

Our Ref: EXR/240567 (Ver. 1)

Your Ref:

May 11, 2017



Environmental Chemistry

ESG

Bretby Business Park

Ashby Road

Burton-on-Trent

Staffordshire

DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

A Morris
White Rock Geo Environmental Ltd
EnviroArm Limited
597 Walsall Road
Great Wyrley
Walsall
Staffordshire
WS6 6AE

For the attention of A Morris

Dear A Morris

Sample Analysis - Parrys Quarry

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Multi-Sector Services) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG

A handwritten signature in black ink, appearing to be 'A Tave', written over a horizontal line.

A Tave
Project Co-ordinator
01283 554463

TEST REPORT



Report No. EXR/240567 (Ver. 1)

White Rock Geo Environmental Ltd
EnviroArm Limited
597 Walsall Road
Great Wyrley
Walsall
Staffordshire
WS6 6AE

Site: Parrys Quarry

The 14 samples described in this report were registered for analysis by ESG on 05-May-2017. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 11-May-2017

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Analytical and Deviating Sample Overview (Pages 4 to 5)
Table of Method Descriptions (Page 6)
Table of Report Notes (Page 7)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
ESG :
Tim Barnes

A handwritten signature in black ink, appearing to read 'Tim Barnes'.

Operations Director
Energy & Waste Services


Date of Issue: 11-May-2017

Tests marked '^' have been subcontracted to another laboratory.

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected.

ESG accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Units : Method Codes : Method Reporting Limits : UKAS Accredited :			pH units	uS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
			WSLM3	WSLM2	WSLM12	KONENS	ICPWATVAR	ICPWATVAR	ICPWATVAR	ICPWATVAR	ICPWATVAR	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW
			100			1	3	1	1	1	1	0.001	0.001	0.0001	0.001	0.001	0.001	0.002
			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LAB ID Number EX/	Client Sample Description	Sample Date	pH units w	Conductivity uS/cm @ 25C w	Total Alkalinity as CaCO3 w	Chloride as Cl w	Total Sulphur as SO4 (Dissolved) a	Calcium as Ca (Dissolved) a	Magnesium as Mg (Dissolved) a	Sodium as Na (Dissolved) a	Potassium as K (Dissolved) a	Nickel as Ni (Dissolved)	Chromium as Cr (Dissolved)	Cadmium as Cd (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Zinc as Zn (Dissolved)	Manganese as Mn (Dissolved)
1792058	BH A	18-Apr-17	6.5	820	153	77	124	72	32	39	11	0.012	<0.001	<0.0001	<0.001	<0.001	0.012	2.021
1792059	BH B	18-Apr-17	7.8	2100	475	230	233	47	16	3.22	8	0.002	<0.001	<0.0001	0.01	<0.001	0.015	0.074
1792060	BH C	18-Apr-17	7.2	969	241	90	101	77	29	88	7	0.006	<0.001	<0.0001	0.002	<0.001	0.019	0.314
1792061	BH C1	18-Apr-17	7.1	858	184	35	200	97	34	38	4	0.002	<0.001	0.0003	<0.001	<0.001	0.007	0.829
1792062	BH D	18-Apr-17	7.2	828	225	37	137	103	34	27	3	0.001	<0.001	0.0002	0.004	<0.001	0.014	0.368
1792063	BH E	18-Apr-17	7.2	598	153	44	60	39	16	48	14	0.005	<0.001	<0.0001	0.004	<0.001	0.056	0.103
1792064	BH F	18-Apr-17	7.2	625	197	35	71	60	25	33	2	0.005	<0.001	<0.0001	0.003	<0.001	0.033	1.466
1792065	BH F1	18-Apr-17	6.7	707	105	56	144	73	22	33	3	0.026	<0.001	0.0002	0.011	<0.001	0.089	2.62
1792066	BH G	18-Apr-17	7.3	843	213	37	162	106	34	28	3	0.002	<0.001	<0.0001	0.012	<0.001	0.049	0.008
1792067	BH H	18-Apr-17	7	1890	376	154	462	274	56	96	20	0.014	<0.001	0.0001	0.007	<0.001	0.015	2.618
1792068	BH I	18-Apr-17	6.7	2440	387	448	220	195	81	249	19	0.017	<0.001	0.0004	0.004	<0.001	0.022	2.065
1792069	BH J	18-Apr-17	6.9	1670	238	176	368	159	60	140	13	0.023	<0.001	0.0001	0.002	<0.001	0.082	4.1
1792070	BH K	18-Apr-17	6.7	2590	240	165	1090	224	161	185	13	0.017	<0.001	<0.0001	<0.001	<0.001	0.02	7.02
1792071	BH K1	18-Apr-17	6.9	1060	300	61	167	120	53	38	6	0.009	<0.001	0.0001	0.001	<0.001	0.1	2.244
<div><div>ESG</div><div></div><div>Bretby Business Park, Ashby Road</div><div>Burton-on-Trent, Staffordshire, DE15 0YZ</div><div>Tel +44 (0) 1283 554400</div><div>Fax +44 (0) 1283 554422</div></div>			Client Name		White Rock Geo Environmental Ltd						Sample Analysis							
			Contact		A Morris													
			Parrys Quarry						Date Printed		11-May-2017							
									Report Number		EXR/240567							
									Table Number		1							

Sample Analysis

ESG Environmental Chemistry
Analytical and Deviating Sample Overview

W240567

Customer White Rock Geo Environmental Ltd
Site Parrys Quarry
Report No W240567

Consignment No W119867
Date Logged 05-May-2017

Report Due 12-May-2017

ID Number	Description	Matrix Type	Sampled	Report A	Nickel as Ni MS (Dissolved)	Chromium as Cr MS (Dissolved)	Cadmium as Cd MS (Dissolved)	Copper as Cu MS (Dissolved)	Lead as Pb MS (Dissolved)	Zinc as Zn MS (Dissolved)	Manganese as Mn MS (Dissolved)	Mercury as Hg MS (Dissolved)	Total Sulphur as SO4 (Diss) VAR	Calcium as Ca (Dissolved) VAR	Magnesium as Mg (Dissolved) VAR	Sodium as Na (Dissolved) VAR	Potassium as K (Dissolved) VAR	Iron as Fe (Dissolved) VAR	Chloride as Cl (Kone)	Ammoniacal Nitrogen (Kone)	Phenols by HPLC (Low Level)
EX/1792058	BH A	Groundwater	18/04/17																		
EX/1792059	BH B	Groundwater	18/04/17																		
EX/1792060	BH C	Groundwater	18/04/17																		
EX/1792061	BH C1	Groundwater	18/04/17																		
EX/1792062	BH D	Groundwater	18/04/17																		
EX/1792063	BH E	Groundwater	18/04/17																		
EX/1792064	BH F	Groundwater	18/04/17																		
EX/1792065	BH F1	Groundwater	18/04/17																		
EX/1792066	BH G	Groundwater	18/04/17																		
EX/1792067	BH H	Groundwater	18/04/17																		
EX/1792068	BH I	Groundwater	18/04/17																		
EX/1792069	BH J	Groundwater	18/04/17																		
EX/1792070	BH K	Groundwater	18/04/17																		
EX/1792071	BH K1	Groundwater	18/04/17																		

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

A The sample was received in an inappropriate container for this analysis

B The sample was received without the correct preservation for this analysis

C Headspace present in the sample container

D The sampling date was not supplied so holding time may be compromised - applicable to all analysis

E Sample processing did not commence within the appropriate holding time

F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

Analysis Required

Analysis dependant upon trigger result - Note: due date may be affected if triggered

No analysis scheduled

Analysis Subcontracted - Note: due date may vary

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling. Where individual results are flagged see report notes for status.

Sample Analysis

ESG Environmental Chemistry Analytical and Deviating Sample Overview

W240567

Customer White Rock Geo Environmental Ltd
Site Parrys Quarry
Report No W240567

Consignment No W119867

Date Logged 05-May-2017

Report Due 12-May-2017

ID Number	Description	MethodID		SFAPI	WSLM12	WSLM13	WSLM2	WSLM20	WSLM3
		Matrix Type	Sampled	Cyanide (Total) as CN SFA	Total Alkalinity as CaCO3	Total Organic Carbon	Conductivity uS/cm @ 25C	Biochemical Oxygen Demand	pH units
				✓	✓	✓	✓	✓	✓
EX/1792058	BH A	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792059	BH B	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792060	BH C	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792061	BH C1	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792062	BH D	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792063	BH E	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792064	BH F	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792065	BH F1	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792066	BH G	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792067	BH H	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792068	BH I	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792069	BH J	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792070	BH K	Groundwater	18/04/17	E	E	E	E	E	E
EX/1792071	BH K1	Groundwater	18/04/17	E	E	E	E	E	E

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling. Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Water	ICPMSW	As Received	Direct quantitative determination of Metals in water samples using ICPMS
Water	ICPWATVAR	As Received	Direct determination of Metals and Sulphate in water samples using ICPOES
Water	KONENS	As Received	Direct analysis using discrete colorimetric analysis
Water	PHEHPLCVL	As Received	Determination of Phenols by HPLC
Water	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Water	WSLM12	As Received	Titration with Sulphuric Acid to required pH
Water	WSLM13	As Received	Instrumental analysis using acid/persulphate digestion and non-dispersive IR detection
Water	WSLM2	As Received	Determination of the Electrical Conductivity ($\mu\text{S}/\text{cm}$) by electrical conductivity probe.
Water	WSLM20	As Received	Determination of Biological Oxygen Demand using 5 day incubation and dissolved oxygen probe
Water	WSLM3	As Received	Determination of the pH of water samples by pH probe

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

N.F No Flow

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

§ accreditation has been removed for this result as it is a non-accredited matrix

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : White Rock Geo Environmental Ltd
Site : Parrys Quarry
Report Number : W24_0567

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