SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CHEMICAL

Valid To: February 28, 2027 Certificate Number: 5669.10

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests: leachates waters (raw, effluent, leachate and groundwater), waste waters (untreated and treated domestic and industrial waste water), saline waters, potable water, soils and metals:

Test(s):	**Test Method(s):**
Waters (Leachates, Waste & Saline) Elemental Analysis by ICP-MS (Al, As, Ag, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Se, Sb, Si, Sn, Sr, Ti, Tl, U, V, Zn)	USEPA 3050B, 3125 EL-M-OP-CH-AKB-MD133
Waters (Potable) Elemental Analysis by ICP-MS (Al, As, Ag, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Se, Sb, Si, Sn, Sr, Ti, Tl, U, V, Zn)	APHA 3125 EL-M-OP-CH-AKB-MD131
Waters & Soils Elemental Analysis by ICP-OES (Al, As, Ag, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Se, Sb, Si, Sn, Sr, Ti, Tl, U, V, Zn)	APHA 3120 USEPA 6010D EL-M-OP-CH-AKB-MD106
Ion Chromatography – Determination of Anions and Oxyhalides Bromate Bromide Chlorate Chloride Chlorite Fluoride Nitrate Nitrite Ortho - phosphate Sulphate (Waters – Potable)	APHA 4110 D EL-M-OP-CH-AKB-MD322A
FTIR – Oil and Grease (Waters – Potable)	ASTM D7678 EL-M-OP-CH-AKB-MD414

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Test(s):	Test Method(s):
Oil and Grease (Waters – Saline)	APHA 5220B (Gravimetric); EL-M-OP-CH-AKB-MD414A by Gravimetric
Waters (Potable & Saline) & Soils Semi Volatile Organic Compounds (SVOCs) and Polycyclic Aromatic Hydrocarbon (PAHs) by GC-MS including: Azobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene Hexachlorobenzene Nitrobenzene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2,4-Dichlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol o-Cresol p-Cresol 2-Nitrophenol 2,4-Dimethylphenol 4-Chloro-3-methylphenol Dimethyl phthalate Diethyl phthalate Bis (2-ethylhexyl) phthalate Butyl benzylphthalate Di-n-butylphthalate Di-n-octylphthalate 4-Chlorodiphenylether 4-Bromophenyl phenylether Dibenzofuran Isophorone Hexachloroethane n-nitrosodi-n-propylamine Bis (2-chloroisopropyl) ether Bis (2-chloroethyl) ether n-nitrosodimethylamine Bis (2-chloroethoxy) metyhane 4-Chloroaniline 2-Nitroaniline Hexachlorobutadiene Hexachlorocyclopentadiene Naphthalene 2-Methylnaphthalene 2-Chloronaphthalene Naphthalene	EPA 8270 E EL-M-OP-CH-AKB-MD406 for SVOC's EL-M-OP-CH-AKB-MD403B for PAH in Soils EL-M-OP-CH-AKB-MD403A for PAH in Water

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Test(s):	Test Method(s):
Acenaphthene Acenaphthylene Anthracene Carbazole Benzo (a) anthracene Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (g, h ,i) preylene Benzo (a) pyrene Chrysene Fluorene Fluoroanthene Dibenze (a, h) anthracene Ideno(1, 2, 3 - c, d)Pyrene Phenathrene Pyrene	
Waters & Soils Volatile Organic Compound by (GCMS- Purge & Trap) 1,2-dichloro Ethene (Z) Dichlorodifluoromethane Chloromethane 1,3-dichloro-1-Propene, (Z) Vinyl Chloride BromoMethane Chloroethane 1,2,4-trimethyl-Benzene Trichloromonofluoromethane 1,2-dichloro-Benzene Vinyl Acetate Methyl tert-butyl ether Methylene chloride 1,2-dichloro-Ethlene, (E) 2-Butanone (MEK) 1,1-dichloro-Ethane 2-Hexanone (MBK) 4-methyl-2-pentanone (MIBK) 1,1-dichloroEthene BromochloroMethane Chloroform 2,2-dichloro-Propane Pentachloroethane Acetone 1,2-dichloro Ethane 1,1,1-trichloro-Ethane 1,1-dichloro Propene Carbon Tetrachloride Benzene Dibromo methane	USEPA 8260 C EL-M-OP-CH-AKB-MD404A

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Test(s):	Test Method(s):
1,2-dichloro-Propane Trichloroethene BromodichloroMethane 1,3-dichloro-1-Propene, (E) 1,1,2-trichloro Ethane Toluene 1,3-dichloro Propane Diibromochloro Methane 1,2-dibromo Ethane Tetrachloroethene 1,1,1,2-tetrachloroEthane Chloro Benzene Ethylbenzene 1,3-dimethyl-Benzene Bromoform Styrene o-Xylene 1,2,3-trichloroPropane m+p-Xylene BromoBenzene iso-Propyl Benzene 4-chloro toluene 2-chloro toluene 1,3,5-trimethylbenzene tert-butylbenzene p- Isopropyl toluene 1,4-dichloro-Benzene o-Cymene 1,3-dichloro Benzene n-butylBenzene 1,2-dibromo-3-chloro-Propane 1,3,5-trichloro-Benzene Naphthalene HexachloroButadiene 1,2,3-trichloro-Benzene tert-Amyl methyl ether n-Propyl Benzene 1,1,2,2-tetrachloroEthane 1,2,4-trichloro-Benzene1,2-dichloro Ethene (Z) Dichlorodifluoromethane Chloromethane 1,3-dichloro-1-Propene, (Z) Vinyl Chloride BromoMethane Chloroethane 1,2,4-trimethyl-Benzene Trichloromonofluoromethane 1,2-dichloro-Benzene Vinyl Acetate	

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Test(s):	Test Method(s):
Methyl tert-butyl ether Methylene chloride 1,2-dichloro-Ethlene, (E) 2-Butanone (MEK) 1,1-dichloro-Ethane 2-Hexanone (MBK) 4-methyl-2-pentanone (MIBK) 1,1-dichloroEthene BromochloroMethane Chloroform 2,2-dichloro-Propane Pentachloroethane Acetone 1,2-dichloro Ethane 1,1,1-trichloro-Ethane 1,1-dichloro Propene Carbon Tetrachloride Benzene Dibromo methane 1,2-dichloro-Propane Trichloroethene BromodichloroMethane 1,3-dichloro-1-Propene, (E) 1,1,2-trichloro Ethane Toluene 1,3-dichloro Propane Diibromochloro Methane 1,2-dibromo Ethane Tetrachloroethene 1,1,1,2-tetrachloroEthane Chloro Benzene Ethylbenzene 1,3-dimethyl-Benzene Bromoform Styrene o-Xylene 1,2,3-trichloroPropane m+p-Xylene BromoBenzene iso-Propyl Benzene 4-chloro toluene 2-chloro toluene 1,3,5-trimethylbenzene tert-butylbenzene p- Isopropyl toluene 1,4-dichloro-Benzene o-Cymene 1,3-dichloro Benzene n-butylBenzene	

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Test(s):	Test Method(s):
1,2-dibromo-3-chloro-Propane 1,3,5-trichloro-Benzene Naphthalene HexachloroButadiene 1,2,3-trichloro-Benzene tert-Amyl methyl ether n-Propyl Benzene 1,1,2,2-tetrachloroEthane 1,2,4-trichloro-Benzene	
Waters & Soils Total Petroleum Hydrocarbon Criteria Working Group (TPHCWG) Aliphatics >C8-C10 Aliphatics >C10-C12 Aliphatics >C12-C16 Aliphatics >C16-C21 Aliphatics >C21-C35 Aliphatics >C35 Aromatics >EC8-EC10 Aromatics >EC10-EC12 Aromatics >EC12-EC16 Aromatics >EC16-EC21 Aromatics >EC21-EC35 Aromatics >EC35 Aromatics >C10-C40	USEPA 8015D EL-M-OP-CH-AKB-MD433
Waters & Soils Extractable Petroleum Hydrocarbons (EPH) and Total Petroleum Hydrocarbons (TPH) (>C10 to C40) by GC-FID	EPA 8015 EL-M-OP-CH-AKB-MD401
Waters (Potable, Effluent & Saline) & Soils Volatile Organic Compounds (VOCs) by GC-MS Headspace, including: Dichlorodifluoromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethane Methylene Chloride Methyl Tert-butyl ether (MTBE) trans-1,2 Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethane 2,2-Dichloropropane Bromochloromethane Chloroform Carbon tetrachloride 1,1,1-Trichloroethane	EPA 5021 EPA 8260 D EL-M-OP-CH-AKB-MD404

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Test(s):	Test Method(s):
1,1-Dichloropropene Benzene 1,2-Dichloroethane tert-Amylmethylether (TAME) Trichloroethene 1,2-Dichloropropane Bromodichloromethane Dibromomethane Toluene cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene Chlorodibromomethane 1,2-Dibromoethane 1,3-Dichloropropane Ethylbenzene 1,1,1,2-Tetrachloroethane Chlorobenzene m, p - Xylene o-Xylene Bromoform Styrene Isopropylbenzene Bromobenzene n-Propylbenzene 1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane 1,3,5-trimethylbenzene 2-Chlorotoluene 4-Chlorotoluene tert-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene 4-Isopropyltoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dibromo-3-Chloropropane 1,2-Diclorobenzene 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene Tertiary-Butyl alcohol (Waters - potable, effluent, saline waters & soils)	
Waters (Potable, Effluent & Saline) Soils GC-FID Headspace; Volatile Petroleum Hydrocarbons C5 - C10 (VPH)	EPA 5021 EPA 8015 EL-M-OP-CH-AKB-MD405

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Test(s):	Test Method(s):
MTBE Benzene Toluene Ethylbenzene m-Xylene o-Xylene p-Xylene	
Waters:	
Conductivity	APHA 2150B (Electrode) EL-M-OP-CH-AKB-MD201
Alkalinity	APHA 2320 (Titration) EL-M-OP-CH-AKB-MD210
Hardness	APHA 2340B (ICP-MS and Calculation) EL-M-OP-CH-AKB-MD211 APHA 2340C (Titration)
TDS	APHA 2540C (Electrode / Gravimetric) ASTM D5907 EL-M-OP-CH-AKB-MD208
TSS	APHA 2540D (Gravimetric) ASTM D5907 EL-M-OP-CH-AKB-MD209
pH	APHA 4500 H + B (Electrode) ASTM D1293 EL-M-OP-CH-AKB-MD301
Residual Chlorine	APHA 4500Cl (Spectrophotometer) Hach 8167 (Total Chlorine) Hach 8021 (Free Chlorine)
TOC	APHA 5310B (OX-IR) EL-M-OP-CH-AKB-MD319
Soils:	
Chloride	BS 1377-3 (Titration)
Total Sulfate	BS 1377-3 (Gravimetric)
Elemental Analysis (Al, As, Ag, Ba, Be, B, Cd, Co, Cr, Cu, Fe, Hg, Li, Mn, Mo, Na, Ni, Pb, Se, Sb, Sn, Sr, Ti, Tl, U, V, Zn)	APHA 3125 (ICP-MS) EL-M-OP-CH-AKB-MD112
pH	BS 1377-3 (Electrode)
Metals:	
Elemental Analysis by OES using Direct Reading Optical Emission Spectrometry techniques	ASTM E415 EL-M-OP-CH-AKB-MD101
Analysis of Irons, Steels and Stainless Steels – Agilent ICP-OES	ASTM A751 EL-M-OP-CH-AKB-MD107
Analysis of Irons, Steels and Stainless Steels by Spark-OES	EL-M-OP-CH-AKB-MD110A
Analysis of Nickel Alloy by ICP-OES	ASTM A751 ASTM E2594 EL-M-OP-CH-AKB-MD110

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Test(s):	Test Method(s):
Carbon and Sulfur by Combustion	ASTM E1019 EL-M-OP-CH-AKB-MD119
Total Nitrogen by Inert Gas Fusion	ASTM E1019 EL-M-OP-CH-AKB-MD128
PCBs in Water and Soils by GC-MS 2,4-Dichlorobiphenyl (PCB-7) 2,2,5-Trichlorobiphenyl (PCB-18) 2,4,4-Trichlorobiphenyl (PCB-28) 2,2,3,5-Tetrachlorobiphenyl (PCB-43) 2,2,5,5-Tetrachlorobiphenyl (PCB-52) 2,3,4,4-Tetrachlorobiphenyl (PCB-60) 3,3,4,4-Tetrachlorobiphenyl (PCB-77) 2,2,4,5,5-Pentachlorobiphenyl (PCB-101) 2,3,3,4,4-Pentahlorobiphenyl (PCB-105) 2,3,4,4,5-Pentachlorobiphenyl (PCB-114) 3,3,4,4,5-Pentachlorobiphenyl (PCB-126) 2,2,3,3,4,4-Hexachlorobiphenyl (PCB-128) 2,2,3,4,4,5-Hexachlorobiphenyl (PCB-137) 2,2,4,4,5,5-Hexachlorobiphenyl (PCB-153) 2,2,3,3.4,4,5-Heptachlorobiphenyl (PCB-170) 2,2,3,4,4,5,5-Heptachlorobiphenyl (PCB-180) 2,2,3,4,5,5,6-Heptachlorobiphenyl (PCB-185) 2,2,3,3,4,4,5,6-Octachlorobiphenyl (PCB-195) 2,2,3,3,4,4,5,5,6-Nonachlorobiphenyl (PCB-206) 2,2,3,3,4,4,5,5,6,6-Decachlorobiphenyl (PCB-207)	EPA 8270 E EL-M-OP-CH-AKB-MD416 PCB in Water and Soils
Aggregates:	
Chloride (Water and Acid Soluble)	BS EN 1744-1
Total Sulphate (Water and Acid Soluble)	BS EN 1744-1
Hardened Concrete:	
Chloride (Water and Acid Soluble)	BS 1881-124
Total Sulphate (Water and Acid Soluble)	BS 1881-124

[1] This accreditation covers testing performed at the main laboratory, as well as the satellite laboratories listed below.

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Test(s):	**Test Method(s):**
Water	
pH	EL-M-OP-CH-NEOM-MD301 APHA 4500 H + B (Electrode) ASTM D1293
Electrical Conductivity	EL-M-OP-CH-NEOM-MD201 APHA 2150B (Electrode)
Turbidity	EL-M-OP-CH-NEOM-MD203 APHA 2130-B
Nitrate	EL-M-OP-CH-NEOM-MD315 HACH 8171/ APHA 4500-NO_3-B
Nitrite	EL-M-OP-CH-NEOM-MD317 HACH 8507/ APHA 4500-NO_2-B
Sulphate	EL-M-OP-CH-NEOM-MD331 HACH 8051/ APHA 4500 SO_4-E
Phosphate	EL-M-OP-CH-NEOM-MD326 HACH 8040 APHA 4500-P-E USEPA 365.2
Ammonia	EL-M-OP-CH-NEOM-MD302 HACH 8155 EPA350.1 APHA NH3
Free Chlorine	EL-M-OP-CH-NEOM-MD206 HACH 8021 APHA 4500-Cl-G
Total Chlorine	EL-M-OP-CH-NEOM-MD206A HACH 8167 APHA 4500-Cl-G
Fluoride	EL-M-OP-CH-NEOM-MD328 HACH 8029 USEPA 340.1 APHA 4500F B-D
Colour	EL-M-OP-CH-NEOM-MD204 HACH 8025
Total Dissolved Solid	EL-M-OP-CH-NEOM-MD208 APHA 2540C (Electrode / Gravimetric) ASTM D5907
Total Suspended solid	EL-M-OP-CH-NEOM-MD209 APHA 2540D (Gravimetric) ASTM D5907
Alkalinity (Including HCO_3, CO_3, OH)	EL-M-OP-CH-NEOM-MD210 APHA 2320 (Titration)
Chloride	EL-M-OP-CH-NEOM-MD325 APHA 4500 Chloride -B (Titration) ASTM D512-12

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Test(s):	Test Method(s):
Oil and Grease	APHA 5220B (Gravimetric) EL-M-OP-CH-NEOM-MD414A
Chemical Oxygen Demand (COD)	APHA 52220C EL-M-OP-CH-NEOM-MD307
Biochemical Oxygen Demand (BOD)	APHA 5210B APHA 4500-0 C EL-M-OP-CH-NEOM-MD304
Hardness:	
Calcium Hardness Total Hardness	EL-M-OP-CH-NEOM-MD211 APHA 2340-C Titration APHA 2340-B Calculation EL-M-OP-CH-NEOM-MD211A APHA 3500-Ca-B titration & Calculation

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Accredited Laboratory

A2LA has accredited

ELEMENT SAUDI ARABIA COMPANY LIMITED

Dammam, Saudi Arabia

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 19th day of March 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5669.10
Valid to February 28, 2027

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.

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