

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 18/08/2020 Rev. No: 09 LAB 227
---	-----------------------------------	---

Accreditation No: LAB 227

Awarded to

**Water Environment Laboratories & Consultancy Services
(WELCOS) Lahore, Pakistan**

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc and shall not mislead its users.

The accreditation was first time granted on **14-06-2021** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO/IEC 17025:2017**.

The accreditation requires regular surveillance, and is valid until **13-06-2024**.

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed measurements/tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

21-06-2021
Date

Sd
Director General



ACCREDITATION DOCUMENT

F-06/02
Issue Date: 18/08/2020
Rev. No: 09
LAB 227

Testing Laboratory.

Accreditation Scope of Water Environment Laboratories & Consultancy Services (WELCOS)
Lahore, Pakistan

**Permanent laboratory premises: 29-D, Punjab University Town-II, Khayaban-e-Jinnah,
Lahore, Pakistan**

Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Potable, Surface, Ground, Process and Waste Water	Environmental Testing	Alkalinity	APHA Standard Method 2320-B (Titration method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Bicarbonates	APHA Standard Method 2320-B (Titration method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Chemical oxygen demand (COD)	APHA Standard Method 5220-B & D (Open Reflux and Close Reflux Colorimetric method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Electrical Conductivity	APHA Standard Method, 2510-B (Conductance method) APHA, AWWA WEF 23 rd Edition
	Environmental Testing	Calcium (Ca)	APHA Standard Method 3500 – Ca ²⁺ -B (EDTA Titrimetric Method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Carbonate	APHA Standard Method 2320-B (Titration method) APHA, AWWA WEF 23 rd Edition 2017

21-06-2021
Date

Sd
Director



ACCREDITATION DOCUMENT

F-06/02
Issue Date: 18/08/2020
Rev. No: 09
LAB 227

Potable, Surface, Ground, Process and Waste Water	Environmental Testing	Fluoride (F)	APHA Standard Method 4500-F ⁻ D (SPADNS method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Magnesium (Mg)	APHA Standard Method 3500 – Mg ²⁺ - B (EDTA Titrimetric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Nitrate as Nitrogen	APHA Standard Method 4500-NO ₃ ⁻ B (Ultraviolet Spectrophotometric Screening Method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Oil & Grease	APHA Standard Method 5520-B (Liquid-Liquid, Partition-Gravimetric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Sulphate (SO ₄)	APHA Standard Method 4500-SO ₄ ²⁻ E (Turbidimetric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Total Dissolve Solids (TDS)	APHA Standard Method 2540-C (Total Dissolved Solids at 180 °C Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Total Hardness (as CaCO ₃)	APHA Standard Method 2340 C (EDTA Titrimetric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Arsenic (As)	APHA Standard Method 3113 B & 3114 B (Electro thermal & Manual Hydride Generation AAS Method) APHA, AWWA WEF 23 rd Edition 2017

21-06-2021
Date

Sd
Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 18/08/2020
Rev. No: 09
LAB 227

Potable, Surface, Ground, Process and Waste Water	Environmental Testing	Chromium (Cr)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Copper (Cu)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Cadmium (Cd)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Chloride	APHA Standard Method 4500-Cl ⁻ B (Argentometric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Iron (Fe)	APHA Standard Method 3500-Fe B & 3111 B (Phenantroline Spectrophotometric & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Lead (Pb)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Manganese (Mn)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Potassium	APHA Standard Method, 3500 –K B (Flame Photometric Method) APHA, AWWA WEF 23 rd Edition 2017

21-06-2021
Date

Sd
Director



ACCREDITATION DOCUMENT

F-06/02
Issue Date: 18/08/2020
Rev. No: 09
LAB 227

Potable, Surface, Ground, Process and Waste Water	Environmental Testing	Sodium	APHA Standard Method, 3500 –Na-B (Flame Photometric Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Zinc (Zn)	APHA Standard Method 3113 B & 3111 B (Electro thermal & Air Acetylene Flame AAS Method) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Total Coliform	APHA Standard Method 9222 B (Standard Total Coliform Membrane Filter Technique) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	Fecal coliform (<i>E. coli</i>)	APHA Standard Method 9222 D (Thermotolerant (Fecal) Coliform Membrane Filter Technique) APHA, AWWA WEF 23 rd Edition 2017
	Environmental Testing	pH	APHA Standard Method 4500-H+ -B (Electrometric method) APHA, AWWA WEF 23 rd Edition 2017.
	Environmental Testing	Total Suspended Solids (TSS)	APHA Standard Method 2540 D (Total Suspended Solid Dried at 103 to 105oC), APHA, AWWA WEF 23 rd Edition 2017.

21-06-2021
Date

Sd
Director