	ASTMD 6169	Guide for Selection of Soil and Rock Sampling Devices used with Drill Rigs for Environmental Site Characterization
36	ASTMD-2938	Standard Test Method for Unconfined Compressive Strength of Intact Rock Core Specimens
37	ASTMD 2434	Permeability of Granular Soils (Constant Head)
38	ASTME 2396	Saturated Water Permeability of Granular Drainage Media [Falling-Head Method] for Green Roof Systems
39	ASTMD 5084	Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter
40	ASTMD 2435	One-Dimensional Consolidation Properties of Soils Using Incremental Loading
41	ASTMD 5333	Standard Test Method for Measurement of Collapse Potential of Soils
42	ASTMD 3080	Direct Shear Test of Soils Under Consolidated Drained Conditions
43	ASTMD 4829	Standard Test Method for Expansion Index of Soils
44	ASTM G57-06	Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method

**Table 2. List of Certified Aggregate (Fine and Course) Tests for OGC**

No	Test Method	Test Procedure Title
1	ASTM C 29	Unit Weight and Voids in Aggregate
2	ASTM C 40	Organic Impurities in Fine Aggregates for Concrete
3	ASTM C 70	Surface Moisture in Fine Aggregate
4	ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
5	ASTM C 117	Material Finer than 75 um (No. 200) Sieve in Mineral Aggregates by Washing
6	ASTM C 123	Standard Test Method for Lightweight Particles in Aggregate
7	ASTM C 127	Specific Gravity and Absorption of Coarse Aggregate
8	ASTM C 128	Specific Gravity and Absorption of Fine Aggregate
9	ASTM C 131	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
10	ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
11	ASTM C 142	Clay Lumps and Friable Particles in Aggregates
12	ASTM C 535	Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
13	ASTM C 566	Total Moisture Content
14	ASTM C 702	Reducing Samples of Aggregate to Testing Size
15	ASTM C 1252	Un Compacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface Texture, and Grading)
16	ASTM C 1260	Potential alkali reactivity Mortar-bar method
17	ASTM D 75	Sampling Aggregates
18	ASTM D 2419	Sand Equivalent of Soils and Fine Aggregate
19	ASTM D 4791	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
20	ASTM D 4944	Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
21	ASTM D 5821	Determining the Percentage of Fractured Particles in Coarse Aggregate
22	CRD-C 171	Standard Test Method for Determining Percentage of Crushed Particles in Aggregate
23	BS 812 Section 105.1	Testing Aggregates. Methods for Determination of Particle Shape. Flakiness Index.
24	BS 812 Section 105.2	Testing Aggregates. Methods for Determination of Particle Shape. Elongation Index for Coarse Aggregate.



**Table 3. List of Certified Cement, Grout, Mortar and Concrete Tests for OGC**

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 Sawed Beams of Concrete
4	ASTM C 109	Compressive Strength of Hydraulic Cement Mortars
5	ASTM C 138	Unit Weight and Air Content by Gravimetric
6	ASTM C 143	Slump of Hydraulic-Cement Concrete
7	ASTM C 172	Sampling Freshly Mixed Concrete
8	ASTM C 174	Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
9	ASTM C 188	Density of Hydraulic Cement
10	ASTM C 192	Making and Curing Test Specimens in the Laboratory
11	ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
12	ASTM C 470	Molds for Forming Concrete Test Cylinders Vertically
13	ASTM C 511	Moist Cabinets, Moist Rooms, Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
14	ASTM C 617	Capping Cylindrical Concrete Specimens
15	ASTM C 805	Rebound Number of Hardened Concrete
16	ASTM C 1019	Sampling and Testing Grout
17	ASTM C 1064	Temperature of Freshly Mixed Portland Cement Concrete
18	ASTM C 1077	Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
19	ASTM C 1437	Flow of Hydraulic Cement Mortar
20	ASTM C 1602	Mixing Water Used in the Production of Hydraulic Cement Concrete

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

No	Test Method	Test Procedure Title
1	ASTM D 5	Penetration of Bituminous Materials
2	ASTM D 36	Softening Point of Bitumen (Ring-and-Ball Apparatus)
3	ASTM D 70	Density of Semi-Solid Bituminous Materials (Pycnometer Method)
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

No	Test Method	Test Procedure Title
8	ASTM D 2041	Theoretical Maximum Specific Gravity and Density of Bituminous Pavement Mixtures
9	ASTM D 2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
10	ASTM D 2489	Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
11	ASTM D 2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
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 Mixture Specimens
14	ASTM D 3665	Random Sampling of Construction Materials
15	ASTM D 3666	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
16	ASTM D 5361	Sampling Compacted Bituminous Mixtures for Laboratory Testing
17	ASTM D 5444	Mechanical Size Analysis of Extracted Aggregate
18	ASTM D 6926	Preparation of Bituminous Specimens Using Marshall Apparatus
19	ASTM D 6927	Marshall Stability and Flow of Bituminous Mixtures
20	CRD-C 649	Standard Test Method for Unit Weight, Marshall Stability, and Flow of Bituminous Mixtures
21	CRD-C 650	Standard Method for Density and Percent Voids of Compacted Bituminous Paving Mixtures
22	CRD-C 652	Standard Test Method for Measurement of Reduction in Marshall Stability of Bituminous Mixtures Caused by Immersion in Water
23	AASHTO T 79	Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Less Than 93.3°C (200°F)
24	AASHTO T 182	Coating and Stripping of Bitumen-Aggregate Mixtures
25	AASHTO T 230	Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
26	AASHTO T 283	Standard Method of Test for Resistance of Compacted Hot Mix Asphalt (HMA) to Moisture-Induced Damage

**Table 5. List of Certified Brick, Stone, and Concrete Masonry Units Tests for OGC**

No	Test Method	Test Procedure Title
1	ASTM C 67	Sampling and Testing Brick and Structural Clay Tile
2	ASTM C 90	Load bearing Concrete Masonry Units
3	ASTM C 97	Absorption and Bulk Specific Gravity of Dimension Stone
4	ASTM C 1552	Practice for Capping Concrete Masonry Units, Related Units, and Masonry Prisms for Compression Testing

**Table 6. List of Certified Petrography of Concrete Tests for OGC**

No	Test Method	Test Procedure Title
1	ASTM C856	Standard Practice for Petrographic Examination of Hardened Concrete
2	ASTM C457	Microscopically Determination of Air-Void
3	ASTM C295	Petrographic Examination of Aggregates for Concrete
4	ASTM C1324	procedures for petrographic examination and chemical analysis of samples of masonry mortars

**Table 7. List of Rock Mechanic Tests for OGC**

No	Test Method	Test Procedure Title
1	ASTM D 6032	Standard Test Method for Determination Rock Quality Determination (RQD) of rock core
2	ASTM D 2845	Standard Test Method for Laboratory Determination of Pulse Velocities and Ultrasonic Elastic Constants of Rock
3	ASTM D 3967	Standard Test Method for Splitting Tensile Strength of Intact Rock Specimens
4	ASTM D 5607	Standard Test Method for Laboratory Direct Shear Strength Tests of rock specimens under constant normal force
5	ASTM D 5873	Standard Test Method for Determination of Rock Hardness by Rebound Hammer Method
6	ASTM D 6473	Specific Gravity and Absorption of Rock
7	ASTM D 5731	Standard Test Method for Determination of the Point Load Strength Index of Rock
8	ASTM D 7012	Standard Test Method for Compressive Strength and Elastic Moduli of Intact Rock core Specimens Under Varying States of Stress And Temperatures
9	ASTM D 2664	Standard Test Method for Triaxial Compressive Strength of Intact Rock Core Specimens

**Table 8. List of Geophysics Surveys for OGC**

No	Test Method	Test Procedure Title
1	ASTM D 577	Seismic refraction and reflection survey
2	ASTM D 6431	Geo electrical resistivity imaging survey