



RECEIVED 29/03/2024

# Final Report

**Report No.:** 22-41991-1

**Initial Date of Issue:** 09-Nov-2022

**Client:** RSK Ireland


**Client Address:** Unit B, Bluebell Business Centre  
Old Nass Road  
Dublin 12  
IRELAND

**Contact(s):** Sven Klinkenbergh  
Colleen McClung  
Mairead Duffy

**Project:** 604008-604009; Round 1 Moanmore & Ballykett

<b>Quotation No.:</b> Q22-28778	<b>Date Received:</b> 02-Nov-2022
<b>Order No.:</b> 604009-604009 COC-2; TBD	<b>Date Instructed:</b> 02-Nov-2022
<b>No. of Samples:</b> 4	
<b>Turnaround (Wkdays):</b> 5	<b>Results Due:</b> 08-Nov-2022

**Date Approved:** 09-Nov-2022

**Approved By:**  


**Details:** Stuart Henderson, Technical Manager

## Results - Water

**Project: 604008-604009; Round 1 Moanmore & Ballykett**

Client: RSK Ireland		Chemtest Job No.:		22-41991	22-41991	22-41991	22-41991	
Quotation No.: Q22-28778		Chemtest Sample ID.:		1537223	1537224	1537225	1537226	
Order No.: 604009-604009 COC-2; TBD		Client Sample Ref.:		Grab Sample	Grab Sample	Grab Sample	Grab Sample	
		Client Sample ID.:		SW2	SW3	SW4	SW5	
		Sample Location:		SW1	SW2	SW3	SW4	
		Sample Type:		WATER	WATER	WATER	WATER	
		Date Sampled:		25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	
Determinand	Accred.	SOP	Units	LOD				
pH	U	1010		N/A	6.6	6.5	6.6	6.8
Electrical Conductivity	U	1020	µS/cm	1.0	250	230	250	270
Fats, Oils & Grease	N	1025	mg/l	10	27	< 10	< 10	< 10
Suspended Solids At 105C	U	1030	mg/l	5.0	9.0	< 5.0	7.0	< 5.0
Colour	N	1050	Hazen unit	1.0	470	450	320	450
Turbidity	N	1060	NTU	1.0	470	2.1	1.7	2.0
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0	[B] < 4.0
Alkalinity (Total)	U	1220	mg/l	10	40	29	46	53
Alkalinity (Bicarbonate)	U	1220	mg CaCO3/l	10	40	29	46	53
Ammoniacal Nitrogen	U	1220	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nitrite as NO2	U	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Nitrate as NO3	U	1220	mg/l	0.50	0.90	1.8	1.5	1.5
Orthophosphate as PO4	U	1220	mg/l	0.050	0.11	0.11	0.12	0.12
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.036	0.036	0.039	0.039
Total Hardness as CaCO3	U	1270	mg/l	15	60	58	71	76
Copper (Dissolved)	U	1455	µg/l	0.50	2.4	2.5	3.4	3.5
Zinc (Dissolved)	U	1455	mg/l	0.002	0.028	0.024	0.022	0.022
Copper (Total)	N	1455	µg/l	0.50	6.2	7.8	3.9	6.4
Zinc (Total)	N	1455	µg/l	2.5	36	37	19	14
Dissolved Organic Carbon	U	1610	mg/l	2.0	36	32	33	32
Total Organic Carbon	U	1610	mg/l	2.0	36	33	32	32
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10
Total Kjeldahl Nitrogen	N	1340	mg/l	1.0	4.7	4.0	5.6	5.8

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## 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:
1537223	Grab Sample	SW2	SW1	25-Oct-2022	B	Coloured Winchester 500ml
1537223	Grab Sample	SW2	SW1	25-Oct-2022	B	Miscellaneous
1537224	Grab Sample	SW3	SW2	25-Oct-2022	B	Coloured Winchester 500ml
1537224	Grab Sample	SW3	SW2	25-Oct-2022	B	Miscellaneous
1537225	Grab Sample	SW4	SW3	25-Oct-2022	B	Coloured Winchester 500ml
1537225	Grab Sample	SW4	SW3	25-Oct-2022	B	Miscellaneous
1537226	Grab Sample	SW5	SW4	25-Oct-2022	B	Coloured Winchester 500ml
1537226	Grab Sample	SW5	SW4	25-Oct-2022	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
1025	Fats, Oils and Greases	Fats, Oils and Greases	Solvent extraction / Gravimetry
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.
1050	Colour	Colour	Spetctrophotometry
1060	Turbidity	Turbidity	Spetctrophotometry
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°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.
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.
1340	Total Nitrogen in Waters	Total Nitrogen and organic Nitrogen	Persulphate digestion followed by colorimetry.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection

## Report Information

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### **Key**

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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**

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- 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**

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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](mailto:customerservices@chemtest.com)



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# Final Report

**Report No.:** 22-35703-1

**Initial Date of Issue:** 26-Sep-2022

**Client:** RSK Ireland


**Client Address:** Unit B, Bluebell Business Centre  
Old Nass Road  
Dublin 12  
IRELAND

**Contact(s):** Colleen McClung  
Mairead Duffy  
Sven Klinkenbergh

**Project:** 604008-604009; Round 1 Moanmore & Ballykett

<b>Quotation No.:</b> Q22-28778	<b>Date Received:</b> 20-Sep-2022
<b>Order No.:</b> 604008-604009 COC-1	<b>Date Instructed:</b> 20-Sep-2022
<b>No. of Samples:</b> 4	
<b>Turnaround (Wkdays):</b> 5	<b>Results Due:</b> 26-Sep-2022

**Date Approved:** 26-Sep-2022

**Approved By:**  


**Details:** Stuart Henderson, Technical Manager

## Results - Water

**Project: 604008-604009; Round 1 Moanmore & Ballykett**

Client: RSK Ireland		Chemtest Job No.:		22-35703	22-35703	22-35703	22-35703	
Quotation No.: Q22-28778		Chemtest Sample ID.:		1508529	1508530	1508531	1508532	
Order No.: 604008-604009 COC-1		Client Sample Ref.:		Grab Sample	Grab Sample	Grab Sample	Grab Sample	
		Client Sample ID.:		SW2	SW3	SW4	SW5	
		Sample Location:		SW2	SW3	SW4	SW5	
		Sample Type:		WATER	WATER	WATER	WATER	
		Date Sampled:		13-Sep-2022	13-Sep-2022	13-Sep-2022	13-Sep-2022	
Determinand	Accred.	SOP	Units	LOD				
pH	U	1010		N/A	7.6	7.5	7.6	7.7
Electrical Conductivity	U	1020	µS/cm	1.0	440	600	1600	1700
Fats, Oils & Grease	N	1025	mg/l	10	< 10	< 10	< 10	< 10
Suspended Solids At 105C	U	1030	mg/l	5.0	28	23	21	26
Colour	N	1050	Hazen unit	1.0	110	110	230	280
Turbidity	N	1060	NTU	1.0	7.7	5.9	4.9	5.3
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	[B] 15	[B] 27	[B] 21	[B] 20
Alkalinity (Total)	U	1220	mg/l	10	36	64	65	49
Alkalinity (Bicarbonate)	U	1220	mg CaCO3/l	10	36	64	65	49
Ammoniacal Nitrogen	U	1220	mg/l	0.050	< 0.050	0.058	0.059	0.086
Nitrite as NO2	U	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Nitrate as NO3	U	1220	mg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Orthophosphate as PO4	U	1220	mg/l	0.050	0.076	0.093	0.087	0.10
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.025	0.030	0.028	0.033
Total Hardness as CaCO3	U	1270	mg/l	15	60	81	88	69
Copper (Dissolved)	U	1455	µg/l	0.50	2.4	3.0	3.1	2.6
Zinc (Dissolved)	U	1455	mg/l	0.002	0.018	0.003	0.003	0.005
Copper (Total)	N	1455	µg/l	0.50	5.2	5.0	5.2	5.0
Zinc (Total)	N	1455	µg/l	2.5	18	2.5	2.9	4.9
Dissolved Organic Carbon	U	1610	mg/l	2.0	30	30	31	35
Total Organic Carbon	U	1610	mg/l	2.0	27	30	31	37
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10
Total Kjeldahl Nitrogen	N	1340	mg/l	1.0	10	3.5	2.1	6.5

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Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1508529	Grab Sample	SW2	SW2	13-Sep-2022	B	Coloured Winchester 500ml
1508529	Grab Sample	SW2	SW2	13-Sep-2022	B	Plastic Bottle 250ml
1508530	Grab Sample	SW3	SW3	13-Sep-2022	B	Coloured Winchester 500ml
1508530	Grab Sample	SW3	SW3	13-Sep-2022	B	Plastic Bottle 250ml
1508531	Grab Sample	SW4	SW4	13-Sep-2022	B	Coloured Winchester 500ml
1508531	Grab Sample	SW4	SW4	13-Sep-2022	B	Plastic Bottle 250ml
1508532	Grab Sample	SW5	SW5	13-Sep-2022	B	Coloured Winchester 500ml
1508532	Grab Sample	SW5	SW5	13-Sep-2022	B	Plastic Bottle 250ml



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SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
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