Hellenic Accreditation System

Annex F1/7 to the Certificate No.**1021**-3

SCOPE of ACCREDITATION

of the

Analytical Chemistry Department

of the

Hellenic Research Center for Metals (ELKEME) S.A.

Materials / Products Tested	Types of Test / Properties to be measured	Applied Standards / Techniques
Chemical Tests		
Wastewater	1. Determination of pH	APHA* 4500-H^+ B
	2. Determination of Conductivity	APHA* 2510 B
	3. Determination of Total Suspended Solids (TSS)	In house method ΟΕ 702Γ-14 based on EN 872:2005
	4. Determination of Total Dissolved Solids (TDS)	In house method ΟΕ 702Γ-03 based on APHA* 2540C
	5. Determination of Oil - Grease (HEM)	APHA* 5520B
	6. Determination of Hydrocarbons (SGT- HEM)	APHA* 5520F
	7. Determination of Aluminium (Al), Copper (Cu), Zinc (Zn), Arsenic (As), Barium (Ba), Iron (Fe), Manganese (Mn), Selenium (Se), Silver (Ag), Boron (B), Cobalt (Co), Chromium (Cr), Molybdenum (Mo), Tin (Sn), Nickel (Ni), Lead (Pb), dissolved Nickel ($Ni_{0.45\mu m}$), dissolved Iron ($Fe_{0.45\mu m}$), dissolved Lead ($Pb_{0.45\mu m}$)	ELOT EN ISO 11885:2009 – Water quality – Determination of selected elements by inductively coupled plasma optical emission spectometry (ICP-OES) ELOT EN ISO 15587.01:2002 – Water quality – Digestion for the determination of selected elements in water – Part 1: Aqua regia digestion
	8. Determination of Chromium (Cr) Lead (Pb), Cadmium (Cd), dissolved Cadmium (Cd 0.45μm), dissolved Lead (Pb 0.45μm)	ELOT EN ISO 15586:2003- Water Quality – Determination of trace elements using atomic absorption spectrometry with graphite furnace
	9. Determination of Fluoride (F^-)	In house method ΟΕ 702Γ-06 based on APHA* 4500F^- C
	10. Determination of Hexavalent Chromium (Cr^{6+})	Photometric method, MERCK 1.14758 analog to APHA*3500Cr-B
	11. Determination of Chloride (Cl^-)	Photometric method, MERCK 1.14730 analog to APHA* 4500Cl^-E

Materials / Products Tested	Types of Test / Properties	Applied Standards / Techniques
Wastewater (cont.)	12. COD determination	Photometric method, MERCK 1.14560 analog to APHA* 5220D
	13. BOD_5 determination	APHA* 5210 D
	14. Determination of total Cyanide (CN^-)	Photometric method, MERCK 1.14561 analog to APHA*4500CN-E
	15. Determination of Free Chlorine (Cl_2 free)	Photometric method, MERCK 1.00597 analog to APHA*4500Cl_2 -G
	16. Determination of Sulfate (SO_4^{2-})	Photometric method, MERCK 1.14548 analog to APHA*4500 $SO4^{2-}$ -E
	17. Determination of Boron (B), Cobalt (Co), Molybdenum (Mo), Nickel (Ni), Cadmium (Cd), Lead (Pb), Aluminium (Al), Arsenic (As), Barium (Ba), Manganese (Mn), Selenium (Se), Copper (Cu), Zinc (Zn), Iron (Fe), Chromium (Cr), Silver (Ag), Tin (Sn),dissolved Iron ($Fe_{0.45\mu m}$), dissolved Nickel ($Ni_{0.45\mu m}$), dissolved Cadmium ($Cd_{0.45\mu m}$), dissolved Lead ($Pb_{0.45\mu m}$)	ISO 17294-1:2004 – Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 1: General guidelines ISO 17294-2:2023 – Water quality – Application of inductively coupled plasma mass spectrometry (ICP-MS) – Part 2: Determination of selected elements including uranium isotopes ELOT EN ISO 15587.01:2002 – Water quality – Digestion for the determination of selected elements in water – Part 1: Aqua regia digestion

*American Public Health Association, American Water Works Association, Water Environment Federation, "Standard Methods for the Examination of Water and Wastewater", 24th Edition, 2022.

Site of assessment: **Permanent laboratory premises, 61st km Athens-Lamia Nat. Road, 32011 Oinofyta, Viotia, Greece**
Approved signatories: **K. Pantazis, G. Pantazopoulos, T. Pentovolou.**

This Scope of Accreditation replaces the previous one dated 13.06.2023.
The Accreditation Certificate No.**1021**-3, to ELOT EN ISO/IEC 17025: 2017, is valid until 21.02.2029.

Athens, 20.02.2024

Christos Nestoras
CEO of ESYD