

CERTIFICATE OF ANALYSIS 177103-A

Client Details

Client	Environmental Investigation Services
Attention	Harry Leonard
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	<u>E30907K, Alexandria</u>
Number of Samples	16 Sand, 2 Clay
Date samples received	05/10/2017
Date completed instructions received	13/10/2017

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	20/10/2017
Date of Issue	20/10/2017
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Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Priya Samarawickrama, Senior Chemist

Authorised By



David Springer, General Manager

Misc Inorg - Soil			
Our Reference		177103-A-7	177103-A-11
Your Reference	UNITS	BH1	BH7
Depth		9.5-10.0	2.7-3.15
Date Sampled		03/10/2017	04/10/2017
Type of sample		Clay	Sand
Date prepared	-	17/10/2017	17/10/2017
Date analysed	-	17/10/2017	17/10/2017
pH 1:5 soil:water	pH Units	7.2	4.8
Chloride, Cl 1:5 soil:water	mg/kg	<10	20
Sulphate, SO4 1:5 soil:water	mg/kg	74	300
Resistivity in soil*	ohm m	110	56

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25oC in accordance with APHA 22nd ED 2510 and Rayment & Lyons. Resistivity is calculated from Conductivity.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyser.

QUALITY CONTROL: Misc Inorg - Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			17/10/2017	[NT]	[NT]	[NT]	[NT]	17/10/2017	[NT]
Date analysed	-			17/10/2017	[NT]	[NT]	[NT]	[NT]	17/10/2017	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	103	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
Resistivity in soil*	ohm m	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.



APPENDIX B

List of Provided TKD Architects Drawings

DRAWING LIST

DRAWING NUMBER	SHEET NAME	SCALE	REVISION
AR.DA.	0000 COVER SHEET / DRAWING LIST	NTS	P1
AR.DA.	1001 EXISTING SITE PLAN	1:1000	P1
AR.DA.	1002 SITE ANALYSIS	1:1000	P1
AR.DA.	1003 SITE OPPORTUNITIES	1:1000	P1
AR.DA.	1101 PROPOSED SITE PLAN	1:1000	P1
AR.DA.	1201 EXISTING AND PROPOSED SITE PLANS	1:500	P1
AR.DA.	1202 PHASE 1 - DEMOLITION AND CONSTRUCTION PHASING PLANS	1:500	P1
AR.DA.	1203 PHASE 2 - DEMOLITION AND CONSTRUCTION PHASING PLANS	1:500	P1
AR.DA.	1204 PHASE 3 - DEMOLITION AND CONSTRUCTION PHASING PLANS	1:500	P1
AR.DA.	2001 CAMPUS PLANS - GROUND AND FIRST FLOORS	1:500	P1
AR.DA.	2002 CAMPUS PLANS - SECOND AND THIRD FLOORS	1:500	P1
AR.DA.	2003 CAMPUS PLANS - FOURTH FLOOR AND ROOF	1:500	P1
AR.DA.	2010 KEY PLAN	1:500	P1
AR.DA.	2011 KEY PLAN - BUILDING REFERENCES	1:500	P1
AR.DA.	2101 GROUND FLOOR PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2102 GROUND FLOOR PLAN - SOUTHERN HUBS	1:200	P1
AR.DA.	2201 FIRST FLOOR PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2202 FIRST FLOOR PLAN - SOUTHERN HUBS	1:200	P1
AR.DA.	2301 SECOND FLOOR PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2302 SECOND FLOOR PLAN - SOUTHERN HUBS	1:200	P1
AR.DA.	2401 THIRD FLOOR PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2402 THIRD FLOOR PLAN - SOUTHERN HUBS	1:200	P1
AR.DA.	2501 FOURTH FLOOR PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2601 ROOF PLAN - NORTHERN HUBS	1:200	P1
AR.DA.	2602 ROOF PLAN - SOUTHERN HUBS	1:200	P1
AR.DA.	3001 ELEVATIONS 1	1:500	P1
AR.DA.	3002 DETAILED ELEVATIONS 1	1:500	P1
AR.DA.	3003 DETAILED ELEVATIONS 2	1:200	P1
AR.DA.	3004 DETAILED ELEVATIONS 3	1:200	P1
AR.DA.	3005 DETAILED ELEVATIONS 3 - SCREEN	1:200	P1
AR.DA.	3101 SECTIONS 1	1:500	P1
AR.DA.	3111 DETAILED SECTION SHEET 1	1:200	P1
AR.DA.	4001 EXTERNAL MATERIAL FINISHES	NTS	P1
AR.DA.	5001 SHADOW DIAGRAMS	1:1000	P1
AR.DA.	5002 SHADOW DIAGRAMS - ADJACENT BUILDINGS		P1
AR.DA.	7001 GFA GROUND AND FIRST FLOOR	1:500	P1
AR.DA.	7002 GFA SECOND AND THIRD FLOOR	1:500	P1
AR.DA.	7003 GFA FOURTH FLOOR	1:500	P1
AR.DA.	8001 PERSPECTIVES	NTS	P1