INTERNATIONAL ACCREDITATION SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

WIMPEY LABORATORIES

RUSAYL INDISTRIAL ESTATE, ROAD NO. 22
POST BOX: 1017, POSTAL CODE: 133 MUSCAT
SULTANATE OF OMAN

Testing Laboratory TL-491

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories,* and has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories.* This organization is accredited to provide the services specified in the scope of accreditation maintained on the IAS website (www.iasonline.org).

This certificate is effective is valid up to January 1, 2020

This accreditation certificate supersedes any IAS accreditation bearing an earlier effective date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation. See www.iasonline.org for current accreditation information, or contact IAS at 562-364-8201.

INTERNATIONAL ACCREDITATION SERVICE®

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C.P. Ramani, P.E., C.B.O
President

15-12065

SCOPE OF ACCREDITATION

IAS Accreditation Number	TL-491
Company Name	WIMPEY LABORATORIES LLC
Address	Rusayl Industrial Estate, Road No. 22 Post Box: 1017, Postal Code: 133 Muscat Sultanate of Oman
Contact Name	Dr. V.B. Mohan Kumar, Director
Telephone	+968 24533137
Effective Date of Scope	June 1, 2017
Accreditation Standard	ISO/IEC 17025:2005

Chemical

USEPA 3050 B	Acid digestion of sediments, sludge, and soils
USEPA 6010 C ICP	Analysis by ICP OES for metals: aluminium (Al), antimony (Sb), arsenic (As), barium (Ba), beryllium (Be),boron (B), cadmium (Cd), calcium (Ca), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), lithium (Li), magnesium (Mg), manganese (Mn), molybdenum (Mo), nickel (Ni), potassium (K), phosphorous (P) selenium (Se), silver (Ag), sodium (Na), strontium (Sr), tin (Sn), vanadium (V), zinc (Zn), titanium (Ti), thalium (Tl), silica (SiO2)
BS 1377-3	Methods of test for soils for civil engineering purposes - Chemical and electro-chemical tests (clauses 3, 5, 6, 7.2, 7.3, 8 and 9) Clause 3 Determination of organic matter Clause 5.2 Acid soluble sulphate Clause 5.3 Water soluble sulphate Clause 6 Determination of carbonate content Clause 7.2 Water soluble chloride Clause 7.3 Acid soluble chloride Clause 8 Total dissolved solids Clause 9 Determination of pH value
BS 1881-124	Testing concrete - methods for analysis of hardened concrete Clause 10.2 Determination of chloride content Clause 10.3 Determination of sulphate content
BSEN 196-2	Chemical Analysis of cement Clause 7 Determination loss on ignition Clause 8 Determination sulphate content Clause 9 Determination of residue insoluble Clause 13.10 Determination iron (III) oxide Clause 13.11 Determination of aluminium oxide

	Clause 13.14 Determination of calcium oxide Clause 13.15 Determination of magnesium oxide Clause 13.5 Determination of silica Clause 13.6 Determination of pure silica Clause 14 Determination of chloride Clause 17.4 Determination of alkali content
HACH 8029	Fluoride (SPADNS method)
HACH 8039	Nitrate (cadmium reduction method)
AASHTO T267	Standard method of test for determination of organic content in soils by loss of ignition
ASTM C40/C40M	Standard test method for organic impurities in fine aggregates for concrete
BS 812-117	Testing aggregates- method for determination of water soluble chloride salts
BS 812-118	Testing aggregates-methods for determination of sulphate content
ASTM C114	Standard test method for chemical analysis of hydraulic cement
BS EN 1744-1	Tests for chemical properties of aggregates - chemical analysis Clause 7 Determination of water soluble chloride Clause 10 Determination of water soluble sulphate Clause 12 Determination of acid soluble sulphate
US Agriculture Hand Book 60	Determination of gypsum content in soil
Water and Waste Water Analytical Chemistry	
SMEWW (APHA) 2320	Alkalinity (method B)
SMEWW (APHA) 2340	Hardness (method C)
SMEWW (APHA) 2510	Conductivity
SMEWW (APHA) 2540	Solids (methods C and D)
SMEWW (APHA) 3500-Ca	Calcium (method B)
SMEWW (APHA) 3500-Mg	Magnesium (method B)
SMEWW (APHA) 4500-H^+	pH value
SMEWW (APHA) 4500-Cl	Chlorine (method B)
SMEWW (APHA) 4500- Cl^- B	Chloride
SMEWW(APHA) 4500-F^-	Fluoride

SMEWW (APHA) 4500 SO_4^{2-}	Sulphate
SMEWW (APHA) 4500-O C	Oxygen (dissolved) (method C)
SMEWW (APHA) 4500 NH3	Nitrogen (ammonia)
SMEWW (APHA) 5210	Biochemical oxygen demand (BOD) (method B)
SMEWW (APHA) 5220	Chemical oxygen demand (COD)
APHA 3120 B/ICP	Water – metals by inductively coupled plasma (ICP OES) aluminium (Al), antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), boron (B), cadmium (Cd), calcium (Ca), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), lithium (Li), magnesium (Mg), manganese (Mn), molybdenum (Mo), nickel (Ni), potassium (K), selenium (Se), silica (SiO_2), silver (Ag), sodium (Na), strontium (Sr), tin (Sn), vanadium (V), zinc (Zn), titanium (Ti), thalium (Tl)

Microbiology

Bacteriological Analytical Manual (BAM):

Chapter 3	Aerobic plate count
Chapter 5	Detection and enumeration of salmonella
Chapter 9	Detection and enumeration of vibrio cholera and vibrio parahemolyticus
Chapter 12	Detection and enumeration staphylococcus aureus
Chapter 14	Detection and enumeration bacillus cereus
Chapter 16	Enumeration of clostridium perfringens
CCFRA 1.1.1	Standard plate count (total viable count)
CCFRA 2.1.1	Enumeration of yeasts and moulds
CCFRA 2.2.1	Enumeration of coliforms: colony count technique
CCFRA 2.2.4	Enumeration of presumptive coliforms: membrane filtration technique
CCFRA 2.3.1	Enumeration of enterobacteriaceae: colony count technique
CCFRA 2.4.2	Enumeration of presumptive escherichia coli (E. coli): alternative colony count technique using chromogenic medium without membranes
CCFRA 2.5.2	Enumeration of pseudomonas aeruginosa: colony count technique

CCFRA 3.1.2	Detection and enumeration of salmonella: cultural method
CCFRA 3.2.4	Detection of listeria monocytogenes and other listeria species: cultural method using two enrichment stages one 48 hour enrichment stage
CCFRA 3.2.3	Detection of listeria monocytogenes and other listeria species: cultural method using two enrichment stages.
CCFRA 3.5.1	Enumeration of staphylococcus aureus: (coagulase positive staphylococci): colony count technique using baird-parker agar medium
CCFRA 3.6.1	Enumeration of clostridium perfringens: colony count technique
CCFRA 3.7.1	Enumeration of presumptive bacillus cereus: colony count technique
CCFRA 3.8.1	Detection of vibrio cholerae and Vibrio parahaemolyticus
CCFRA 3.9.1:2003	Detection and enumeration of Legionella spp in water: culture technique
MICRO-002-OMN	Microbiological air monitoring
MICRO-003-OMN	Swab analysis
SMEWW (APHA) 9215	Heterotrophic plate count (methods B & C) 1) Pour plate method 2) Spread plate method
SMEWW (APHA) 9221	Multiple-tube fermentation technique for members of the coliform group (method F)-escherichia coli procedure
SMEWW (APHA) 9222	Membrane filter technique for member of the coliform group (methods B, D and G) Method B-standard total coliform membrane filter procedure Method D-fecal coliform membrane filter procedure method G-MF partition procedure (E. coli)
SMEWW (APHA) 9213	Recreational waters (method B)-swimming pools 1) Heterotrophic plate count 2) Test for total coliforms 3) Test for fecal coliforms 4) Test for staphylococci or staphylococcus aureus 5) Test for pseudomonas aeruginosa 6) Test for streptococci or enterococci
SOP Micro-019 OMN	Detection and enumeration of fecal streptococci

SCOPE OF ACCREDITATION

CMT

AASHTO T277	Electrical indication of concrete's ability to resist chloride ion penetration
ASTM C131/C131M	Standard test method for resistance to degradation of small-size coarse aggregate by abrasion and impact in the Los Angeles machine
ASTM C136/C136M	Standard test method for sieve analysis of fine and coarse aggregates
ASTM C142/C142M	Standard test method for clay lumps and friable particles in aggregates
ASTM C1202	Standard test method for electrical indication of concrete's ability to resist chloride ion penetration
ASTM D1556	Standard test method for density and in place by the sand-cone method
ASTM D1559	Test method for resistance of plastic flow of bituminous mixtures using Marshall apparatus
ASTM D2172/D2172M	Standard test methods forquantitative extraction of bitumen from bituminous paving mixtures (method A)
ASTM D2419	Standard test method for sand equivalent value of soils and fine aggregate
BS 812-2	Testing aggregates - methods for determination of density (clause 5.4)
BS 812-103.1	Testing aggregates - method for determination of particle size distribution sieve tests
BS 812-105.1	Testing aggregates - methods for determination of particle shape- flakiness index
BS 812-105.2	Testing aggregates - methods for determination of particle shape- elongation index of coarse aggregate
BS 812-110	Testing aggregates - methods for determination of aggregate crushing value (ACV)
BS 812-111	Testing aggregates - method for determination of ten percent fines value (TFV)
BS 812-112	Testing aggregates-method for determination of aggregate impact value (AIV)
BS 1377-2	Methods of test for soils for civil engineering purposes-classification tests (clauses 4, 5 and 6)

BS 1377-4	Methods of test for soils for civil engineering purposes-compaction-related tests (Clauses 3.5, 3.6 and 7)
BS 1377-9	Methods for test for soils for civil engineering purposes - in-situ tests (clause 2.1, 2.2 and in-situ tests)
BS 1881-114	Testing concrete - methods for determination of density of hardened concrete
BS 1881-116	Testing concrete - method for determination of compressive strength of concrete cubes
BS 1881-122	Testing concrete – method for determination of water absorption
BS1881-208	Testing concrete – recommendations for the determination of the initial surface absorption of concrete
BS EN 196-3	Methods of testing cement – determination of setting times and soundness
BS EN 12390-3	Testing hardened concrete - compressive strength of test specimens
BS EN 12390-7	Testing hardened concrete - density of hardened concrete
CIRIA SP 83	Density and water absorption
DIN 1048 Part 5/ BS/EN 12390-8	
	Testing hardened concrete - depth of penetration of water under pressure
ISRM	Suggested method for determining point load strength
NT Build 492	Chloride migration coefficient from non-steady-state migration experiments

Thermal

ASTM C518	Standard test method for steady-state thermal transmission properties by means of the heat flow meter apparatus

Environmental

Flue gas monitoring by TESTO 350

Direct Instrument Method	Determination of hydrocarbons (CxHy) and hydrogen sulphide (H_2S)
USEPA 1	Determination of ambient temperature and flue gas temperature

USEPA 3A	Determination of oxygen (O2), carbon dioxide (CO2)
USEPA 6C	Determination of sulphur dioxide (SO2)
USEPA 7E	Determination of nitrogen oxides (NO_x)
USEPA 10	Determination of carbon monoxide (CO)

Indoor air quality [direct instrument method]:
Particulate Matter (Mass mode) [PM 1, PM 2.5, PM 4, PM 7 & PM 10, TSPM]
Particulate Matter (Count Mode) 0.05µm, 1.0µm, 5.0µm & 10µm

Light monitoring [direct instrument method-lux meter]: Lux level/ Illumination

Noise monitoring [direct instrument method]
Sound level dB(A) / dB(C)