



Figure 3-12 Surface water samples



Final Report

Report No.: 20-33177-1

Initial Date of Issue: 15-Dec-2020

Client: Tobin Consulting Engineers

Client Address: Block 10-4
Blanchardstown Corporate Park
Dublin 15
Dublin
Ireland

Contact(s): John Dillon

Project: 10968 Sheskin

Quotation No.: **Date Received:** 10-Dec-2020

Order No.: **Date Instructed:** 10-Dec-2020

No. of Samples: 5

Turnaround (Wkdays): 5 **Results Due:** 15-Dec-2020

Date Approved: 15-Dec-2020

Approved By:


Details: Glynn Harvey, Technical Manager

Results - Water

Project: 10968 Sheskin

Client: Tobin Consulting Engineers

Quotation No.:	Chemtest Job No.:		Chemtest Sample ID.:		20-33177		20-33177		20-33177		20-33177	
	Sample Location:	Sample Type:	Date Sampled:	SOP	Units	LOD	1108094	1108095	1108096	1108097	1108098	20-33177
	S701	WATER	09-Dec-2020	1030	mg/l	5.0	10	< 5.0	12	< 5.0	< 5.0	< 5.0
				1220	mg/l	1.0	21	17	17	16	16	22
				1220	mg/l	0.020	0.021	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
				1220	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
				1220	mg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
				1220	mg/l	0.050	0.064	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
				1610	mg/l	2.0	19	16	17	16	16	23

Determinand

Suspended Solids At 105C

Chloride

Phosphorus (Total)

Ammonia (Free)

Nitrate

Orthophosphate as PO4

Dissolved Organic Carbon

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH 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.
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.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation

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"

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 45 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



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www.alsglobal.ie



Report No: TCEG-636020921
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client	Tobin Consulting Engineers Block 10-4 Blanchardstown Corporate Park Dublin 15	Date Received	02/09/2021
		Date Reported	14/09/2021
		Order Number	10889
For the Attention of:	John Dillon		
Sample Reception	3 sample(s) received in good condition.		
Comments	N/A		

Report Authorised by:

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



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Report No: TCEG-636020921

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 02/09/2021
Date Reported 14/09/2021
Order Number 10889

Sample Type Water
Client ID 02/09/2021 Sheskin 1
Date Tested 03/09/2021
ALS ID 4649231

Test	Result	Unit	Method
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Chloride	22.5	mg/l Cl	P281
Conductivity @ 20°C	142	µs/cm	P284

Sample Type Water
Client ID 02/09/2021 Oweninny
Date Tested 03/09/2021
ALS ID 4649232

Test	Result	Unit	Method
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Chloride	19.7	mg/l Cl	P281
Conductivity @ 20°C	151	µs/cm	P284

Sample Type Water
Client ID 02/09/2021 Sheskin 2
Date Tested 03/09/2021
ALS ID 4649236

Test	Result	Unit	Method
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Chloride	20.7	mg/l Cl	P281
Conductivity @ 20°C	140	µs/cm	P284

Report Authorised by: *Rosemary Thomas*



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Report No: TCEG-689010421
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client	Tobin Consulting Engineers Block 10-4 Blanchardstown Corporate Park Dublin 15	Date Received	01/04/2021
		Date Reported	12/04/2021
		Order Number	10968
For the Attention of:	John Dillon		
Sample Reception	4 sample(s) received in good condition.		
Comments	N/A		

Report Authorised by:

David Kinsella

David Kinsella
Deputy 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
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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



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Report No: TCEG-689010421

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 01/04/2021
Date Reported 12/04/2021
Order Number 10968

Sample Type Water
Client ID 01/04/2021 S701
Date Tested 01/04/2021
ALS ID 4419744

<u>Test</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
COD Total	33	mg/l O2	P210
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Nitrite	<0.01	mg/l NO2N	P281
Chloride	26.0	mg/l Cl	P281
Conductivity @ 20°C	132	µs/cm	P284

Sample Type Water
Client ID 01/04/2021 S702
Date Tested 01/04/2021
ALS ID 4419745

<u>Test</u>	<u>Result</u>	<u>Unit</u>	<u>Method</u>
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
COD Total	47	mg/l O2	P210
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Nitrite	<0.01	mg/l NO2N	P281
Chloride	28.3	mg/l Cl	P281
Conductivity @ 20°C	107	µs/cm	P284

Report Authorised by:

David Kinsella



Amended Report

Report No.: 21-25981-2
Initial Date of Issue: 03-Aug-2021 **Date of Re-Issue:** 19-Oct-2021
Client: Tobin Consulting Engineers
Client Address: Block 10-4
Blanchardstown Corporate Park
Dublin 15
Dublin
Ireland
Contact(s): John Dillon
Project: 10968 Sheskin
Quotation No.: Q21-24896 **Date Received:** 28-Jul-2021
Order No.: **Date Instructed:** 28-Jul-2021
No. of Samples: 11
Turnaround (Wkdays): 5 **Results Due:** 03-Aug-2021
Date Approved: 03-Aug-2021

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Water

Project: 10968 Sheskin

Client: Tobin Consulting Engineers		Chemtest Job No.:											
Quotation No.: Q21-24896		Chemtest Sample ID.:											
Client Sample ID.:		S701	S702	S703	S704	S705	S706	S707	S708	S709			
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Date Sampled:		21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021	21-Jul-2021
Determinand	Accred.	SOP	Units	LOD									
pH	U	1010		N/A	8.1	8.0	7.9	7.7	7.7	7.7	7.7	7.7	7.8
Electrical Conductivity	U	1020	µS/cm	1.0	150	120	120	96	130	110	130	130	140
Suspended Solids At 105C	U	1030	mg/l	5.0	11	< 5.0	< 5.0	14	6.0	5.0	< 5.0	6.0	7.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	[B] < 10	[B] < 10	[B] 14	[B] 23	[B] 160	[B] < 10	[B] 44	[B] < 10	[B] 54
Chloride	U	1220	mg/l	1.0	21	31	16	17	18	21	17	22	19
Ammonium	U	1220	mg/l	0.050	< 0.050	0.19	< 0.050	< 0.050	< 0.050	0.32	< 0.050	< 0.050	< 0.050
Nitrate	U	1220	mg/l	0.50	< 0.50	15	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.6
Phosphorus (Total)	N	1220	mg/l	0.020	0.029	0.031	0.50	0.32	0.25	0.24	0.19	0.19	0.021

Results - Water

Project: 10968 Sheskin

Client: Tobin Consulting Engineers	Chemtest Job No.:		21-25981	21-25981		
Quotation No.: Q21-24896	Chemtest Sample ID.:		1249488	1249490		
	Client Sample ID.:		S710	O701		
	Sample Type:		WATER	WATER		
	Date Sampled:		21-Jul-2021	21-Jul-2021		
Determinand	Accred.	SOP	Units	LOD		
pH	U	1010		N/A	7.8	7.8
Electrical Conductivity	U	1020	µS/cm	1.0	110	200
Suspended Solids At 105C	U	1030	mg/l	5.0	6.0	18
Chemical Oxygen Demand	U	1100	mg O2/l	10	[B] 78	[B] 37
Chloride	U	1220	mg/l	1.0	17	22
Ammonium	U	1220	mg/l	0.050	< 0.050	< 0.050
Nitrate	U	1220	mg/l	0.50	< 0.50	0.61
Phosphorus (Total)	N	1220	mg/l	0.020	0.18	0.021

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:
1249479		S701		21-Jul-2021	B	Miscellaneous
1249480		S702		21-Jul-2021	B	Miscellaneous
1249481		S703		21-Jul-2021	B	Miscellaneous
1249482		S704		21-Jul-2021	B	Miscellaneous
1249483		S705		21-Jul-2021	B	Miscellaneous
1249484		S706		21-Jul-2021	B	Miscellaneous
1249485		S707		21-Jul-2021	B	Miscellaneous
1249486		S708		21-Jul-2021	B	Miscellaneous
1249487		S709		21-Jul-2021	B	Miscellaneous
1249488		S710		21-Jul-2021	B	Miscellaneous
1249490		O701		21-Jul-2021	B	Miscellaneous

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



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Report No: TCEG-689010421

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 01/04/2021

Date Reported 12/04/2021

Order Number 10968

Sample Type Water
Client ID 30/03/2021 O701
Date Tested 01/04/2021
ALS ID 4419746

Test	Result	Unit	Method
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
COD Total	32	mg/l O2	P210
Ammonium	<0.03	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Nitrite	<0.01	mg/l NO2N	P281
Chloride	24.9	mg/l Cl	P281
Conductivity @ 20°C	134	µs/cm	P284

Sample Type Water
Client ID 01/04/2021 SP1
Date Tested 01/04/2021
ALS ID 4419747

Test	Result	Unit	Method
Suspended Solids	<5	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
COD Total	35	mg/l O2	P210
Ammonium	0.04	mg/l NH4	P281
Orthophosphate	<0.02	mg/l P	P281
Nitrite	<0.01	mg/l NO2N	P281
Chloride	27.0	mg/l Cl	P281
Conductivity @ 20°C	103	µs/cm	P284

Report Authorised by:

David Kinsella