THE HASHEMITE KINGDOM OF JORDAN

Accreditation Unit

Jordanian Accreditation System
نظام الاعتماد الأردني
Accreditation Unit

Annex (1)
Updated on

To The Accreditation Certificate No. JAS Test – 097 Dated 19 -01 -2020

For Water Authority of Jordan Laboratories (WAJ)

Scope of Accreditation

Chemical, Microbiological, and Radiochemical Testing and sampling of Surface water, Ground water, Drinking water, Domestic wastewater, Industrial wastewater and Treated water.

Tested Parameter/ Type of Test/ Measured Quantity	Measurement Range	Test Methods/ Standards
Water (Surface, Ground and Drinking)		
pH	(0-14)Unit	SM 4500-H^+ B – using electrometric technique - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Turbidity	(0.1-4000)NTU	SM 2130 B – using Nephelometric technique - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Electrical Conductivity	>1 µS/cm	SM 2510 B – using conductivity meter at 25°C – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Total Organic Carbon	>0.3 ppm	SM 5310 C – using persulfate-ultraviolet oxidation technique – Standards Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Orthophosphate	>0.06ppm	SM 4500-P D – using UV-VIS Spectrophotometer – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Fluoride	>0.2 ppm	SM 4500-F D – using HACH DR 5000 – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Trihalomethanes: Chloroform,Bromodichloromethane,Dibromchloromethane and Bromoform	>0.5ppb for each parameter	In-house Method No.: CHO-THM-R013,effective date:3 June 2018, using British Standard 1984-1985 Head space GC-ECD
Cations: Sodium, Potassium, Calcium , Magnesium	Na > 1 ppm Ca >1 ppm K >0.5 ppm Mg > 0.5 ppm	In-house Ion Chromatographic Method, Method NO: CHI-CAT-R011, effective date 23/9/2019
Total hardness	> 5 ppm	SM 2340 B- Calculation method, Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017

Iron, Zinc, Copper and Manganese	Fe >0.01ppm Zn >0.02 ppm Mn>0.005 ppm Cu >0.02 ppm	SM 3120 B – using Inductively Coupled Plasma Atomic Emission Spectroscopy – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Anions: Chloride, Nitrate and Sulphate	Cl> 0.8 ppm NO_3>0.5 ppm SO_4>0.5 ppm	SM 4110 B – using Ion Chromatography with Chemical Suppression of Eluent Conductivity - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Tritium	(1-1500)TU	In-house method SOP (ISO-TRI) Revision (14), Effective date 16 August, 2018 based on :On IAEA technical report note no.19 using Electrolytic Tritium Enrichment & low level Liquid Scintillation Spectrometry
Gross Alpha & Gross Beta	(0.5-20)Bq/l for Gross alpha (1.0-20)Bq/l for Gross Beta	In-house method SOP (ISO-ABLSC) Revision (19), Effective date 18 July, 2018 based on : On Standard method **71110B** using concentration by Evaporation & Liquid Scintillation Spectrometry
Radium R-226 and Ra-228	(0.12-5)Bq/L for Ra228 (0.1-3.13) Bq/L for Ra226	In-house method SOP (ISO-Ra 228/226) Revision (5), Effective date 25 Sep, 2019 Based on: On Standard method 7500 –Ra-E using evaporation enrichment counting by gamma spectrometer
Carbon-13	Not Applicable	In-house method SOP (ISO-C13) Revision (5), Effective date 4/2/2019 Based on: Cavity Ring-Down spectroscopy (CRDS) analyzer for isotopic CO_2 system
Wastewater (Surface and Domestic& Industrial)		
Chemical Oxygen Demand	>10 ppm	SM 5220 C – using Closed reflux & Automatic titration techniques – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Total Dissolved Solids	>20 ppm	SM 2540 C – Total Dissolved Solids Dried at 180°C – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Total Suspended Solids	>5 ppm	SM 2540 D – Total Suspended Solids Dried at 103°C – 105 °C Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Turbidity	(0.0-7500) NTU	SM 2130 B – using Nephelometric technique - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
pH	(0-14) UNIT	SM 4500-H^+ – using electrometric technique – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Anions & Cations: Nitrate , Nitrite, Ammonium, Fluoride, Sulphate, Orthophosphate & Chloride	F> 0.3 ppm Cl> 0.6 ppm NO_2 > 0.3 ppm NO_3> 0.3 ppm SO_4>0.4 ppm PO_4> 0.4 ppm NH_4> 0.3 ppm	SM 4110 B – using Ion Chromatography with Chemical Suppression of Eluent Conductivity (Dionex Dual Ion) - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Indicative Oil & Grease	>7 ppm	In-house Method No.: WW-FOG-R008,effective date: 5/5/2019 using Solvent Extraction and Gravimetric techniques

Total Oil and Grease	>7 ppm	SM 5520 B – using Solvent Extraction and Gravimetric techniques- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Sampling & Monitoring Field for (Surface, Ground , Drinking & Treated) water		
Sampling / Chemicals & Microbiology	Not applicable	SM 1060 B - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
pH (Field Test)	(0-14) UNIT	SM 4500-H^+ B – using electrometric technique – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Residual Chlorine (Field Test)	(0-3.5)ppm	SM 4500 – Cl G – using Calorimetric Technique – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Turbidity (Field Test)	(0-1000)NTU	SM 2130 B – using Nephelometric technique - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Sampling & Monitoring Field for Sewage Effluent (Treated Wastewater)		
Sampling / Chemicals & Microbiology	NA	SM 1060 B - Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
pH (Field Test)	(0-14) UNIT	SM 4500-H^+ B – using electrometric technique – Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Water and wastewater		
Total coliforms MTFT	(1.8-1600) MPN/100ml (for nonchlorinated) (1.1-8) MPN/100ml (for chlorinated)	SM 9221 A,B-Multiple tubes fermentation technique- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Thermotolerant (fecal (Coliforms) MTFT	(1.8-1600) MPN/100ml (for nonchlorinated) (1.1-8) MPN/100ml (for chlorinated)	SM 9221 E-Multiple tubes fermentation technique- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Escherichia coli MTFT	(1.8-1600) MPN/100ml (for nonchlorinated) (1.1-8)MPN/100ml (for chlorinated)	SM 9221 F-Multiple tubes fermentation technique- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Total coliforms IDEXX	(1-2419.6) MPN/100ml	SM 9223 A,B-IDEXX Colilert- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017

Escherichia coli IDEXX	(1-2419.6) MPN/100ml	SM 9223 A,B-IDEXX Colilert- Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Pseudamonas aeruginosa MTFT	(1.8-1600) MPN/100ml	SM 9213 F-Multiple tubes fermentation technique-Standard Methods for Examination of Water and Wastewater, 23rd Edition, 2017
Pseudamonas aeruginosa IDEXX	(1-2419.6) MPN/100ml	IDEXX Pseudalert

List of employees in the laboratory who are technically responsible for issuing the test reports in the scope of accreditation:

1- ASG/ Laboratories and Quality Affairs/Eng. Ahmad Al-Uleimat
2- Director of Quality Assurance Unit (QAM)/ Eng. Hiyam Al Sa'aydeh
3- Information Unit Director/Eng. Rania Shaban
4- Accreditation Section Head/Eng. Suzan Yassin