Appendix 9-2– Surface Water Samples

Eurofins Chemtest Ltd
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Final Report

Report No.:	22-18431-1		
Initial Date of Issue:	23-May-2022		
Client	Tobin Consulting Engineers		
Client Address:	Block 10-4 Blanchardstown Corporate Park Dublin 15 Dublin Ireland		
Contact(s):	John Dillon		
Project	11303 Broemountain		
Quotation No.:	Q21-24896	**Date Received:**	18-May-2022
Order No.:		**Date Instructed:**	18-May-2022
No. of Samples:	5		
Turnaround (Wkdays):	5	**Results Due:**	24-May-2022
Date Approved:	23-May-2022		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Water

Project: 11303 Broemountain

Client: Tobin Consulting Engineers			**Chemtest Job No.:**		22-18431	22-18431	22-18431	22-18431	22-18431
Quotation No.: Q21-24896			**Chemtest Sample ID.:**		1430982	1430983	1430984	1430985	1430986
			Sample Location:		SW1	SW2	SW3 (U)	SW3 (D)	SW5
			Sample Type:		WATER	WATER	WATER	WATER	WATER
			Date Sampled:		10-May-2022	10-May-2022	10-May-2022	10-May-2022	10-May-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
pH	U	1010		N/A	7.1	7.3	7.3	7.4	7.5
Electrical Conductivity	U	1020	µS/cm	1.0	220	60	80	100	140
Suspended Solids At 105C	U	1030	mg/l	5.0	12	< 5.0	13	21	< 5.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	[B] 28	[B] 17	[B] 21	[B] 17	[B] 22
Chloride	U	1220	mg/l	1.0	47	12	9.8	9.6	14
Ammonium	U	1220	mg/l	0.050	0.16	< 0.050	< 0.050	< 0.050	< 0.050
Nitrate	U	1220	mg/l	0.50	9.1	1.9	< 0.50	< 0.50	6.1
Phosphorus (Total)	N	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phosphate	U	1220	mg/l	0.200	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Orthophosphate as PO4	U	1220	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1430982			SW1	10-May-2022	B	Plastic Bottle 1000ml
1430983			SW2	10-May-2022	B	Plastic Bottle 1000ml
1430984			SW3 (U)	10-May-2022	B	Plastic Bottle 1000ml
1430985			SW3 (D)	10-May-2022	B	Plastic Bottle 1000ml
1430986			SW5	10-May-2022	B	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

ALS Life Sciences Ltd trading as ALS
Carrigeen Business Park, Clonmel, Co. Tipperary
Telephone: +353 (0) 52 617 8100

Report No: TCEG-015301123
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Tobin Consulting Engineers**
Block 10-4
Blanchardstown Corporate Park
Dublin 15

Date Submitted 30/11/2023
Date Reported 18/12/2023
Order Number N/A

For the Attention of: John Dillon

Sample Reception 6 sample(s) received in good condition.

Comments N/A

Report Authorised by: Rosemary Thomas

Rosemary Thomas
Environmental Chemistry Manager

Conditions:
1. Results in this report relate only to the items tested
2. Reports may not be reproduced except in full without the approval of ALS Life Sciences Ltd
3. All queries regarding this report should be addressed to the Technical Manager at the above address
*4. A * next to a method reference signifies that ALS Life Sciences Ltd is NOT INAB accredited for this method*
5. Results reported as CFU/cm² are calculated based on information supplied by customer regarding area swabbed
6. SUBCON indicates analysis subcontracted to approved subcontractors who do not hold accreditation for this test*
7. SUBCON^ indicates analysis subcontracted to approved subcontractors who hold accreditation for this test
8. Where sampling is undertaken by ALS personnel, sampling activities are outside the scope of INAB accreditation
9. Dil next to a method reference indicates that a dilution of the water sample was undertaken during testing
10. Statement of conformity made against the result does not take into account the uncertainty of measurement associated with the method

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CERTIFICATE OF ANALYSIS

Date Submitted 30/11/2023
Date Reported 18/12/2023
Order Number N/A

Sample Type Effluent
Client ID 29.11.23SW7
Date Tested 01/12/2023
ALS ID 5872085

Test	Result	Unit	Method
Alkalinity Total	40	mg/l CaCO3	P214
Sulphate	4.95	mg/l SO4	P243
Chloride	8.4	mg/l Cl	P281
Ammonium	<0.03	mg/l NH4	P281
Nitrate	<5.0	mg/l NO3	P281
Total Calcium	6.40	mg / l	SUBCON^
Potassium	0.142	mg / l	SUBCON^
Sodium	5.10	mg / l	SUBCON^

Sample Type Effluent
Client ID 29.11.23 SW2
Date Tested 01/12/2023
ALS ID 5872087

Test	Result	Unit	Method
Alkalinity Total	30	mg/l CaCO3	P214
Sulphate	<5.00	mg/l SO4	P243
Chloride	7.9	mg/l Cl	P281
Ammonium	<0.03	mg/l NH4	P281
Nitrate	<5.0	mg/l NO3	P281
Total Calcium	5.32	mg / l	SUBCON^
Potassium	0.123	mg / l	SUBCON^
Sodium	5.31	mg / l	SUBCON^

Report Authorised by: Rosemary Thomas

Rosemary Thomas
Environmental Chemistry Manager

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CERTIFICATE OF ANALYSIS

Date Submitted 30/11/2023
Date Reported 18/12/2023
Order Number N/A

Sample Type Effluent
Client ID 29.11.23 SW3
Date Tested 01/12/2023
ALS ID 5872088

Test	Result	Unit	Method
Alkalinity Total	20	mg/l CaCO3	P214
Sulphate	<5.00	mg/l SO4	P243
Chloride	6.5	mg/l Cl	P281
Ammonium	<0.03	mg/l NH4	P281
Nitrate	<5.0	mg/l NO3	P281
Total Calcium	3.60	mg / l	SUBCON^
Potassium	<0.250	mg / l	SUBCON^
Sodium	4.72	mg / l	SUBCON^

Sample Type Effluent
Client ID 29.11.23 SW4
Date Tested 01/12/2023
ALS ID 5872089

Test	Result	Unit	Method
Alkalinity Total	55	mg/l CaCO3	P214
Sulphate	<5.00	mg/l SO4	P243
Chloride	12.3	mg/l Cl	P281
Ammonium	<0.03	mg/l NH4	P281
Nitrate	13.6	mg/l NO3	P281
Total Calcium	17.7	mg / l	SUBCON^
Potassium	1.80	mg / l	SUBCON^
Sodium	7.19	mg / l	SUBCON^

Report Authorised by: Rosemary Thomas

Rosemary Thomas
Environmental Chemistry Manager

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CERTIFICATE OF ANALYSIS

Date Submitted 30/11/2023
Date Reported 18/12/2023
Order Number N/A

Sample Type Effluent
Client ID 29.11.23 SW6
Date Tested 01/12/2023
ALS ID 5872090

Test	Result	Unit	Method
Alkalinity Total	30	mg/l CaCO3	P214
Sulphate	<5.00	mg/l SO4	P243
Chloride	14.3	mg/l Cl	P281
Ammonium	<0.03	mg/l NH4	P281
Nitrate	<5.0	mg/l NO3	P281
Total Calcium	8.30	mg / l	SUBCON^
Potassium	0.284	mg / l	SUBCON^
Sodium	8.01	mg / l	SUBCON^

Sample Type Effluent
Client ID 29.11.23 GW1
Date Tested 01/12/2023
ALS ID 5872091

Test	Result	Unit	Method
Alkalinity Total	32	mg/l CaCO3	P214
Sulphate	<5.00	mg/l SO4	P243
Chloride	11.5	mg/l Cl	P281
Ammonium	0.03	mg/l NH4	P281
Nitrate	8.4	mg/l NO3	P281
Total Calcium	9.67	mg / l	SUBCON^
Potassium	1.21	mg / l	SUBCON^
Sodium	6.88	mg / l	SUBCON^

Report Authorised by: Rosemary Thomas

Rosemary Thomas
Environmental Chemistry Manager