

Laboratory Certification For
VICC WATER LABORATORY

Lab ID: LCP-030

Issue date: May 17th, 2017

Expiry date: May 16th, 2018

This letter confirms the completion of inspection and certification for the VICC, which is located at Spin Ghar Road, District 9, Hod Khail, Pol-e- Charkhi, 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 7, 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 below individual while without his oversight, the laboratory will require recertification:
 1. Noorullah Mashwani the laboratory manager;
- B. If the calibration certificates of equipments 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 VICC 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 64 tests, as shown on attached sheets and summarized as:

Table 1:	16
Table 2:	17
Table 3:	18
Table 4:	3
Table 5:	4
Table 6:	5
Table 7:	1

Regards,

Naeem Yassin

President of Afghanistan Builders Association
(ABA)



VICC Certified Laboratory Tests

Table 1. List of Standard Test

No	Test Method	Test Procedure Title
1	HACH #8202	Acidity
2	HACH #8203	Alkalinity
3	HACH #8025	Color
4	HACH #8160	Conductivity
5	HACH #8333	Dissolved oxygen
6	HACH #8204	Hardness
7	HACH #8213	Total hardness
8	HACH (direct measurement)	pH
9	HACH (direct measurement)	Red sox potential
10	HACH (direct measurement)	Salinity
11	HACH #8006	Suspended solids
12	HACH #8271	Total solids
13	HACH (direct measurement)	Total dissolved solid (TDS)
14	HACH #8237	Turbidity
15	HACH #8073	Corrosivity
16	HACH (direct measurement)	Resistivity

Table 2. List of Inorganic Compounds

No	Test Method	Test Procedure Title
1	HACH #8016	Bromine
2	HACH #8021	Chlorine free
3	HACH #8167	Chlorine Total
4	HACH #8138	chlorine dioxide

No	Test Method	Test Procedure Title
5	HACH #8031	Iodine
6	HACH #8155	Nitrogen as Ammonia
7	HACH #8185	Silica
8	HACH #8207	Chloride
9	HACH #8027	Cyanide
11	HACH #8029	Fluoride
12	HACH #8171	Nitrate
13	HACH #8507	Nitrite
14	HACH #8048	Phosphate
15	HACH #8131	Sulfide
16	HACH #8051	Sulfate
17	HACH #8203	Carbonate

Table 3. List of CATIONS

No	Test Method	Test Procedure Title
1	HACH #8012	Aluminum
2	HACH #8014	Barium
3	HACH #8204	Calcium
4	HACH #8023	Chromium hexavalent
5	HACH #8506	Copper
6	HACH #8008	Iron, Total
7	HACH #8213	Magnesium
8	HACH #8034	Manganese
9	HACH #8357	Sodium
10	HACH #8049	Potassium
11	HACH #8009	Zinc
12	HACH EZ Test kit	Arsenic
13	HACH #8317	Lead

No	Test Method	Test Procedure Title
14	HACH #8023	Chromium, total
15	HACH #8015	Boron
16	HACH Unicell	Cadmium
17	HACH #8194	Selenium
18	HACH #8120	Silver

Table 4. List Organic Compounds

No	Test Method	Test Procedure Title
1	HACH #10129	Total Organic Carbon
2	HACH #8043	Biochemical Oxygen Demand(BOD)
3	HACH #8000	chemical Oxygen Demand (COD)

Table 5. List of Microbiological Test

No	Test Method	Test Procedure Title
1	Method 8319 & 8364	Total Coli form
2	Method 8319 & 8364	E- coli
3	Method 8319 & 8364	Fecal coli form
4	Count Method	Total Coli form-E, Coli & Fecal Coli form

Table 6. List of Soil Test

No	Test Method	Test Procedure Title
1	ASTM D4972	pH of soil
2	ASTM C1580	sulfate content of soil
3	AASHTO T291	chloride content of soil
4	HACH #10073	Salinity of soil
5	HACH #8073	Corrosivity of soil

Table 7. List of Step-drawdown Test

No	Test Method	Test Procedure Title
1	AED Well Design Requirements July 2012 Version 2.1	75 %,100% &150 %