

International Accreditation Service
CERTIFICATE OF ACCREDITATION

This is to signify that

AL-HOTY ANALYTICAL SERVICES

MINA SULMAN INDUSTRIAL AREA
P.O. BOX 26577
MANAMA
KINGDOM OF BAHRAIN

Testing Laboratory TL-398

has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*, and has been accredited, commencing May 24, 2015, for the test methods listed in the approved scope of accreditation.

Patrick V. McCullen

Patrick V. McCullen
Vice President, Chief Technical Officer

C. P. Ramani

C. P. Ramani, P.E.
President



(see attached scope of accreditation for fields of testing and accredited test methods)

Print Date: 6/22/2015

*This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 364-8201.*

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International Accreditation Service

SCOPE OF ACCREDITATION

Al-Hoty Analytical Services TL-398

Al-Hoty Analytical Services
Mina Sulman Industrial Area
P.O. Box 26577
Manama
Kingdom of Bahrain

Kester Singh
Technical Leader
+973-17727450

FIELDS OF TESTING	ACCREDITED TEST METHODS
Cement, Concrete, and Aggregates	<p>Cement British Standards BS EN 196-1, BS EN 196-3, Clauses 5 and 6 and BS EN 196-6, GSO 1915 (Clauses 2.1 through 2.5)</p> <p>Concrete ACI 211.1 ASTM Standard C642, and C 1202 BS EN Standards 12350-2, 12390-3, BS EN 12504-1, BS EN 12390-2, BS EN 12350-1, BS EN 12390-7, BS EN 12504-2, and BS EN 14630 British Standards BS 1881-116, BS 1881-120, BS 1881-108, BS 1881-101, BS 1881-114, BS 1881-122, BS 1881-201 (BRE Digest 405) and BS 1881-204 German Standard DIN 1048</p> <p>Aggregates ASTM Standards C88, C 131, C 142/C 142M and C 535 BS EN Standard 933-1 British Standards BS 812-2, BS 812-105.1, BS 812-105.2, BS 812-109, BS 812-110, BS 812-111, BS 812-112 and BS 812-121 BS EN Standard 933-7</p>
Soils and Rocks	<p>Soil ASTM Standard D 1557 and D 6938</p> <p>British Standards BS 1377-2, Clauses 3.2, 4.5, 4.6, 5.0, 8.2, 8.3, 9.2, 9.3 and 9.5, BS 1377-4 Clauses 3.3, to 3.6 and Clause 7, and BS 1377-9 Clauses 2.1, 2.2, 2.5 and 4.1</p> <p>Rocks ASTM Standard D 5731</p>
Asphalt	ASTM Standards D 5/D 5M, D 36/D 36M, D 2172/D 2172M, D 2726/D 2726M, D 5444 and D 6927
Piles	ASTM Standards D 5882, D 6760
Geotechnical Soil	British Standards BS 1377-7 (Clauses 4, 5, 7, 8 and 9)

May 24, 2015
Commencement Date



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Masonry	Masonry Blocks and Paving Units ASTM Standard C 140 BS EN Standards 772-1, BS EN 772-13, BS EN 772-16, BS EN 1338, and BS EN 1340 British Standard BS 6073-1, and BS 6717
Chemistry – Steel and Alloys	ASTM Standard E 350/E 351/E 353/ICP-AES; Manganese, Molybdenum, Nickel, Aluminum, Antimony, Chromium, Cobalt, Copper, Iron, Lead, Vanadium, Zinc, Phosphorous, Titanium, Tin; Combustion/ IR Detection for Carbon and Sulphur
Steel	ASTM Standards A 370 (Sections 5 to 13, 18-28), A 416/ A 416M, A 833 and E 110 BS EN Standard 124 BS EN/ISO Standards 10002-1 and 15630-1 British Standard BS 4449, BS 5896
Chemistry – Soil, Cement, Concrete, Aggregates and Masonry	Soil British Standard BS 1377-3 (Clauses 3, 4, 5.1- 5.5, 6, 7, 8 and 9) Concrete British Standards BS 1881, Part 124 (Clauses 10.2 and 10.3), and BS 3148 Aggregate British Standards BS 812-117, BS 812-118 and BS 812-119 BS EN Standard 1744-1
Environmental Chemistry – Water and Waste Water	APHA 2120 C, APHA 2130B, APHA 2320B, APHA 2340 B/C, APHA 2510 B, APHA 2520 B APHA 2540B, APHA 2540C, APHA 2540D, APHA 2540 E, APHA 2540 F, APHA 2540 G, APHA 2550 B, APHA 2580 B, APHA 3120 B/USEPA 6010 C, APHA 3500CaB, APHA 3500 Fe-B, APHA 3500MgB, APHA 4110 B/USEPA 9056A-1, APHA 4500 B-B, APHA 4500 Br-B, APHA 4500Cl ⁻ B, APHA 4500 Cl-B&C, APHA 4500 Cl-B,C&G, APHA 4500 CO ₂ -C, APHA 4500 CN-C,D and E, APHA 4500H ⁺ B and APHA 4500SO ₄ ²⁻ E, APHA 5910 B, and APHA 10750 B/C U.S. EPA Method 5030B/8260B/8270D APHA 4500 F-B&D, APHA 4500 I-B, APHA 4500 N ^{-org} -B, APHA 4500 NH ₃ -N-B&C, APHA 4500 NO ₂ -B, APHA 4500 NO ₃ -E, APHA 4500 O-C&G, APHA 4500 P-C&E, APHA 4500 P-J, APHA 4500 SiO ₂ -C&D, APHA 4500 S ₂ -D&F, APHA 4500 SO ₃ -B, APHA 4500 SO ₄ -C&E, APHA 5210 BOD-B&D, APHA 5220 COD-C&D, APHA 5310 B/USEPA 9060a, APHA 5520B/EPA 1664a, APHA 5530 C&D, APHA 5540 C, and APHA 4500-N C and Sampling and Transportation HACH 8075

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Water and Waste Water & Sediment Microbiology	APHA 9213-B, APHA 9213-F, APHA 9213-E, APHA 9215-B, APHA 9215-C, APHA 9215-D, APHA 9221-B, APHA 9221-D, APHA 9221-E, APHA 9222-B, APHA 9222-D, APHA 9221-F, APHA 9222-G, APHA 9230-B, APHA 9230-C, APHA 9240-D, APHA 9260-B, APHA 9260-E and APHA 9610-C; ISO 11731-part-2; WHO 1996
Food Microbiology	BAM-January-2001, Chapter-03; BAM-January-2001,Chapter-12; BAM-January-2001, Chapter-14; BAM-April-2011, Chapter-10; BAM-April-2001, Chapter-18 BAM-September-2002, Chapter-4 (Escherichia Coli and Total Coliforms) and BAM - November - 2011, Chapter-5; ISO 21528-1,2004 and ISO 21528-2,2004; EN-ISO 18593-2004(E) (Surface Swab and Hand Swab)
Air Microbiology	Hi-Petri Air Sampler Method for Aerobic Plate Count (Total Plate Count) and Fungi (Yeast and Molds);
Soil/Sludge/Sediment	U.S. EPA 3050B/6010B for ICP-AES, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silica, Silver, Sodium, Strontium, Vanadium, Zinc, Mercury, Titanium, Tin, Phosphorous; U.S. EPA Method 3031, 3510C, 3540C, 5030B/5035, 8081B, 8082A, 8121, 8141B, 8260B, 8270D, 9030B, 9031, 9034 and 9045 APHA 5210 BOD-B/D, APHA 5220 COD-C/D, USEPA 9060a, EPA 1664A, APHA 5520 F and USEPA TCLP 1311/ USEPA 6010 B (TCLP Extraction & analysis of metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium & Silver)
Cement/Fly Ash/Microsilica	GSO 938- 2009 (E)/ ASTM C-114-00/ BSEN 196, ASTM C311-13 [Loss on Ignition (LOI), Iron Oxide (Fe ₂ O ₃), Aluminium Oxide (Al ₂ O ₃), Calcium Oxide (CaO), Magnesium Oxide (MgO), Sodium Oxide (Na ₂ O), Potassium Oxide (K ₂ O), Insoluble Residue (IR), Sulphur Trioxide (SO ₃) and Chloride (Cl)]
Limestone/Rock/Aggregate	ASTM Standard C 25 [Loss on Ignition (LOI), Iron Oxide (Fe ₂ O ₃), Aluminium Oxide (Al ₂ O ₃), Calcium Oxide (CaO), Magnesium Oxide (MgO), Sodium Oxide (Na ₂ O), Potassium Oxide (K ₂ O), Insoluble Residue (IR), Sulphur Trioxide (SO ₃) and Chloride (Cl)]

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Stack Emission Monitoring	USEPA CTM 034[Oxygen (O ₂), Carbon Dioxide (CO ₂), Sulphur Dioxide (SO ₂), Carbon Monoxide (CO) and Nitric Oxide (NO), Nitrogen Dioxide (NO ₂), Oxides of Nitrogen (NO _x), Hydrogen Sulphide (H ₂ S), Hydrocarbons, Ambient Temperature and Gas Temperature]
Indoor Air Quality/Personal Hygiene Monitoring	OSHA - Sampling and Analytical Methods [Temperature, Relative Humidity (RH), Oxygen (O ₂), Ozone (O ₃), Carbon Dioxide (CO ₂), Carbon Monoxide (CO), Sulphur Dioxide (SO ₂), Nitrogen Dioxide (NO ₂), Nitric Oxide (NO), Hydrogen Sulphide (H ₂ S), TVOC, Formaldehyde (HCHO), Fluorine, Hydrogen Fluoride, Particulate Matter and Noise Level
Tiles	BS EN ISO 10545-3 (Clause 5.1.1), BS EN ISO 10545-4, BS EN ISO 10545-13(Cheical Resistance) and BS EN ISO 10545-14:(Resistance to Stains)
Non-Destructive Testing	ASME BPVC Sections V and IX (Radiographic Examination only) ASME BPVC Section II (Positive Metal Identification) ASME BPVC Section V (Ultrasonic Inspections, Magnetic Particle Inspection, Liquid Penetrant Inspection) ASME BPVC Section VIII Div. 1 (UW-40 Post Welding Heat Treatment/ASTM E 80, E 110) ASME BPVC Section V & API Std. 1104 (Time of Flight Diffraction, Phased Array Ultrasonic Testing), ASME BPV Section V & Internal SOP (Phased Array Corrosion Mapping)
Paint/ Coating Paint	ASTM Standards D4138 and D 7234
Chemistry – Paint, Varnish, Coatings	Paint: ASTM Standard A D 2486 BS EN 2811-1, BS EN ISO 2813, BS EN 2814, BS EN ISO 3251 and BS EN ISO 9117-1
Petroleum Products	ASTM Standards D 86, D 92, D 93,D 95, D 189, D 445, D 473, D 482, D 664, D 877/D 877M, D 893, D 1218, D 1298, D 1500, D 1744, D 1816, D 2270, D 2896, D 3612, D 5837, D 6304 and D 6786 AA-15-SOP/OIL/08 and AA-15-SOP/OIL/09

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