Schedule of Accreditation

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Accredited to ISO/IEC 17025:2017

Mohammed Abdulmohsin Al-Kharafi & Sons for General Trading, General Contracting & Industrial Structures W.L.L. trading as MAK Sulaibiya Testing Laboratory

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PO Box 886
Safat 13009
Kuwait

Contact: Shahanaz Fahtima
Tel: +965 5055 9346
E-Mail: Sh.Fahtima@Kharafi.com.kw

Testing performed at the above address only

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS	Chemical and Physical Tests	Documented In-House Methods based on “Standard Methods for the Analysis of Water and Wastewater” 22nd Edition (APHA) unless stated otherwise
Raw Sewage, Clean Water & Brine	pH	LTM 101 (APHA-4500H B) using pH Meter
Raw Sewage, Clean Water, and Brine	Conductivity	LTM 102 (APHA-2510B) using conductivity meter
Raw Sewage, Clean Water & Brine	Total Suspended Solids	LTM 103 (APHA-2540D) using gravimetry
Raw Sewage, Clean Water, and Brine	Total Dissolved Solids	LTM 105 (APHA-2540C) using gravimetry (180 °C)
Raw Sewage, Clean Water, and Brine	Total Dissolved Solids	LTM 146 (APHA-2510A&B) using conductivity
Raw Sewage, Clean Water, and Brine	Chemical Oxygen Demand	LTM 107 & LTM157 (APHA-5220B) using manual titration & colourimetry respectively
Raw Sewage, Clean Water, and Brine	Biochemical Oxygen Demand	LTM 127 (APHA- 5210B) 5 day test
Raw Sewage, Clean Water, and Brine	Ammonia Nitrogen	LTM 109 (APHA-4500 NH3 B&C) using automated steam distillation and Titrimetry
Raw Sewage, Clean Water, and Brine	Ammonia Nitrogen	LTM 155 (ASTM - D1428-08 Method A) Direct Nesslerisation Method

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS (cont'd)	Chemical and Physical Tests (cont'd)	Documented In-House Methods based on "Standard Methods for the Analysis of Water and Wastewater" 22nd Edition (APHA) unless stated otherwise
Raw Sewage, Clean Water, and Brine	Total Phosphate/Phosphorous	LTM 116 (APHA-4500 P C) using Colourimetry
Raw Sewage, Clean Water, and Brine	Total Kjeldahl Nitrogen	LTM 149 (APHA-4500C) using automated instrumentation LTM 115 (APHA-4500N) by calculation
Raw Sewage, Clean Water, and Brine	Organic Nitrogen	LTM 111 (APHA-4500N) using automated instrumentation LTM 150 (APHA 4500A) by calculation
Raw Sewage, Clean Water, and Brine	Metals Aluminium Barium Calcium Iron Magnesium Manganese Potassium Sodium Strontium Phosphorous (total P)	LTM 205 (APHA 3120B) using ICP-OES
Raw Sewage, Clean Water, and Brine	Alkalinity	LTM 119 and LTM 153 (APHA-2320 B) using manual Titrimetry and potentiometric totrimetry respectively
Raw Sewage, Clean Water, and Brine	Chloride	LTM 120 (APHA-4500Cl D) using manual Titrimetry
Raw Sewage, Clean Water, and Brine	Chloride	LTM 154 (APHA-4500Cl B) using potentiometric titrimetry
Raw Sewage, Clean Water, and Brine	Sulphate	LTM 121 (APHA-4500 SO4 E) using Colourimetry
Raw Sewage & Clean Water	Nitrite Nitrogen	LTM 114 (APHA-4500 NO2 B) using Colourimetry

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS (cont'd)	Chemical and Physical Tests (cont'd)	Documented In-House Methods based on "Standard Methods for the Analysis of Water and Wastewater" 22nd Edition (APHA) unless stated otherwise
Raw Sewage, and Clean Water	Sulphide	LTM 122 (APHA 4500S D) using Colourimetry
Raw Sewage and Clean Water	Metals Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Lithium Molybdenum Nickel Zinc	LTM 205 (APHA 3120B) using ICP-OES
Raw Sewage and Clean Water	Volatile Suspended Solids	LTM 104 (APHA-2540E) using gravimetry
Clean Water and Brine	Free Chlorine	LTM 123 (APHA-4500 Cl G) using Colourimetry
Clean Water and Brine	Colour (ADMI)	LTM 125 (APHA-2120 F) using Colourimetry
Clean Water and Brine	Total Hardness	LTM 130 (APHA-2340 B) by Calculation
Clean Water	Turbidity	LTM 128 (APHA-2130 B) using Nephelometry
Clean Water	Nitrate Nitrogen	LTM 156 (ISO 7890-1) using Colourimetry
Clean Water	Total Hardness	LTM 129 (EPA-130.1) using Colourimetry
Clean Water	Selenium	LTM 205 (APHA 3120B) using ICP-OES
Clean water	Silica	LTM 126 (APHA-4500 SiO2 D) using Colourimetry

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SEWAGE	Chemical and Physical Tests	Documented In-House Methods based on "Standard Methods for the Analysis of Water and Wastewater" 22nd Edition (APHA) unless stated otherwise
Raw Sewage	Oil and Grease	LTM 108 (APHA 5520C) using Partition Infra-Red
Raw Sewage	Metals Mercury Silver Vanadium	LTM 205 (APHA 3120B) using ICP-OES
Raw Sewage	Settleable Solids	LTM 138 (APHA-2540 F) using Volume Measurement
Sewage Sludge	Sludge Volume	LTM 131 (APHA-2710 C) using Volume Measurement
Sewage Sludge	Sludge Volume Index	LTM 133 (APHA-2710 D) by calculation
Sewage Sludge	Capillary Suction Time	LTM 132 (APHA-2710 G) using Time measurement
Sewage Sludge	Volatile Suspended Solids	LTM 104 (APHA-2540E) using gravimetry
Sewage Sludge	Total Solids	LTM 106 (APHA-2540 B&G) using Gravimetry
Sewage Sludge	Total Volatile Solids	LTM 140 (APHA-2540 G) using Gravimetry
Sewage Sludge	Total Suspended Solids	LTM 103 (APHA-2540D) using gravimetry
	Biological Tests	Documented In-House Methods
Sewage Sludge	Microscopic Examination	LTM 254 (based on Process Control of Activated Sludge Plants by Microscopic Examination) by D H Eikelboom

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
WATERS	Microbiological Tests	
Raw Sewage, Clean Water & Brine	Total Coliforms (Presumptive and Confirmed)	LTM 251 (APHA-9222 B) using Membrane Filtration
Raw Sewage, Clean Water & Brine	Faecal Coliforms (Presumptive and Confirmed)	LTM 252 (APHA-9222D) using Membrane Filtration
Raw Sewage and Clean Water	Enterococci (Presumptive)	LTM 258 (APHA-9230 C) using Membrane Filtration
Raw Sewage, Clean Water & Brine	Total Bacterial Count	LTM 256 (APHA-9000, 9215D) using Membrane Filtration
SOILS & SEDIMENTS	Chemical and Physical Tests	Documented In-House Methods
Sandy Soils	Metals Arsenic Beryllium Cadmium Copper Iron Lead Manganese Mercury Nickel Vanadium Zinc	LTM 204 (ASTM D 1971-02 B) digestion and LTM 205 (APHA 3120B) using ICP-OES
Sediments	Metals Aluminium Beryllium Copper Iron Lead Manganese Mercury Nickel Vanadium	LTM 204 (ASTM D 1971-02 B) digestion and LTM 205 (APHA 3120B) using ICP-OES
END		