



APPENDIX 9-3

**SURFACE WATER -
LABORATORY DATA
AND SCREENING**

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
Tuam Road
Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 10th October, 2025
Your reference : 240790 - h
Our reference : Test Report 25/15961 Batch 1
Location : Slievegrine
Date samples received : 26th September, 2025
Status : Final Report
Issue : 202510100937

Four samples were received for analysis on 26th September, 2025 of which four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 8.109 kg of CO2

Scope 1&2&3 emissions - 19.163 kg of CO2

Authorised By:



Sean English
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240790 - h
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 25/15961

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

EMT Sample No.	1-5	6-10	11-15	16-20							Please see attached notes for all abbreviations and acronyms		
Sample ID	SW-L03	SW-L04	SW-L05	SW-L06									
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD									
Sample Date	23/09/2025 16:00	23/09/2025 15:00	23/09/2025 13:00	23/09/2025 12:00									
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water									
Batch Number	1	1	1	1									
Date of Receipt	26/09/2025	26/09/2025	26/09/2025	26/09/2025							LOD/LOR	Units	Method No.
Dissolved Aluminium #	275.3	65.9	63.2	46.3							<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2							<2	ug/l	TM170/PM14
Dissolved Arsenic #	<0.9	<0.9	1.1	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Barium #	21.8	17.5	146.5	27.6							<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Boron #	15	<12	12	<12							<12	ug/l	TM170/PM14
Dissolved Cadmium #	<0.03	<0.03	0.04	<0.03							<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	0.7	0.5	0.4	0.2							<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	0.1	0.1	0.4	0.2							<0.1	ug/l	TM170/PM14
Dissolved Copper #	2	3	2	<1							<1	ug/l	TM170/PM14
Total Dissolved Iron #	452.3	158.8	352.9	193.5							<4.7	ug/l	TM170/PM14
Dissolved Lead #	0.5	<0.4	0.5	<0.4							<0.4	ug/l	TM170/PM14
Dissolved Manganese #	12.1	7.5	215.6	117.5							<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2							<0.2	ug/l	TM170/PM14
Dissolved Nickel #	1.4	1.8	2.7	1.4							<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	19	20	16	<5							<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2							<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	0.8	<0.6	<0.6	<0.6							<0.6	ug/l	TM170/PM14
Dissolved Zinc #	5	4	6	5							<3	ug/l	TM170/PM14
Dissolved Calcium #	9.9	15.2	12.6	7.8							<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	2.3	3.1	3.3	2.4							<0.1	mg/l	TM30/PM14
Dissolved Potassium #	0.7	1.2	1.5	0.6							<0.1	mg/l	TM30/PM14
Dissolved Sodium #	15.8	14.1	13.3	11.8							<0.1	mg/l	TM30/PM14
Chloride #	30.5	28.0	25.7	22.2							<0.3	mg/l	TM38/PM0
Nitrate as N #	0.24	0.28	0.68	0.47							<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006							<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	0.05	0.03	0.04	<0.03							<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	26	44	38	26							<1	mg/l	TM75/PM0
Apparent Colour	123	77	61	42							<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<3 ^{AA}	<3 ^{AA}	<1	<1							<1	mg/l	TM58/PM0
COD (Settled) #	56	37	17	18							<7	mg/l	TM57/PM0
Dissolved Oxygen	10	10	10	10							<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	170	194	184	141							<2	uS/cm	TM76/PM0
pH #	6.89	7.01	6.93	6.70							<0.01	pH units	TM73/PM0
Total Organic Carbon #	25	13	9	7							<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10							<10	mg/l	TM37/PM0

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240790 - h
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 25/15961

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

[illegible]

Element Materials Technology **Notification of Deviating Samples**

Notification of Deviating Samples

Client Name: McCarthy Keville & O'Sullivan Ltd **Matrix : Liquid**

Reference: 240790 - h

Location: Slievegrine

Contact: Colin Fitzgerald

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 25/15961

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x3 Dilution

EMT Job No: 25/15961

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993); EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 25/15961

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
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Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 10th October, 2025
Your reference : 240740 - h
Our reference : Test Report 25/16084 Batch 1
Location : Slievergrine
Date samples received : 29th September, 2025
Status : Final Report
Issue : 202510100937

Five samples were received for analysis on 29th September, 2025 of which five were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 9.05 kg of CO2

Scope 1&2&3 emissions - 21.388 kg of CO2

Authorised By:



Sean English
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740 - h
Location: Slievergrine
Contact: Colin Fitzgerald
EMT Job No: 25/16084

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN₃

EMT Sample No.	1-5	6-10	11-15	16-20	21-25						Please see attached notes for all abbreviations and acronyms		
Sample ID	SW-L08	SW-L09	SW-L10	SW-L11	SW-L12								
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD								
Sample Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025								
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water								
Batch Number	1	1	1	1	1								
Date of Receipt	29/09/2025	29/09/2025	29/09/2025	29/09/2025	29/09/2025						LOD/LOR	Units	Method No.
Dissolved Aluminium #	12.4	20.9	8.0	22.0	18.3						<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2	<2						<2	ug/l	TM170/PM14
Dissolved Arsenic #	<0.9	<0.9	<0.9	<0.9	<0.9						<0.9	ug/l	TM170/PM14
Dissolved Barium #	47.2	82.7	80.5	118.7	109.6						<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM170/PM14
Dissolved Boron #	<12	<12	<12	<12	<12						<12	ug/l	TM170/PM14
Dissolved Cadmium #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	0.2	0.3	0.3	0.3	0.3						<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	0.1	0.1	<0.1	0.1	<0.1						<0.1	ug/l	TM170/PM14
Dissolved Copper #	<1	1	1	1	1						<1	ug/l	TM170/PM14
Total Dissolved Iron #	82.5	161.2	48.0	159.1	102.8						<4.7	ug/l	TM170/PM14
Dissolved Lead #	<0.4	<0.4	<0.4	<0.4	<0.4						<0.4	ug/l	TM170/PM14
Dissolved Manganese #	106.9	110.2	10.4	64.0	25.2						<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2	<0.2						<0.2	ug/l	TM170/PM14
Dissolved Nickel #	1.0	1.4	0.7	1.5	1.3						<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	7	9	12	10	8						<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2	<1.2						<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9	<0.9						<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	<0.6	<0.6	<0.6	<0.6	<0.6						<0.6	ug/l	TM170/PM14
Dissolved Zinc #	4	4	4	4	4						<3	ug/l	TM170/PM14
Dissolved Calcium #	7.2	9.8	9.4	11.5	10.9						<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	2.3	2.7	2.7	3.0	3.1						<0.1	mg/l	TM30/PM14
Dissolved Potassium #	0.9	1.1	1.2	1.3	1.3						<0.1	mg/l	TM30/PM14
Dissolved Sodium #	9.4	10.6	10.5	11.5	11.6						<0.1	mg/l	TM30/PM14
Chloride #	18.8	21.2	21.5	23.0	23.4						<0.3	mg/l	TM38/PM0
Nitrate as N #	1.37	1.11	1.06	1.00	1.08						<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006	<0.006						<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	0.04	<0.03						<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO ₃ #	28	56	36	38	38						<1	mg/l	TM75/PM0
Apparent Colour	36	49	27	49	50						<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<1	<1	<1	<1	<1						<1	mg/l	TM58/PM0
COD (Settled) #	7	11	9	9	16						<7	mg/l	TM57/PM0
Dissolved Oxygen	10	10	10	10	11						<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	134	189	157	179	173						<2	uS/cm	TM76/PM0
pH #	6.68	7.45	6.71	6.77	6.78						<0.01	pH units	TM73/PM0
Total Organic Carbon #	3	5	4	6	5						<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10	<10						<10	mg/l	TM37/PM0

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740 - h
Location: Slievergrine
Contact: Colin Fitzgerald
EMT Job No: 25/16084

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	1-5	6-10	11-15	16-20	21-25						Please see attached notes for all abbreviations and acronyms		
Sample ID	SW-L08	SW-L09	SW-L10	SW-L11	SW-L12								
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD								
Sample Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025								
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water								
Batch Number	1	1	1	1	1								
Date of Receipt	29/09/2025	29/09/2025	29/09/2025	29/09/2025	29/09/2025						LOD/LOR	Units	Method No.
Turbidity	3.3	6.2	3.1	2.8	2.4						<0.1	NTU	TM34/PMO

Element Materials Technology **Notification of Deviating Samples**

Notification of Deviating Samples

Client Name: McCarthy Keville & O'Sullivan Ltd **Matrix : Liquid**

Reference: 240740 - h

Location: Slievergrine

Contact: Colin Fitzgerald

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 25/16084

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It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

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Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

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All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

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Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

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A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

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Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

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Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

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REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 25/16084

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993); EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 25/16084

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
Tuam Road
Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 13th October, 2025
Your reference : 240740 - h
Our reference : Test Report 25/16085 Batch 1
Location : Slievegrine
Date samples received : 29th September, 2025
Status : Final Report
Issue : 202510131125

Six samples were received for analysis on 29th September, 2025 of which six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 12.163 kg of CO2

Scope 1&2&3 emissions - 28.745 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740 - h
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 25/16085

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

EMT Sample No.	1-5	6-10	11-15	16-20	21-25	26-30					Please see attached notes for all abbreviations and acronyms		
Sample ID	SW - L01	SW - L02	SW - LD01	SW - L07	SW - G13	SW - G14							
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD							
Sample Date	24/09/2025	24/09/2025	24/09/2025	25/09/2025	25/09/2025	25/09/2025							
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	29/09/2025	29/09/2025	29/09/2025	29/09/2025	29/09/2025	29/09/2025					LOD/LOR	Units	Method No.
Dissolved Aluminium #	42.5	120.1	123.6	63.4	79.4	2.4					<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM170/PM14
Dissolved Arsenic #	1.1	2.0	1.8	1.3	<0.9	<0.9					<0.9	ug/l	TM170/PM14
Dissolved Barium #	134.6	85.7	85.5	6.3	4.6	12.5					<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM170/PM14
Dissolved Boron #	<12	13	14	<12	<12	<12					<12	ug/l	TM170/PM14
Dissolved Cadmium #	0.05	0.17	0.17	<0.03	<0.03	<0.03					<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	<0.2	0.3	0.4	0.2	<0.2	<0.2					<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	1.1	3.2	3.3	1.1	<0.1	<0.1					<0.1	ug/l	TM170/PM14
Dissolved Copper #	2	2	2	<1	<1	<1					<1	ug/l	TM170/PM14
Total Dissolved Iron #	442.1	839.3	916.9	377.6	145.7	11.3					<4.7	ug/l	TM170/PM14
Dissolved Lead #	0.9	0.5	0.4	<0.4	<0.4	<0.4					<0.4	ug/l	TM170/PM14
Dissolved Manganese #	373.2	419.9	420.9	310.5	15.1	<1.5					<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	ug/l	TM170/PM14
Dissolved Nickel #	2.8	4.7	4.6	2.4	0.7	0.3					<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	9	11	13	<5	<5	10					<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2					<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9					<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6					<0.6	ug/l	TM170/PM14
Dissolved Zinc #	6	28	28	4	3	<3					<3	ug/l	TM170/PM14
Dissolved Calcium #	9.8	8.8	8.9	1.5	5.9	11.1					<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	2.9	2.5	2.6	1.5	2.5	3.4					<0.1	mg/l	TM30/PM14
Dissolved Potassium #	1.1	1.6	1.6	0.4	0.3	1.1					<0.1	mg/l	TM30/PM14
Dissolved Sodium #	13.0	14.1	14.4	10.7	10.4	9.7					<0.1	mg/l	TM30/PM14
Chloride #	24.5	27.3	26.9	18.3	18.7	18.1					<0.3	mg/l	TM38/PM0
Nitrate as N #	0.60	0.14	<0.05	0.08	0.05	1.85					<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006					<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	0.03	0.04	0.05	<0.03	<0.03	<0.03					<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	36	16	16	14	26	46					<1	mg/l	TM75/PM0
Apparent Colour	85	93	101	44	83	15					<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<1	<2 ^{AA}	<2 ^{AA}	<1	<1	<1					<1	mg/l	TM58/PM0
COD (Settled) #	13	26	29	<7	14	<7					<7	mg/l	TM57/PM0
Dissolved Oxygen	10	7	7	10	10	10					<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	168	175	166	91	121	156					<2	uS/cm	TM76/PM0
pH #	6.74	6.20	6.15	6.30	6.73	6.85					<0.01	pH units	TM73/PM0
Total Organic Carbon #	7	14	14	4	9	2					<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10	<10	<10					<10	mg/l	TM37/PM0

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740 - h
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 25/16085

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

[illegible]

Element Materials Technology Notification of Deviating Samples

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Reference: 240740 - h

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Notification of Deviating Samples

Matrix : Liquid

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Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution

EMT Job No: 25/16085

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993); EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 25/16085

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

McCarthy Keville & O'Sullivan Ltd
2nd Floor
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Tuam Road
Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 18th February, 2026
Your reference : 240740-H
Our reference : Test Report 26/1843 Batch 1
Location : Slievegrine
Date samples received : 6th February, 2026
Status : Final Report
Issue : 202602181153

Four samples were received for analysis on 6th February, 2026 of which four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 7.312 kg of CO2

Scope 1&2&3 emissions - 17.281 kg of CO2

Authorised By:



Sean English
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740-H
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 26/1843

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

EMT Sample No.	1-5	6-10	11-15	16-20							Please see attached notes for all abbreviations and acronyms		
Sample ID	SW-L03	SW-L04	SW-L05	SW-L06									
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD									
Sample Date	03/02/2026 14:00	03/02/2026 14:30	03/02/2026 15:30	03/02/2026 16:00									
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water									
Batch Number	1	1	1	1									
Date of Receipt	06/02/2026	06/02/2026	06/02/2026	06/02/2026							LOD/LOR	Units	Method No.
Dissolved Aluminium #	475.1 ^{AC}	117.9	142.2	130.0							<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2							<2	ug/l	TM170/PM14
Dissolved Arsenic #	<0.9	<0.9	<0.9	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Barium #	16.0	19.0	89.4	17.7							<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Boron #	<12	<12	<12	<12							<12	ug/l	TM170/PM14
Dissolved Cadmium #	0.04	<0.03	0.04	<0.03							<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	1.1	0.4	0.5	0.4							<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	0.2	0.1	0.4	0.2							<0.1	ug/l	TM170/PM14
Dissolved Copper #	<1	1	3	<1							<1	ug/l	TM170/PM14
Total Dissolved Iron #	854.6 ^{AC}	185.0	360.2	240.7							<4.7	ug/l	TM170/PM14
Dissolved Lead #	0.6	<0.4	0.8	<0.4							<0.4	ug/l	TM170/PM14
Dissolved Manganese #	16.2	26.4	76.5	47.7							<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2							<0.2	ug/l	TM170/PM14
Dissolved Nickel #	1.8	1.2	2.1	1.2							<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	16	52	34	14							<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2							<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	1.0	<0.6	<0.6	<0.6							<0.6	ug/l	TM170/PM14
Dissolved Zinc #	6	5	6	7							<3	ug/l	TM170/PM14
Dissolved Calcium #	5.1	16.7	11.6	7.7							<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	1.5	3.0	2.5	1.6							<0.1	mg/l	TM30/PM14
Dissolved Potassium #	0.6	3.6	2.4	1.2							<0.1	mg/l	TM30/PM14
Dissolved Sodium #	12.4	9.7	10.8	9.4							<0.1	mg/l	TM30/PM14
Chloride #	21.6	19.3	20.2	16.6							<0.3	mg/l	TM38/PM0
Nitrate as N #	0.14	0.98	0.64	0.50							<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006							<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	<0.03	<0.03	0.08	<0.03							<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	16	48	34	22							<1	mg/l	TM75/PM0
Apparent Colour	433	102	106	72							<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<3 ^{AB}	<2 ^{AA}	<2 ^{AA}	<1							<1	mg/l	TM58/PM0
COD (Settled) #	63	22	24	19							<7	mg/l	TM57/PM0
Dissolved Oxygen	10	10	10	10							<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	107	175	149	111							<2	uS/cm	TM76/PM0
pH #	6.30	6.86	6.77	6.52							<0.01	pH units	TM73/PM0
Total Organic Carbon #	25	10	11	8							<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10							<10	mg/l	TM37/PM0

Element Materials Technology

Notification of Deviating Samples

Notification of Deviating Samples

Client Name:	McCarthy Keville & O'Sullivan Ltd	Matrix : Liquid
---------------------	-----------------------------------	------------------------

Reference: 240740-H

Location: Slievegrine

Contact: Colin Fitzgerald

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/1843

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

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DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution
AB	x3 Dilution
AC	x5 Dilution

EMT Job No: 26/1843

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993), EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 26/1843

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

McCarthy Keville & O'Sullivan Ltd
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Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 20th February, 2026
Your reference : 240740-H
Our reference : Test Report 26/1959 Batch 1
Location : Slievegrine
Date samples received : 9th February, 2026
Status : Final Report
Issue : 202602201212

Eight samples were received for analysis on 9th February, 2026 of which eight were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 14.48 kg of CO2

Scope 1&2&3 emissions - 34.22 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740-H
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 26/1959

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40			Please see attached notes for all abbreviations and acronyms		
Sample ID	SWL01	SWL02	SWL07	SWL08	SWL09	SWL10	SWL11	SWL12					
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD					
Sample Date	04/02/2026 10:00	04/02/2026 10:30	04/02/2026 15:00	04/02/2026 13:00	04/02/2026 13:00	04/02/2026 16:00	04/02/2026 16:08	04/02/2026 16:30					
Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	09/02/2026	09/02/2026	09/02/2026	09/02/2026	09/02/2026	09/02/2026	09/02/2026	09/02/2026			LOD/LOR	Units	Method No.
Dissolved Aluminium #	152.0	125.4	318.7	140.5	154.5	81.7	121.9	111.2			<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2	<2	<2	<2	<2			<2	ug/l	TM170/PM14
Dissolved Arsenic #	<0.9	0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9			<0.9	ug/l	TM170/PM14
Dissolved Barium #	73.8	32.9	5.4	26.2	65.3	62.3	70.3	70.8			<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	ug/l	TM170/PM14
Dissolved Boron #	<12	<12	<12	<12	<12	<12	<12	<12			<12	ug/l	TM170/PM14
Dissolved Cadmium #	0.04	<0.03	0.04	<0.03	0.04	<0.03	<0.03	<0.03			<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	0.4	0.6	0.4	0.4	0.5	<0.2	0.3	0.3			<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	0.4	0.3	0.4	<0.1	0.2	0.1	0.2	0.1			<0.1	ug/l	TM170/PM14
Dissolved Copper #	3	2	<1	<1	2	1	2	2			<1	ug/l	TM170/PM14
Total Dissolved Iron #	348.4	526.4	400.1	192.8	283.9	120.4	220.2	202.2			<4.7	ug/l	TM170/PM14
Dissolved Lead #	1.7	<0.4	1.2	<0.4	0.7	0.4	0.5	0.4			<0.4	ug/l	TM170/PM14
Dissolved Manganese #	82.4	51.6	42.3	30.7	51.0	50.2	44.0	20.2			<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	ug/l	TM170/PM14
Dissolved Nickel #	2.0	2.2	0.8	1.0	1.7	1.2	1.5	1.5			<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	15	19	6	20	22	21	22	19			<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2			<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9			<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	0.6	<0.6	1.1	<0.6	0.6	<0.6	0.7	<0.6			<0.6	ug/l	TM170/PM14
Dissolved Zinc #	7	20	7	5	7	5	6	5			<3	ug/l	TM170/PM14
Dissolved Calcium #	7.4	6.8	0.7	5.9	8.4	8.8	8.9	8.9			<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	2.1	1.8	1.0	1.8	2.1	2.3	2.3	2.4			<0.1	mg/l	TM30/PM14
Dissolved Potassium #	1.4	2.4	0.6	1.2	1.7	1.5	1.6	1.7			<0.1	mg/l	TM30/PM14
Dissolved Sodium #	11.4	10.5	9.5	8.7	10.1	10.7	10.6	10.7			<0.1	mg/l	TM30/PM14
Chloride #	20.9	18.7	17.1	16.3	19.0	20.1	19.8	20.4			<0.3	mg/l	TM38/PM0
Nitrate as N #	0.58	0.25	0.10	0.92	0.83	1.42	1.13	1.18			<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006			<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	0.04	<0.03	0.03	0.06	0.05	0.03	0.05	<0.03			<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	18	18	4	16	20	22	20	26			<1	mg/l	TM75/PM0
Apparent Colour	102	109	162	84	94	48	69	77			<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<2 ^{AA}	<3 ^{AB}	<3 ^{AB}	<1	<2 ^{AA}	<1	<1	<2 ^{AA}			<1	mg/l	TM58/PM0
COD (Settled) #	20	30	39	19	24	8	18	20			<7	mg/l	TM57/PM0
Dissolved Oxygen	10	10	10	10	10	10	10	10			<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	119	111	82	102	123	133	132	137			<2	uS/cm	TM76/PM0
pH #	6.81	6.75	4.62	6.67	7.20	6.86	6.88	6.96			<0.01	pH units	TM73/PM0
Total Organic Carbon #	10	15	16	8	10	6	8	9			<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10	<10	<10	<10	<10			<10	mg/l	TM37/PM0

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740-H
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 26/1959

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

[illegible]

Element Materials Technology **Notification of Deviating Samples**

Client Name: McCarthy Keville & O'Sullivan Ltd **Matrix : Liquid**

Reference: 240740-H

Location: Slievegrine

Contact: Colin Fitzgerald

Notification of Deviating Samples

Matrix : Liquid

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/1959

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution
AB	x3 Dilution

EMT Job No: 26/1959

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993); EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 26/1959

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

McCarthy Keville & O'Sullivan Ltd
2nd Floor
H91VW84
Tuam Road
Galway
Ireland



4225



Attention : Colin Fitzgerald
Date : 19th February, 2026
Your reference : 240740-H
Our reference : Test Report 26/1960 Batch 1
Location : Slievegrine
Date samples received : 9th February, 2026
Status : Final Report
Issue : 202602191242

Four samples were received for analysis on 9th February, 2026 of which four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 7.24 kg of CO2

Scope 1&2&3 emissions - 17.11 kg of CO2

Authorised By:



Phil Sommerton BSc

Senior Technical Account Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740-H
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 26/1960

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN₃

EMT Sample No.	1-5	6-10	11-15	16-20							Please see attached notes for all abbreviations and acronyms		
Sample ID	SWG13	SWG14	SWLD02	SWB15									
Depth													
COC No / misc													
Containers	V H HN P BOD	V H HN P BOD	V H HN P BOD	V H HN P BOD									
Sample Date	05/02/2026	05/02/2026	05/02/2026	05/02/2026									
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water									
Batch Number	1	1	1	1									
Date of Receipt	09/02/2026	09/02/2026	09/02/2026	09/02/2026							LOD/LOR	Units	Method No.
Dissolved Aluminium #	108.7	48.9	112.6	146.9							<1.5	ug/l	TM170/PM14
Dissolved Antimony #	<2	<2	<2	<2							<2	ug/l	TM170/PM14
Dissolved Arsenic #	<0.9	<0.9	<0.9	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Barium #	7.3	12.5	7.3	21.8							<1.8	ug/l	TM170/PM14
Dissolved Beryllium #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Boron #	<12	<12	<12	<12							<12	ug/l	TM170/PM14
Dissolved Cadmium #	<0.03	<0.03	<0.03	<0.03							<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	0.3	0.3	0.4	0.4							<0.2	ug/l	TM170/PM14
Dissolved Cobalt #	<0.1	<0.1	<0.1	0.2							<0.1	ug/l	TM170/PM14
Dissolved Copper #	<1	<1	<1	<1							<1	ug/l	TM170/PM14
Total Dissolved Iron #	177.3	93.2	189.2	167.7							<4.7	ug/l	TM170/PM14
Dissolved Lead #	<0.4	<0.4	<0.4	<0.4							<0.4	ug/l	TM170/PM14
Dissolved Manganese #	30.8	13.7	32.3	25.2							<1.5	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM170/PM14
Dissolved Molybdenum #	<0.2	<0.2	<0.2	<0.2							<0.2	ug/l	TM170/PM14
Dissolved Nickel #	0.5	0.8	0.5	1.0							<0.2	ug/l	TM170/PM14
Dissolved Phosphorus #	20	34	19	9							<5	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	<1.2	<1.2	<1.2							<1.2	ug/l	TM170/PM14
Dissolved Thallium	<0.9	<0.9	<0.9	<0.9							<0.9	ug/l	TM170/PM14
Dissolved Vanadium #	<0.6	<0.6	<0.6	<0.6							<0.6	ug/l	TM170/PM14
Dissolved Zinc #	7	4	4	9							<3	ug/l	TM170/PM14
Dissolved Calcium #	5.0	9.2	5.0	3.0							<0.2	mg/l	TM30/PM14
Dissolved Magnesium #	1.2	2.3	1.2	1.4							<0.1	mg/l	TM30/PM14
Dissolved Potassium #	1.3	1.8	1.3	0.5							<0.1	mg/l	TM30/PM14
Dissolved Sodium #	7.0	8.3	6.9	10.1							<0.1	mg/l	TM30/PM14
Chloride #	12.6	15.1	12.5	18.3							<0.3	mg/l	TM38/PM0
Nitrate as N #	0.34	1.59	0.33	0.18							<0.05	mg/l	TM38/PM0
Nitrite as N #	<0.006	<0.006	<0.006	<0.006							<0.006	mg/l	TM38/PM0
Ortho Phosphate as P #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as N #	0.03	0.33	0.03	<0.03							<0.03	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	22	30	22	14							<1	mg/l	TM75/PM0
Apparent Colour	84	70	92	66							<15	mg/l PtCo	TM35/PM0
BOD (Settled) #	<1	2	<1	<1							<1	mg/l	TM58/PM0
COD (Settled) #	17	11	15	11							<7	mg/l	TM57/PM0
Dissolved Oxygen	10	10	10	10							<1	mg/l	TM58/PM0
Electrical Conductivity @25C #	82	124	90	91							<2	uS/cm	TM76/PM0
pH #	7.70	6.56	6.55	6.24							<0.01	pH units	TM73/PM0
Total Organic Carbon #	8	4	7	7							<2	mg/l	TM60/PM0
Total Suspended Solids #	<10	<10	<10	<10							<10	mg/l	TM37/PM0

Element Materials Technology

Client Name: McCarthy Keville & O'Sullivan Ltd
Reference: 240740-H
Location: Slievegrine
Contact: Colin Fitzgerald
EMT Job No: 26/1960

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

[illegible]

Element Materials Technology

Notification of Deviating Samples

Notification of Deviating Samples

Client Name:	McCarthy Keville & O'Sullivan Ltd	Matrix : Liquid
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Reference: 240740-H

Location: Slievegrine

Contact: Colin Fitzgerald

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/1960

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 26/1960

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEPA 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM34	Turbidity by 2100P Turbidity Meter. complies with EPA 180.1 1993	PM0	No preparation is required.				
TM35	True and apparent colour by Hach Lange DR3800 spectrophotometer. Apparent colour includes dissolved and suspended matter. True colour is determined after filtration of the sample.	PM0	No preparation is required.				
TM37	Modified methods - TSS: USEPA 100.2 (1993), EN612:2003 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometrically.	PM0	No preparation is required.	Yes			
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.				
TM58	APHA SMEWW 5210B:1999 22nd Edition. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as am	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			

EMT Job No: 26/1960

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

									Notes																							
									nt	not tested		XX	Detection																			
									nc	no criteria		XX	> screen value																			
									<LOD	Below LOD																						
									Surface Water Events								Event 2															
									Sample ID	SWL01	SWL02	SW-L03	SW-L04	SW-L05	SW-L06	SWL07	SWL08	SWL09	SWL10	SWL11	SWL12	SWG13	SWG14	SWLD02	SWB15							
									Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water						
									Sampled Date	04/02/2026	04/02/2026	03/02/2026	03/02/2026	03/02/2026	03/02/2026	04/02/2026	04/02/2026	04/02/2026	04/02/2026	04/02/2026	04/02/2026	04/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026						
Test	Method	Units	MAC-EQS	Minimum (result above detection limit)	Mean	Maximum	No. of Samples	No. of MAC-EQS Exceedances	LOD																							
Physicochemical																																
pH ⁺	TM73/PMD	pH units	4.5 < pH < 9.0	4.62	6.7	7.7	31	0	<0.01	6.81	6.75	6.3	6.86	6.77	6.52	4.62	6.67	7.2	6.86	6.88	6.86	7.7	6.56	6.55		6.24						
Electrical Conductivity @25C ⁺	TM76/PMD	µS/cm	nc	82	138	194	31	149	0	<2	119	111	107	175	149	111	82	102	123	133	132	137	82	124	90	91						
Total Suspended Solids ⁺	TM37/PMD	mg/l	nc	0	-	0	31	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
Turbidity	TM34/PMD	NTU	nc	1.4	5.1	46.5	31	0	<0.1	3.3	3.5	46.5	8.3	6.9	3.4	6.3	3.2	3.7	2.4	2.5	3.5	2.1	4.3	3.6	4							
Apparent Colour	TM35/PMD	mg/l PCo	nc	15	87	433	31	0	<15	102	109	433	162	106	72	162	84	94	48	48	69	77	84	70	92	86						
BOD (Settled) ⁺	TM58/PMD	mg/l	1.5	2	2.0	2	31	1	<1	<2	<3	<3	<2	<2	<1	<3	<1	<2	<1	<1	<2	<1	2	<1	<1							
COD (Settled) ⁺	TM57/PMD	mg/l	nc	7	21	63	31	0	<7	20	30	63	22	24	19	39	19	24	8	18	20	17	11	15	11							
Dissolved Oxygen	TM58/PMD	mg/l	nc	7	9.8	11	31	0	<1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
Total Organic Carbon ⁺	TM60/PMD	mg/l	nc	2	9.3	25	31	0	<2	10	15	25	10	11	8	16	8	10	6	8	9	8	4	7	7							
Total Alkalinity as CaCO3 ⁺	TM75/PMD	mg/l	nc	4	27	56	31	0	<1	18	18	16	48	34	22	4	16	20	22	20	26	22	30	22	14							
Nutrients																																
Ortho Phosphate as P ⁺	TM38/PMD	mg/l	0.075	0.04	0.04	0.04	31	0	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03						
Dissolved Phosphorus ⁺	TM30/PM14	µg/l	nc	6	17	52	31	0	<5	15	19	16	52	34	14	6	20	22	21	22	19	20	34	19	9							
Nitrate as N ⁺	TM38/PMD	mg/l	nc	0.05	0.70	1.85	31	0	<0.05	0.58	0.25	0.14	0.98	0.64	0.5	0.1	0.92	0.83	1.42	1.13	1.18	0.34	1.59	0.33	0.18							
Nitrite as N ⁺	TM38/PMD	mg/l	nc	0	-	0	31	0	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006							
Ammonical Nitrogen as N ⁺	TM38/PMD	mg/l	0.14	0.03	0.06	0.33	31	1	<0.03	0.04	<0.03	<0.03	<0.03	0.08	<0.03	0.03	0.06	0.05	0.03	0.05	<0.03	0.03	0.33	0.03	<0.03							
Ions, Anions and Inorganics																																
Fluoride	TM173/PMD	mg/l	0.5	0	-	0	0	0	<0.3	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc						
Sulphide	TM107/PMD	mg/l	nc	0	-	0	0	0	<0.01	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc						
Sulphate as SO4 ⁺	TM38/PMD	mg/l	nc	0	-	0	0	0	<0.5	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc						
Chloride ⁺	TM38/PMD	mg/l	nc	12.5	21	30.5	31	0	<0.3	20.9	18.7	21.6	19.3	20.2	16.6	17.1	16.3	19	20.1	19.8	20.4	12.6	15.1	12.5	18.3							
Metals																																
Dissolved Aluminium ⁺	TM30/PM14	µg/l	nc	2.4	111	475.1	31	0	<1.5	152	125	475	118	142	130	319	141	155	81.7	122	111	109	48.9	113	147							
Dissolved Antimony ⁺	TM30/PM14	µg/l	nc	0	-	0	31	0	<2	<0	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2							
Dissolved Arsenic ⁺	TM30/PM14	µg/l	25	0.9	1.4	2	31	0	<0.9	<0.9	0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9							
Dissolved Barium ⁺	TM30/PM14	µg/l	nc	4.6	51	146.5	31	0	<1.8	73.8	32.9	16	19	89.4	17.7	5.4	26.2	65.3	62.3	70.3	70.8	7.3	12.5	7.3	21.8							
Dissolved Beryllium	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5							
Dissolved Boron	TM30/PM14	µg/l	nc	12	14	15	31	0	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12							
Dissolved Cadmium ⁺	TM30/PM14	µg/l	0.45	0.04	0.07	0.17	31	0	<0.04	0.04	<0.03	0.04	<0.03	0.04	<0.03	0.04	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03							
Dissolved Calcium ⁺	TM30/PM14	mg/l	nc	0.7	8.4	16.7	31	0	<0.2	7.4	6.8	5.1	16.7	11.6	7.7	0.7	5.9	8.4	8.8	8.9	8.9	5	9.2	5	3							
Total Dissolved Chromium ⁺	TM30/PM14	µg/l	32	0.2	0.40	1.1	31	0	<0.2	0.4	0.6	1.1	0.4	0.5	0.4	0.4	0.4	0.5	<0.2	0.3	0.3	0.3	0.3	0.4	0.4							
Dissolved Cobalt ⁺	TM30/PM14	µg/l	nc	0.1	0.55	3.3	31	0	<0.1	0.4	0.3	0.2	0.1	0.4	0.2	0.4	<0.1	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2							
Dissolved Copper ⁺	TM30/PM14	µg/l	5	1	1.8	3	31	0	<1	3	2	<1	1	3	<1	<1	<1	2	1	2	2	<1	<1	<1	<1							
Total Dissolved Iron ⁺	TM30/PM14	µg/l	nc	11.3	291	916.9	31	0	<4.7	348	526	855	185	360	241	400	193	284	120	220	202	177	93.2	189	168							
Dissolved Lead ⁺	TM30/PM14	µg/l	14	0.4	0.70	1.7	31	0	<0.4	1.7	<0.4	0.6	<0.4	0.8	<0.4	1.2	<0.4	0.7	0.4	0.5	0.4	<0.4	<0.4	<0.4	<0.4							
Dissolved Magnesium ⁺	TM30/PM14	mg/l	nc	1	2.3	3.4	31	0	<0.1	2.1	1.8	1.5	3	2.5	1.6	1	1.8	2.1	2.3	2.3	2.4	1.2	2.3	1.2	1.4							
Dissolved Manganese ⁺	TM30/PM14	µg/l	nc	7.5	95	420.9	31	0	<1.5	82.4	51.6	16.2	26.4	76.5	47.7	42.3	30.7	51	50.2	44	20.2	30.8	13.7	32.3	25.2							
Dissolved Mercury ⁺	TM30/PM14	µg/l	0.07	0	-	0	31	0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5							
Dissolved Molybdenum ⁺	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2							
Dissolved Nickel ⁺	TM30/PM14	µg/l	34	0.3	1.6	4.7	31	0	<0.2	2	2.2	1.8	1.2	2.1	1.2	0.8	1	1.7	1.2	1.5	1.5	0.5	0.8	0.5	1							
Dissolved Potassium ⁺	TM30/PM14	mg/l	nc	0.3	1.3	3.6	31	0	<0.1	1.4	2.4	0.6	3.6	2.4	1.2	0.6	1.2	1.7	1.5	1.6	1.7	1.3	1.8	1.3	0.5							
Dissolved Selenium ⁺	TM30/PM14	µg/l	nc	0	-	0	31	0	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2							
Dissolved Sodium ⁺	TM30/PM14	mg/l	nc	6.9	11	15.8	31	0	<0.1	11.4	10.5	12.4	9.7	10.8	9.4	9.5	8.7	10.1	10.7	10.6	10.7	7	8.3	6.9	10.1							
Dissolved Thallium	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9							
Dissolved Vanadium ⁺	TM30/PM14	µg/l	nc	0.6	0.80	1.1	31	0	<0.6	0.6	<0.6	1	<0.6	<0.6	<0.6	1.1	<0.6	0.6	<0.6	0.7	<0.6	<0.6	<0.6	<0.6	<0.6							
Dissolved Zinc ⁺	TM30/PM14	µg/l	50	3	7.3	28	31	0	<3	7	20	6	5	6	7	7	5	7	5	6	6	7	4	4	9							

									Notes																				
									nc	no criteria	XX	> screen value																	
									<0.5	Below LOD																			
									Surface Water Events																				
									Event 1																				
									Sample ID	SW - L01	SW - L02	SW-L03	SW-L04	SW-L05	SW-L06	SW - L07	SW-L08	SW-L09	SW-L10	SW-L11	SW-L12	SW - G13	SW - G14	SW - LD01					
									Sample Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water					
									Sampled Date	24/09/2025	24/09/2025	23/09/2025	23/09/2025	23/09/2025	23/09/2025	25/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	25/09/2025	25/09/2025	24/09/2025					
Test	Method	Units	AA-EQS	Minimum (result above detection limit)	Mean	Maximum	No. of Samples	No. of AA-EQS Exceedances	LOD																				
Physicochemical																													
pH [#]	TM73/PM0	pH units	4.5< pH < 9.0	4.62	6.7	7.7	31	0	<0.01	6.74	6.2	6.89	7.01	6.93	6.7	6.3	6.68	7.45	6.71	6.77	6.78	6.73	6.85	6.15					
Electrical Conductivity @25C [#]	TM76/PM0	µS/cm	nc	82	138	194	31	0	<2	168	175	170	194	184	141	91	134	189	157	179	173	121	156	166					
Total Suspended Solids [#]	TM37/PM0	mg/l	nc	0	-	0	31	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
Turbidity	TM34/PM0	NTU	nc	1.4	5.1	46.5	31	0	<0.1	2.9	6.4	3.1	2.2	3.8	3.4	2.6	3.3	6.2	3.1	2.8	2.4	3.2	1.4	5.3					
Apparent Colour	TM35/PM0	mg/l PtCo	nc	15	87	433	31	0	<15	85	93	123	77	61	42	44	36	49	27	49	50	83	15	101					
BOD (Settled) [#]	TM58/PM0	mg/l	1.5	2	2.0	2	31	1	<1	<1	<2	<3	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
COD (Settled) [#]	TM57/PM0	mg/l	nc	7	21	63	31	0	<7	13	26	56	37	17	18	<7	7	11	9	9	16	14	<7	29					
Dissolved Oxygen	TM58/PM0	mg/l	nc	7	9.8	11	31	0	<1	10	7	10	10	10	10	10	10	10	10	10	10	10	10	7					
Total Organic Carbon [#]	TM60/PM0	mg/l	nc	2	9.3	25	31	0	<2	7	14	25	13	9	7	4	3	5	4	6	5	9	2	14					
Total Alkalinity as CaCO3 [#]	TM75/PM0	mg/l	nc	4	27	56	31	0	<1	36	16	26	44	38	26	14	28	56	36	38	38	26	46	16					
Nutrients																													
Ortho Phosphate as P [#]	TM38/PM0	mg/l	0.035	0.04	0.04	0.04	31	1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03				
Dissolved Phosphorus [#]	TM30/PM14	µg/l	nc	6	17	52	31	0	<5	9	11	19	20	16	<5	<5	7	9	12	10	8	<5	10	13					
Nitrate as N [#]	TM38/PM0	mg/l	nc	0.05	0.70	1.85	31	0	<0.05	0.6	0.14	0.24	0.28	0.68	0.47	0.08	1.37	1.11	1.06	1	1.08	0.05	1.85	<0.05					
Nitrite as N [#]	TM38/PM0	mg/l	nc	0	-	0	31	0	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006						
Ammoniacal Nitrogen as N [#]	TM38/PM0	mg/l	0.065	0.03	0.06	0.33	31	2	<0.03	0.03	0.04	0.05	0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05					
Ions, Anions and Inorganics																													
Fluoride	TM173/PM0	mg/l	0.5	0	-	0	0	0	<0.3	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt					
Sulphide	TM107/PM0	mg/l	nc	0	-	0	0	0	<0.01	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt					
Sulphate as SO4 [#]	TM38/PM0	mg/l	nc	0	-	0	0	0	<0.5	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt					
Chloride [#]	TM38/PM0	mg/l	nc	12.5	21	30.5	31	0	<0.3	24.5	27.3	30.5	28	25.7	22.2	18.3	18.8	21.2	21.5	23	23.4	18.7	18.1	26.9					
Metals																													
Dissolved Aluminium [#]	TM30/PM14	µg/l	nc	2.4	111	475	31	0	<1.5	42.5	120	275	65.9	63.2	46.3	63.4	12.4	20.9	8	22	18.3	79.4	2.4	124					
Dissolved Antimony [#]	TM30/PM14	µg/l	nc	0	-	0	31	0	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2					
Dissolved Arsenic [#]	TM30/PM14	µg/l	25	0.9	1.4	2	31	0	<0.9	1.1	2	<0.9	<0.9	1.1	<0.9	1.3	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	1.8					
Dissolved Barium [#]	TM30/PM14	µg/l	nc	4.6	51	147	31	0	<1.8	135	85.7	21.8	17.5	147	27.6	6.3	47.2	82.7	80.5	119	110	4.6	12.5	85.5					
Dissolved Beryllium	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5						
Dissolved Boron	TM30/PM14	µg/l	nc	12	14	15	31	0	<12	<12	13	15	<12	12	<12	<12	<12	<12	<12	<12	<12	<12	<12	14					
Dissolved Cadmium [#]	TM30/PM14	µg/l	0.008	0.04	0.07	0.17	31	9	<0.03	0.05	0.17	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.17					
Dissolved Calcium [#]	TM30/PM14	mg/l	nc	0.7	8.4	16.7	31	0	<0.2	9.8	8.8	9.9	15.2	12.6	7.8	1.5	7.2	9.8	9.4	11.5	10.9	5.9	11.1	8.9					
Total Dissolved Chromium [#]	TM30/PM14	µg/l	3.4	0.2	0.40	1.1	31	0	<0.2	<0.2	0.3	0.7	0.5	0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.3	<0.2	0.4						
Dissolved Cobalt [#]	TM30/PM14	µg/l	nc	0.1	0.55	3.3	31	0	<0.1	1.1	3.2	0.1	0.1	0.4	0.2	1.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	3.3						
Dissolved Copper [#]	TM30/PM14	µg/l	5	1	1.8	3	31	0	<1	2	2	2	3	2	<1	<1	<1	1	1	1	1	<1	2						
Total Dissolved Iron [#]	TM30/PM14	µg/l	nc	11.3	291	917	31	0	<4.7	442	839	452	159	353	194	378	82.5	161	48	159	103	146	11.3	917					
Dissolved Lead [#]	TM30/PM14	µg/l	1.2	0.4	0.70	1.7	31	1	<0.4	0.9	0.5	0.5	<0.4	0.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.4						
Dissolved Magnesium [#]	TM30/PM14	mg/l	nc	1	2.3	3.4	31	0	<0.1	2.9	2.5	2.3	3.1	3.3	2.4	1.5	2.3	2.7	3	3.1	2.5	3.4	2.6						
Dissolved Manganese [#]	TM30/PM14	µg/l	nc	7.5	95	421	31	0	<1.5	373	420	12.1	7.5	216	118	311	107	110	64	25.2	15.1	<1.5	421						
Dissolved Mercury [#]	TM30/PM14	µg/l	0.05	0	-	0	31	0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5						
Dissolved Molybdenum [#]	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2						
Dissolved Nickel [#]	TM30/PM14	µg/l	4	0.3	1.6	4.7	31	2	<0.2	2.8	4.7	1.4	1.8	2.7	1.4	2.4	1	1.4	0.7	1.5	1.3	0.7	4.6						
Dissolved Potassium [#]	TM30/PM14	mg/l	nc	0.3	1.3	3.6	31	0	<0.1	1.1	1.6	0.7	1.2	1.5	0.6	0.4	0.9	1.1	1.2	1.3	1.3	0.3	1.1	1.6					
Dissolved Selenium [#]	TM30/PM14	µg/l	nc	0	-	0	31	0	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2						
Dissolved Sodium [#]	TM30/PM14	mg/l	nc	6.9	11	15.8	31	0	<0.1	13	14.1	15.8	14.1	13.3	11.8	10.7	9.4	10.6	10.5	11.5	11.6	10.4	9.7	14.4					
Dissolved Thallium	TM30/PM14	µg/l	nc	0	-	0	31	0	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9						
Dissolved Vanadium [#]	TM30/PM14	µg/l	nc	0.6	0.80	1.1	31	0	<0.6	<0.6	<0.6	0.8	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6						
Dissolved Zinc [#]	TM30/PM14	µg/l	50	3	7.3	28	31	0	<3	6	28	5	4	6	5	4	4	4	4	4	4	3	<3	28					

[illegible]