



ACCREDITATION CERTIFICATE

LB-TEST-005

Emirates International Accreditation Centre

has accredited

AL HAI & AL MUKADDAM FOR GEOTECHNICAL WORKS

Dubai Investment Park, Dubai- United Arab Emirates

In accordance with the requirements of

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories
to undertake the tests in the attached accreditation scope

This Accreditation is invalid without the attached accreditation scope and shall remain in force
within the validity period printed below, subject to continuing compliance with the requirements of
the accreditation criteria.

Validity: 28/09/2023 to 15/10/2026

Initial Accreditation Date: 16/10/2005



Amina Ahmed Mohammed
CHIEF EXECUTIVE OFFICER
APPROVAL



Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Concrete	Testing concrete Methods for analysis of hardened concrete Determination of Chloride content in hardened concrete	BS 1881 Part 124 Clause 10.2
Chemistry	Concrete	Testing concrete Methods for analysis of hardened concrete Determination of Sulphate content in hardened concrete	BS 1881 Part 124 Clause 10.3

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the sulphate content of soil and ground water- Preparation of soil and its water extract	BS 1377 Part 3 Clause 5.3

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the sulphate content of soil and ground water: - Preparation of soil and its acid extract - Gravimetric method for analysis of acid or water extract or ground water	BS 1377 Part 3 Clause 5.2 & 5.5
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the PH Value	BS 1377 Part 3 Clause 9

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the chloride content- Determination of water-soluble chloride content	BS 1377 Part 3 Clause 7.2
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the chloride content - Determination of acid-soluble chloride content	BS 1377 Part 3 Clause 7.3

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the PH Value	BS 1377 Part 3 Clause 9
Mechanical / Physical	Soil	Methods of test for soils for civil engineering purposes. Part 2: Classification tests Determination of particle size distribution: Wet and Dry sieving method	BS 1377 Part 2 Clauses 9.2 & 9.3

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Soil	BS 1377-2 — Methods of test for soils for civil engineering purposes Part 2: Classification tests and determination of geotechnical properties Determination of California Bearing Ratio (CBR)	BS 1377-2 Clause 15

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Soil	BS 1377-2 — Methods of test for soils for civil engineering purposes Part 2: Classification tests and determination of geotechnical properties Determination of dry density/water content relationship	BS 1377-2 Clause 11.5 & 11.6

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Soil	Determination of California Bearing Ratio (CBR)	BS 1377 Part 9 Clause 2.2

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Soil	Methods of test for Soils for civil engineering purposes Part 2- Classification Tests clause 9: Determination of particle size distribution 9.5: Sedimentation by the hydrometer method	BS 1377 Part 2 Clause 9.5 Amd 9027(96)

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Soil	Methods of test for Soils for civil engineering purposes Part 2- Classification Tests Clause 4: Determination of the liquid limit: • 4.3: Cone penetrometer method (definitive method) • 4.4: One-point cone penetrometer method Clause 5: Determination of the plastic limit and	BS 1377 Part 2 Clause 4.3; Clause 4.4; Clause 5.3 & Clause 5.4 Amd 9027(96)
Mechanical / Physical	Hardened Concrete	Testing hardened concrete. Part 1: Shape, dimensions and other requirements for specimens and moulds	BS EN 12390 Part 1

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Hardened Concrete	Testing hardened concrete. Part 2: Making and curing specimens for strength tests	BS EN 12390 Part 2
Mechanical / Physical	Hardened Concrete	Testing hardened concrete. Part 3: Compressive strength of test specimens	BS EN 12390 Part 3
Mechanical / Physical	Hardened Concrete	Testing hardened concrete. Part 7: Density of hardened concrete	BS EN 12390 Part 7

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Hardened Concrete	Testing hardened concrete. Part 8: Depth of penetration of water under pressure	BS EN ISO 12390 Part 8
Mechanical / Physical	Hardened Concrete	Testing concrete. Method for determination of compressive strength of concrete cubes	BS 1881 Part 116
Mechanical / Physical	Hardened Concrete	Determination of water absorption on hardened concrete	BS 1881 Part 122 +A1
Mechanical / Physical	Hardened Concrete	Determination of Water Permeability	DIN 1048 Part 5

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical/Physical	Hardened Concrete	Testing concrete. Methods for determination of density of hardened	BS 1881 Part 114, AMD 6098, AMD 6721
Mechanical/Physical	Hardened Concrete	Testing concrete Part 111: Method of normal curing of test specimens (20°C method)	BS 1881 Part 111, AMD 6102, AMD 9387
Mechanical / Physical	Steel	Steel for the reinforcement of concrete - Weldable reinforcing steel - Bar, coil and decoiled product- Specification Steel bend tests	BS 4449 Appendix C, Clause C.1.6.1 BS EN 15630 Part 1

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Steel	Steel for the reinforcement of concrete - Weldable reinforcing steel - Bar, coil and decoiled product- Specification Steel tensile strength test	BS 4449 + A3 BS EN 15630 Part 1 ISO 6892 Part 1
Mechanical / Physical	Steel	Steel for the reinforcement of concrete - Weldable reinforcing steel - Bar, coil and decoiled product- Specification Steel re bend tests	BS 4449 +A3 BS EN 15630 Part 1

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Blocks	Precast concrete masonry units Part 1: Specification for precast concrete masonry units Measurement of dimension	BS 6073 Part 1 Appendix A
Mechanical / Physical	Blocks	Precast concrete masonry units Part 2: Method for specifying precast concrete masonry units Routine rapid control test of compressive strength of blocks by manufacturer (fibre board test)	BS 6073 Part 2 Appendix B

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Blocks	Precast concrete paving blocks Part 1: Specification for paving blocks Determination of compressive strength	BS 6717 Part 1 Annex A-B

Accreditation Scope

Construction Materials Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 14

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Blocks	Precast concrete paving blocks Part 1: Specification for paving blocks Measurement of dimensions and plan area	BS 6717 Part 1 Annex A-B

Accreditation History		
Issue no.	Details	Date
14	Renewal accreditation and addition of scope as part of cube test	28-09-2023
13	Renewal accreditation and comply with the new accreditation number format	01-03-2021
12	Comply with ISO/ IEC 17025:2017	28-04-2020
11	Updating the test method and first issuance under the name of EIAC (which was formerly known as DAC)	18-04-2019

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Physical/ Mechanical	Ground Water	Code of practice for Site Investigation Ground water level measurement	BS 5930 Section 4 Clause 4.26 & Section 8 Clause 52
Physical/ Mechanical	Ground Water	Code of practice for Site Investigation Ground water sampling	BS 5930 Section 4 Clause 26.4
Physical/ Mechanical	Soil	Methods of test for soils for civil engineering purposes. Part 9: In-situ tests In-situ penetration tests- Determination of the penetration resistance using the split-barrel sampler (the standard penetration test SPT)	BS 1377 Part 9 Section 3.3

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Physical/ Mechanical	Soil	Code of practice for Site Investigation Soil sampling	BS 5930 Section 4 Clause 25.6
Physical/ Mechanical	Soil	Code of practice for Site Investigation Soil description	BS 5930 Section 6
Physical/ Mechanical	Rock	Code of practice for Site Investigation Rock quality designation	BS 5930 Section 6
Physical/ Mechanical	Rock	Code of practice for Site Investigation Core recovery	BS 5930 Section 6
Physical/ Mechanical	Rock	Code of Practice for Site Investigations Geotechnical Reporting	BS 5930 Section 10

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Physical/ Mechanical	Rock	Standard Test Methods for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures	ASTM D7012
Physical/ Mechanical	Rock	Standard Practices for Preparing Rock Core as Cylindrical Test Specimens and Verifying Conformance to Dimensional and Shape Tolerances	ASTM D4543

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of pH value of Ground Water	BS 1377 Part3 Clause 9
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the chloride content- Determination of acid-soluble chloride content	BS 1377 Part 3 Clause 7.3

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	<p>Methods of test for soils for civil engineering purposes.</p> <p>Part 3: Chemical and electro-chemical tests</p> <p>Determination of the sulphate content of soil and ground water:</p> <ul style="list-style-type: none"> - Preparation of soil and its acid extract - Gravimetric method for analysis of acid or water extract or ground water 	BS 1377 Part 3 Clause 5.2 & 5.5

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the chloride content- Determination of water-soluble chloride content	BS 1377 Part 3 Clause 7.2
Chemistry	Soil	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the sulphate content of soil and ground water- Preparation of soil and its water extract	BS 1377 Part 3 Clause 5.3

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Ground Water	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the chloride content- Determination of water-soluble chloride content	BS 1377 Part 3 Clause 7.2

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Ground Water	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the sulphate content of soil and ground water- Preparation of ground water for testing	BS 1377 Part 3 Clause 5.4

Accreditation Scope
Geotechnical Investigation
LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 12

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Chemistry	Ground Water	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests Determination of the PH Value	BS 1377 Part 3 Clause 9

Accreditation History		
Issue no.	Details	Date
12	Renewal accreditation	28-09-2023
11	Renewal accreditation and comply with the new accreditation number format	01-03-2021
10	Comply with ISO/ IEC 17025:2017	28-04-2020
09	Updating the test method and first issuance under the name of EIAC (which was formerly known as DAC)	18-04-2019

Accreditation Scope

Pile Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 04

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Pile	Standard Test Method for High-Strain Dynamic Testing of Deep Foundations	ASTM D4945 and Mukaddam Internal Method Statement MIMS 03
Mechanical / Physical	Pile	Standard Guide for Conducting Borehole Geophysical Logging: Mechanical Caliper	ASTM D6167
Mechanical / Physical	Pile	Standard Test method for Integrity Testing of Concrete Deep Foundation by Ultrasonic Cross hole Testing	ASTM D6760

Accreditation Scope

Pile Testing

LB-TEST-005

Al Hai & Al Mukaddam for Geotechnical Works

Dubai Investment Park, Dubai- United Arab Emirates

Issue no.: 04

Date: 28-09-2023

Valid to: 15-10-2026

Type of Activity	Test Materials/Products	Test Name	Test Method
Mechanical / Physical	Pile	Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations	ASTM D5882 and Mukaddam Internal Method Statement MIMS 05

Accreditation History		
Issue no.	Details	Date
4	Renewal Accreditation	28-09-2023
3	Renewal accreditation and comply with the new accreditation number format	01-03-2021
2	Comply with ISO/ IEC 17025:2017	28-04-2020
1	Segregate it from Construction Materials Testing scope as a separate scope named Pile Tersting and first issuance under the name of EIAC (which was formerly known as DAC)	18-04-2019



UNITED ARAB EMIRATES
MINISTRY OF INDUSTRY
& ADVANCED TECHNOLOGY



Certificate of Accreditation

الحاي و المقدم لأعمال فحص التربة ذ.م.م (NAL 101)

مصنع - أبوظبي، الإمارات العربية المتحدة

حاصل على الإعتماد في الفحوصات المذكورة في وثيقة المجال المرفقة وفقاً للمواصفة الدولية، ISO/IEC 17025،

Al Hai & Al Mukaddam for Geotechnical Works L.L.C (NAL 101)

Mussafah – Abu Dhabi, UAE

Accredited according to the ISO/IEC 17025, Standard to undertake tests as specified in the attached Accreditation Scope



فرح الزرعوني
عن مدير إدارة الاعتماد الوطني

Accredited on 2021/11/03 تاريخ منح الإعتماد
Expires on 2024/11/02 تاريخ الإنتهاء

1 Accreditation in accordance to the ISO/IEC 17025:2017 Standard "General requirements for the competence of testing and calibration laboratories" and the relevant ENAS and ILAC requirements.

This certificate is invalid without the attached scope of accreditation, which subjected to annual surveillances as per ENAS procedure. Certificate can be updated or re-issued until the expiry date defined above. The validity of the certificate is subjected to continuous compliance with the requirements of the accreditation system. The lab is responsible for the results of its testing.

Initial Accreditation Date: 09/07/2015

1 وفقاً للمتطلبات المواصفة الدولية ISO/IEC 17025:2017 "المتطلبات العامة لكفاءة مختبرات الفحص والمعايرة" والمتطلبات ذات العلاقة الخاصة بنظام الإعتماد الوطني الإماراتي ENAS والمنظمة الدولية لاعتماد المختبرات ILAC. مجال الاعتماد جزء أساسي من هذه الشهادة حيث تخضع مجالات الاعتماد المذكورة في الوثيقة المرفقة لعمليات متابعة لاحقة من قبل نظام الإعتماد الوطني الإماراتي ENAS، وتعتبر هذه الشهادة صالحة وقابلة للتحديث وإعادة الاصدار حتى تاريخ انتهاء المدول اعلاء شريطة استمرار المختبر المذكور اعلاء في تطبيق متطلبات نظام الاعتماد سابقة الذكر. يتحمل المختبر مسؤولية نتائج الفحص المسندة عنه.

تاريخ منح الإعتماد لأول مرة: 09/07/2015

ACF 11-21; Rev.4

Abu Dhabi, Dubai, United Arab Emirates | الإمارات العربية المتحدة | P.O.BOX 48666 | ص.ب. 48666 | هاتف 600565554 | TEL
www.moia.gov.ae



Accreditation Scope

**Al Hai & Al Mukkadam for Geotechnical Works L.L.C, NAL 101
Testing Laboratory, (ISO/IEC 17025:2017)**

Al Mussafah, Abu Dhabi, UAE

Issue Date: 12-04-2022

Expiry Date: 02-11-2024

Issue No: 06

Testing Field	Materials/ Products tested	Type of test/ Test parameter/ Properties measured/Range of measurement	Test Method (Standard, Internal Procedure, Technique)	Permanent lab (P) / Client- site (S)
Geotechnical	Soil In - Situ Testing	Methods of test for soils for civil engineering purposes Part 9: In-situ tests Determination of the penetration resistance using the split-barrel sampler (Standard penetration test - SPT)	BS EN ISO 22476-3:2005+A1:2011 * BS 1377 Part 9:1990- AMD 8264-1995 Cl. 3.3	S
	Soil Sampling & Description	Code of practice for Ground Investigations Obtaining disturbed samples from boring tools & excavating equipment	BS 5930:2015; Section 4 Cl. 25.3	S
		Soil Sampling Open-tube sampling techniques	BS 5930:2015; Section 4 Cl. 25.4	S
		Description of Soils	BS 5930:2015; Section 6 Cl. 33	P / S
	Rock Sampling & Description	Code of practice for Ground Investigations Rock Sampling Rotary core samples	BS 5930:2015; Section 4 Cl. 25.7	S
		Description and Classification of Rocks Rock Core Recovery	BS 5930:2015; Section 6 Cl. 36 Clarks & Walker	P / S
	Ground Water Management	Code of practice for ground investigations Ground water monitoring Ground Water sampling	BS 5930:2015; Section 4 Cl. 26	S
		Groundwater measurements	BS 5930:2015 Section 8 Cl. 52, Section 4 Cl. 26.2 & 26.3 (Cl. 52.5 standpipe piezometer)	S



Accreditation Scope

**Al Hai & Al Mukkadam for Geotechnical Works L.L.C, NAL 101
Testing Laboratory, (ISO/IEC 17025:2017)**

Al Mussafah, Abu Dhabi, UAE

Issue Date: 12-04-2022

Expiry Date: 02-11-2024

Issue No: 06

Testing Field	Materials/ Products tested	Type of test/ Test parameter/ Properties measured/Range of measurement	Test Method (Standard, Internal Procedure, Technique)	Permanent lab (P) / Client- site (S)
Geotechnical	Soil	Particle size distribution Wet & Dry sieving	BS EN ISO 17892-4:2016, Cl. 5.2	P
		Determination of Water (Moisture)	BS EN ISO 17892-1:2014	
		Sedimentation by the hydrometer method	BS EN ISO 17892-4:2016, Cl. 5.3	
		Liquid limit, plastic limit and plasticity index of soil	BS EN ISO 17892-12:2018, Cl. 5.3, 5.5, 6.5	
	Rock	Preparation of rock core (Preparing Rock Core as Cylindrical Test Specimens and Verifying Conformance to Dimensional and Shape Tolerances	ASTM D4543-19	P
		Unconfined Compressive Strength of Rock Core Specimen	ASTM D7012-2014e1, Method C	
Determination of Water (Moisture) Content of Soil and Rock by Mass		ASTM D2216-2019		
Chemical	Soil	Acid Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl. 7.9 /7.6	P
		Water Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl. 7.3 /7.6	
		Acid Soluble Chloride Content of Soil	BS 1377-3:2018, Cl. 9.3	
		Water Soluble Chloride Content of Soil	BS 1377-3:2018, Cl. 9.2	
		pH of Soil, (0 to14) pH Units	BS 1377-3:2018, Cl. 12	
	Ground Water	pH of Ground Water, (0 to14) pH Units	BS 1377-3:2018, Cl. 12	P
		Sulphate Content of Ground Water	BS 1377-3:2018, Cl. 7.8, 7.3.4.4 & 7.6	
		Chloride Content of Ground Water	BS 1377-3:2018, Cl. 9.2	



Accreditation Scope

**Al Hai & Al Mukkadam for Geotechnical Works L.L.C, NAL 101
Testing Laboratory, (ISO/IEC 17025:2017)**

Al Mussafah, Abu Dhabi, UAE

Issue Date: 12-04-2022

Expiry Date: 02-11-2024

Issue No: 06

Testing Field	Materials/ Products tested	Type of test/ Test parameter/ Properties measured/Range of measurement	Test Method (Standard, Internal Procedure, Technique)	Permanent lab (P) / Client- site (S)
Reporting	Ground Investigation	Code of practice for ground investigations Reporting	BS 5930:2015; Section 10 Cl. 63	P
Physical	Soil	In Situ Density (Sand Replacement Method Suitable for Fine, Medium and Coarse-Grained Soils, Large And Small Pouring Cylinder),	BS 1377-9:1990; AMD 13925-2002, Cl. 2.2 AMD 8264-1995	S/P
		Determination of dry density/ moisture content relationship using 4.5Kg rammer for coarse and medium gravel size particles)	BS 1377-4:1990; AMD 13925-2002, Cl. 3.5 & 3.6	P
	Concrete	Testing hardened concrete. Shape, dimensions and other requirements for specimens and molds	BS EN 12390-1: 2021	P
		Testing hardened concrete. Making and curing specimens for strength tests	BS EN 12390-2:2019	
		Compressive Strength of Concrete Cube	BS EN 12390-3: 2019	
		Testing hardened concrete. Density of hardened concrete	BS EN 12390-7:2019	
		Testing concrete Part 111: Method of normal curing of test specimens (20°C method)	*BS 1881-111:1983; AMD. 9387:1997	
		Testing concrete Part 114: Methods for determination of density of hardened concrete	*BS 1881-114:1983; AMD 6721:1991	
Testing concrete Part 116: Method for determination of compressive strength of concrete cubes	*BS 1881-116:1983; AMD. 6720 :1991			
END				

* Standards are superseded / withdrawn