CONTRACT NO: S33167-9
DATE OF ISSUE: 25.05.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23051149

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33167-45	23051149-001	TP101-6-ES-1.00	-	No Asbestos Detected
S33167-46	23051149-002	BH102-3-ES-0.20	-	No Asbestos Detected
S33167-47	23051149-005	BH105-4-ES-0.30	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: .....

J Simpson
Senior Laboratory Analyst

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23051149
Date Issued:	06/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051149
Date Issued: 06/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 in Solids (BSEN 12457-2)	Filtered
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered

KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received
Leachate Prep CEN 2:1	Leachate Prep, 1-Stage 2:1 (BSEN 12457-1)	As Received
PAHMSUS	16 PAHs by GCMS	As Received
PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PAHMSW	16 PAHs by GCMS	Filtered
PCBECD	PCBs, CLEA 12 Congeners	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received
PHCONDW	Electrical Conductivity @ 25°C	Filtered
PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	Filtered
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
SVOCSW	SVOCs (Target List) by GCMS	As Received
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C10-C40)	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	BTEX by GCMS	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
VOCHSAW	BTEX by GCMS	Unfiltered
WAC	WAC Report	
WSLM13	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.

F Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.

G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051149
Date Issued: 06/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23051524

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 2

Date Received: 16/05/2023

Analysis Date: 05/06/2023

Date Issued: 05/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Jacqui Hannah
01283 204384

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23051524-001	BH104-7-ES-0.50	11/05/2023 11:21:00	SOLID	Soil Sample
23051524-002	BH104-10-ES-1.40	11/05/2023 11:31:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH104-7-ES-0.50 Sample Type: SOLID Sampling Date: 11/05/2023	Sample ID: 002 Customer ID: BH104-10-ES-1.40 Sample Type: SOLID Sampling Date: 11/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.253	<0.268
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.013	<0.013
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.253	<0.268
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM	<0.051	<0.054
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.253	<0.268
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.013	<0.013
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.253	<0.268
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM	8.2	8.4
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N	<0.2 D	<0.2 D
Phenol Index	SFAPI	0.5	mg/kg^	U	<0.6	<0.7
Total Cyanide	SFAPI	0.5	mg/kg^	UM	<0.6	<0.7
Total Organic Carbon	WSLM59	0.02	% m/m^	U	4.95	0.35
Antimony as Sb	ICPMSS	0.1	mg/kg^	U	0.4	<0.1
Arsenic as As	ICPMSS	0.3	mg/kg^	UM	13.2	2.9
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM	0.9	<0.2
Copper as Cu	ICPMSS	1.6	mg/kg^	UM	34.2	23.5
Lead as Pb	ICPMSS	0.7	mg/kg^	UM	41.6	12.0
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM	<0.5	<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM	31.3	37.2

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH104-7-ES-0.50 Sample Type: SOLID Sampling Date: 11/05/2023	Sample ID: 002 Customer ID: BH104-10-ES-1.40 Sample Type: SOLID Sampling Date: 11/05/2023
Selenium as Se	ICPMSS	0.5	mg/kg^	UM	<0.5	<0.5
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM	28.2	30.8
Vanadium as V	ICPMSS	0.6	mg/kg^	N	35.7	18.0
Zinc as Zn	ICPMSS	16	mg/kg^	UM	146.2	27.8
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U	0.79	0.86
Boron as B	ICPBOR	0.5	mg/kg^	UM	2.7	1.3
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<13	<13
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<13	<13
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM	<25	<27
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<13	<13
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<13	<13
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM	<0.10	<0.11
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U	<0.10	<0.11
Anthracene	PAHMSUS	0.08	mg/kg^	U	<0.10	<0.11
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM	0.18	<0.11
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM	0.22	<0.11
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM	0.27	<0.11
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM	0.12	<0.11
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM	0.12	<0.11

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH104-7-ES-0.50 Sample Type: SOLID Sampling Date: 11/05/2023	Sample ID: 002 Customer ID: BH104-10-ES-1.40 Sample Type: SOLID Sampling Date: 11/05/2023
Chrysene	PAHMSUS	0.08	mg/kg^	UM	0.23	<0.11
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM	<0.10	<0.11
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM	0.41	<0.11
Fluorene	PAHMSUS	0.08	mg/kg^	UM	<0.10	<0.11
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM	0.12	<0.11
Naphthalene	PAHMSUS	0.08	mg/kg^	UM	<0.10	<0.11
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM	0.20	<0.11
Pyrene	PAHMSUS	0.08	mg/kg^	UM	0.35	<0.11
Total PAH 16	PAHMSUS	1.28	mg/kg^	U	2.82	<1.72
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<5.07	<5.37
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<5.07	<5.37
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<5.07	<5.37
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U	24.1	<13.4
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N	<7.60	<8.05
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U	37.6	<26.8
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<5.07	<5.37
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<5.07	6.56
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<5.07	<5.37
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U	28.4	16.1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH104-7-ES-0.50 Sample Type: SOLID Sampling Date: 11/05/2023	Sample ID: 002 Customer ID: BH104-10-ES-1.40 Sample Type: SOLID Sampling Date: 11/05/2023
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N	8.77	<8.05
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U	42.1	37.1
Benzene	VOCHSAS	1	µg/kg^	UM	<1	<1
Ethylbenzene	VOCHSAS	2	µg/kg^	UM	<3	<3
m and p-Xylene	VOCHSAS	4	µg/kg^	UM	<5	<6
o-Xylene	VOCHSAS	2	µg/kg^	UM	<3	<3
Toluene	VOCHSAS	5	µg/kg^	UM	<7	<7
Total Moisture at 35°C	CLANDPREP	0.1	%	N	21.1	25.5
Description of Solid Material	CLANDPREP		-	N	SILT	CLAY
Asbestos Identification	SUB020		-	N	NAIIS	

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33219-1

DATE OF ISSUE: 26.05.23

DATE SAMPLES RECEIVED: 19.05.23

DATE ANALYSIS COMPLETED: 25.05.23

DESCRIPTION: One soil/loose aggregate sample weighing approximately 1.0kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of a soil/loose aggregate sample for mass determination of asbestos.

METHODS:

Qualitative - The sample was analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org

CONTRACT NO: S33219-1
DATE OF ISSUE: 26.05.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23051524

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33219-1	23051524-001	BH104-7-ES-0.50	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: .....

J Simpson
Senior Laboratory Analyst

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23051524
Date Issued:	05/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	BTEX by GCMS	As Received
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23051524
Date Issued:	05/06/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051524
Date Issued: 05/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23051525

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 2

Date Received: 16/05/2023

Analysis Date: 05/06/2023

Date Issued: 05/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Jacqui Hannah
01283 204384

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23051525-001	TP101-7-ES-0.10	10/05/2023 13:58:00	SOLID	Soil Sample
23051525-002	TP104-9-ES-0.60	10/05/2023 10:47:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	001	002
				Customer ID	TP101-7-ES-0.10	TP104-9-ES-0.60
				Sample Type	SOLID	SOLID
				Sampling Date	10/05/2023	10/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.211*	<0.253
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.011*	<0.013
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.211*	<0.253
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM	<0.043*	<0.051
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.211*	<0.253
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.011*	<0.013
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.211*	<0.253
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM	8.7*	7.8
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N	<0.1	<0.2 D
Phenol Index	SFAPI	0.5	mg/kg^	U	<0.5*	<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM	<0.5*	<0.6
Total Organic Carbon	WSLM59	0.02	% m/m^	U	0.56*	1.45
Antimony as Sb	ICPMSS	0.1	mg/kg^	U	0.7*	0.3
Arsenic as As	ICPMSS	0.3	mg/kg^	UM	21.5*	15.6
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM	1.0*	0.8
Copper as Cu	ICPMSS	1.6	mg/kg^	UM	11.1*	38.2
Lead as Pb	ICPMSS	0.7	mg/kg^	UM	65.5*	35.9
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM	2.2*	<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM	13.9*	45.0

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: TP101-7-ES-0.10 Sample Type: SOLID Sampling Date: 10/05/2023	Sample ID: 002 Customer ID: TP104-9-ES-0.60 Sample Type: SOLID Sampling Date: 10/05/2023
Selenium as Se	ICPMSS	0.5	mg/kg^	UM	<0.5*	0.7
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM	10.1*	42.1
Vanadium as V	ICPMSS	0.6	mg/kg^	N	10.0	54.5
Zinc as Zn	ICPMSS	16	mg/kg^	UM	184.7*	184.6
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U	0.12*	1.02
Boron as B	ICPBOR	0.5	mg/kg^	UM	0.6*	2.4
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<11*	<13
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<11*	<13
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM	<21*	<25
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<11*	<13
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<11*	<13
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U	<0.08*	<0.10
Anthracene	PAHMSUS	0.08	mg/kg^	U	<0.08*	<0.10
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM	0.10*	<0.10
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM	0.13*	<0.10
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: TP101-7-ES-0.10 Sample Type: SOLID Sampling Date: 10/05/2023	Sample ID: 002 Customer ID: TP104-9-ES-0.60 Sample Type: SOLID Sampling Date: 10/05/2023
Chrysene	PAHMSUS	0.08	mg/kg^	UM	0.10*	<0.10
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM	0.14*	<0.10
Fluorene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Naphthalene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM	<0.08*	<0.10
Pyrene	PAHMSUS	0.08	mg/kg^	UM	0.12*	<0.10
Total PAH 16	PAHMSUS	1.28	mg/kg^	U	1.52*	<1.62
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.21*	<5.07
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.21*	<5.07
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.21*	<5.07
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U	11.7*	<12.7
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N	<6.32	<7.60
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U	<21.1*	<25.3
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<4.21*	7.76
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<4.21*	8.69
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<4.21*	5.14
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U	<10.5*	24.7

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: TP101-7-ES-0.10 Sample Type: SOLID Sampling Date: 10/05/2023	Sample ID: 002 Customer ID: TP104-9-ES-0.60 Sample Type: SOLID Sampling Date: 10/05/2023
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N	8.47	12.6
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U	<21.1*	59.3
Benzene	VOCHSAS	1	µg/kg^	UM	<1*	<1
Ethylbenzene	VOCHSAS	2	µg/kg^	UM	<2*	<2
m and p-Xylene	VOCHSAS	4	µg/kg^	UM	<4*	<5
o-Xylene	VOCHSAS	2	µg/kg^	UM	<2*	<2
Toluene	VOCHSAS	5	µg/kg^	UM	<5*	<6
Total Moisture at 35°C	CLANDPREP	0.1	%	N	5.0	21.1
Description of Solid Material	CLANDPREP		-	N	GRAVEL	CLAY
Asbestos Identification	SUB020		-	N	NAIIS	

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33189-8

DATE OF ISSUE: 26.05.23

DATE SAMPLES RECEIVED: 18.05.23

DATE ANALYSIS COMPLETED: 25.05.23

DESCRIPTION: One soil/loose aggregate sample weighing approximately 1.4kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of a soil/loose aggregate sample for mass determination of asbestos.

METHODS:

Qualitative - The sample was analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org

UKAS TESTING
0374

CONTRACT NO: S33189-8
DATE OF ISSUE: 26.05.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23051525

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33189-11	23051525-001	TP101-7-ES-0.10	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY [redacted]

J Simpson
Senior Laboratory Analyst

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	BTEX by GCMS	As Received
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23051525
Date Issued:	05/06/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23051525
Date Issued: 05/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23052523

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 1

Date Received: 25/05/2023

Analysis Date: 15/06/2023

Date Issued: 15/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23052523
Date Issued:	15/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23052523-001	AS1-1-ES-0.00	17/05/2023 00:00:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052523
Date Issued: 15/06/2023

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: AS1-1-ES-0.00 Sample Type: SOLID Sampling Date: 17/05/2023
Asbestos Identification	SUB020		-	N	CH, AM
Asbestos Stage 2	SUB020	0.001	%	N	0.360

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33687-1

DATE OF ISSUE: 14.06.23

DATE SAMPLES RECEIVED: 07.06.23

DATE ANALYSIS COMPLETED: 14.06.23

DESCRIPTION: One soil/loose aggregate sample weighing approximately 0.4kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of a soil/loose aggregate sample for mass determination of asbestos.

METHODS:

Qualitative - The sample was analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

Asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the qualitative and quantitative results are given in Tables 1 & 2 respectively.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org
IOM CONSULTING LIMITED, registered in Scotland No. SC205670

UKAS TESTING
0374

CONTRACT NO: S33687-1
DATE OF ISSUE: 14.06.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23052523

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33687-1	23052523-001	AS-1-ES-0.00	Thermal Insulation[1&2]	Amosite & Chrysotile

Our detection limit for this method is 0.001%.

Table 2: Quantitative Analysis Results

SOCOTEC Sample ID	Client Sample ID	Sample Weight (g)	% Asbestos in Sample from ACM's	% Asbestos in Sample as Unbound Fibres	Total % Asbestos in Sample
23052523-001	AS-1-ES-0.00	435	0.360	-	0.360

Our limit of quantification for gravimetric analysis of soil samples is 0.001%.

COMMENTS:

[1] ACM was visible during initial examination of the sample.
[2] ACM was detected during microscopic examination of the sample.

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: [redacted]
D Third
Laboratory Analyst

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052523
Date Issued: 15/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
SUB020	Asbestos Stage 2: Quantification	

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052523
Date Issued: 15/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23052698

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 2

Date Received: 26/05/2023

Analysis Date: 09/06/2023

Date Issued: 09/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23052698-001	HDP103A-1-ES-0.20	19/05/2023 10:41:00	SOLID	Soil Sample
23052698-002	HDP103A-2-ES-0.60	19/05/2023 10:42:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL	SOLID	SOLID
					Sampling Date	19/05/2023	19/05/2023	19/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.244	<0.248
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM			<0.012	<0.012
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.244	<0.248
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM			<0.049	<0.05
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.244	<0.248
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM			<0.012	<0.012
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.244	<0.248
Antimony as Sb	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Arsenic as As	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Barium as Ba	ICPWATVAR (Dissolved)	0.1	mg/kg^	N		0.4		
Cadmium as Cd	ICPMSW (Dissolved)	0.0002	mg/kg^	N		<0.0002		
Chloride as Cl	KONENS	10	mg/kg^	N		<10		
Total Chromium as Cr	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Copper as Cu	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.02		
Lead as Pb	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Mercury as Hg	ICPMSW (Dissolved)	0.0003	mg/kg^	N		<0.0003		
Molybdenum as Mo	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.17		
Nickel as Ni	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Phenol Index	SFAPI	0.5	mg/kg^	N		<0.5		

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023	19/05/2023
Selenium as Se	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	30	mg/kg^	N		169	
TDS as mg/kg	PHCONDW	700	mg/kg^	N		1170	
Leached Organic Carbon	WSLM13	2	mg/kg^	N		25.4	
Fluoride as F	ISEF	1	mg/kg^	N		13	
Zinc as Zn	ICPMSW (Dissolved)	0.02	mg/kg^	N		<0.02	
Conductivity at 25°C	PHCONDW	100	µS/cm	N		174	
pH	PHCONDW	1	pH units	N		7.5	
TDS as mg/l	PHCONDW	70	mg/l	N		118	
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM		7.9	8.3
Chloride as Cl	KONENS	1	mg/l	U		1	
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N		<0.1	<0.1
Phenol Index	SFAPI	0.05	mg/l	U		<0.05	
Phenol Index	SFAPI	0.5	mg/kg^	U		<0.6	<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM		<0.6	<0.6
Fluoride as F	ISEF	0.1	mg/l	U		1.3	
Total Organic Carbon	WSLM59	0.02	% m/m^	U		2.20	1.15
Leached Organic Carbon	TOCW	0.4	mg/l	U		2.55	
Antimony as Sb	ICPMSS	0.1	mg/kg^	U		1.2	0.7

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001		Sample ID: 002
					Customer ID: HDP103A-1-ES-0.20		HDP103A-2-ES-0.60
					Sample Type: LPL	SOLID	SOLID
					Sampling Date: 19/05/2023	19/05/2023	19/05/2023
Arsenic as As	ICPMSS	0.3	mg/kg^	UM		13.3	13.1
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM		0.6	0.5
Copper as Cu	ICPMSS	1.6	mg/kg^	UM		36.1	31.7
Lead as Pb	ICPMSS	0.7	mg/kg^	UM		75.2	44.3
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM		<0.5	<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM		43.6	42.9
Selenium as Se	ICPMSS	0.5	mg/kg^	UM		<0.5	<0.5
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM		33.0	37.5
Vanadium as V	ICPMSS	0.6	mg/kg^	N		43.8	50.9
Zinc as Zn	ICPMSS	16	mg/kg^	UM		105.1	76.5
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U		1.01	0.81
Boron as B	ICPBOR	0.5	mg/kg^	UM		2.6	3.3
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	<0.00002		
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	0.002		
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003		

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001		Sample ID: 002
					Customer ID: HDP103A-1-ES-0.20		HDP103A-2-ES-0.60
					Sample Type: LPL	SOLID	SOLID
					Sampling Date: 19/05/2023	19/05/2023	19/05/2023
Molybdenum as Mo	ICPMSW (Dissolved)	0.001	mg/l	U	0.017		
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	<0.002		
Barium as Ba	ICPWATVAR (Dissolved)	0.01	mg/l	U	0.04		
Total Sulphur as SO4	ICPWATVAR (Dissolved)	3	mg/l	U	17		
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM		<12	<12
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM		<12	<12
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM		<24	<25
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM		<12	<12
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM		<12	<12
Benzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM		<0.012	
Ethylbenzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM		<0.012	
m/p-Xylene HS_1D_AR	BTEXHSA	0.02	mg/kg^	UM		<0.024	
o-Xylene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM		<0.012	
Toluene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM		<0.012	
Total BTEX HS_1D_AR	BTEXHSA	0.06	mg/kg^	UM		<0.073	
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U		<9.74 D	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023 / 19/05/2023	19/05/2023
Anthracene	PAHMSUS	0.08	mg/kg^	U		<9.74 D	
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Chrysene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Fluorene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Naphthalene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Total PAH 16	PAHMSUS	1.28	mg/kg^	U		<156	
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U		<9.74 D	
Anthracene	PAHMSUS	0.08	mg/kg^	U		<9.74 D	
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023 / 19/05/2023	19/05/2023
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Chrysene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Coronene	PAHMSUS	0.08	mg/kg^	N		<9.74 D	
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Fluorene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Naphthalene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Pyrene	PAHMSUS	0.08	mg/kg^	UM		<9.74 D	
Total PAH 16	PAHMSUS	1.28	mg/kg^	U		<156	
Total PAH 17	PAHMSUS	1.36	mg/kg^	N		<166	
PCB 105	PCBECD	5	µg/kg^	UM			<6.20
PCB 114	PCBECD	5	µg/kg^	UM			<6.20
PCB 118	PCBECD	5	µg/kg^	UM			<6.20
PCB 123	PCBECD	5	µg/kg^	UM			<6.20

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023 / 19/05/2023	19/05/2023
PCB 126	PCBECD	5	µg/kg^	UM			<6.20
PCB 156	PCBECD	5	µg/kg^	UM			<6.20
PCB 157	PCBECD	5	µg/kg^	UM			<6.20
PCB 167	PCBECD	5	µg/kg^	UM			<6.20
PCB 169	PCBECD	5	µg/kg^	UM			<6.20
PCB 189	PCBECD	5	µg/kg^	UM			<6.20
PCB 77	PCBECD	5	µg/kg^	UM			<6.20
PCB 81	PCBECD	5	µg/kg^	UM			<6.20
PCB 101	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 118	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 138	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 153	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 180	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 28	PCBECD	0.005	mg/kg^	UM		<0.006	
PCB 52	PCBECD	0.005	mg/kg^	UM		<0.006	
Total PCB 7 Congeners	PCBECD	0.035	mg/kg^	UM		<0.043	
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		5.43	<4.96
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		9.21	6.90
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		14.2	8.48

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023	19/05/2023
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U		50.8	<12.4
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N		20.2	<7.44
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		99.3	38.7
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		<4.87	19.1
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		7.87	31.6
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		36.0	32.6
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U		252	81.2
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N		52.9	55.3
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U		344	208
>C10-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		93.5	
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		99.3	
Benzene	VOCHSAS	1	µg/kg^	UM		<1	
Ethylbenzene	VOCHSAS	2	µg/kg^	UM		<2	
m and p-Xylene	VOCHSAS	4	µg/kg^	UM		<5	
o-Xylene	VOCHSAS	2	µg/kg^	UM		<2	
Toluene	VOCHSAS	5	µg/kg^	UM		<6	
Total Moisture at 35°C	CLANDPREP	0.1	%	N		17.9	19.4
Description of Solid Material	CLANDPREP		-	N		CLAY	CLAY
Equivalent Weight of Dry Material (kg)	Leachate Prep CEN 10:1		kg	N		0.090	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP103A-1-ES-0.20	HDP103A-2-ES-0.60
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	19/05/2023 / 19/05/2023	19/05/2023
Fraction above 4mm (%)	Leachate Prep CEN 10:1		%	N		14.1	
Fraction of non-crushable material (%)	Leachate Prep CEN 10:1		%	N		0	
Volume of Water for 10:1 Leach (ltr)	Leachate Prep CEN 10:1		l	N		0.876	
Weight of Sample Leached (kg)	Leachate Prep CEN 10:1		kg	N		0.114	
WAC Report	WAC		-	N		See Attached	
Asbestos Identification	SUB020		-	N		NAIIS	NAIIS

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/2

Client	SOCOTEC Geotechnical	
Site	E3020 Rolls Royce Phase 2	
Project	23052698	
Sample No	Sample Description	Issue Date
23052698-001	HDP103A-1-ES-0.20	09/06/2023

Leaching Data	
Weight of Sample (kg)	0.114
Moisture content @ 105°C (% Wet Weight)	21.0
Equivalent weight based on drying @ 105°C (kg)	0.090
Volume of Water required for 10:1 stage (ltres)	0.876
Fraction of sample above 4mm %	14.1
Fraction of non-crushable material %	0

Note: The >4mm fraction is crushed using a disc mill

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
U	WSLM59	Total Organic Carbon (% M/M)	2.20	3	5	6
	LOI450	Loss on Ignition (%)				10
UM	BTEXHSA	Sum of BTEX (mg/kg)	<0.073	6		
UM	PCBUSECD	Sum of 7 Congener PCBs (mg/kg)	<0.043	1		
U	TPHFIDUS	>C10-C40 Aliphatic (mg/kg) EH_1D_AL	93.5	500		
N	PAHMSUS	Sum of 17 PAHs (mg/kg)	<166	100		
UM	PHSOIL	pH (pH Units)	7.9		>6	
	ANC	Acid Neutralisation Capacity (mol/kg)			To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	10:1 Single Stage Leachate	Cumulative Amount Leached at 10:1	Landfill Waste Acceptance Criteria Limit Values		
			mg/l except **	mg/kg (dry wt)	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM3**	pH (pH Units)	7.5				
N	WSLM2**	Conductivity (µS/cm)	174				
U	ICPMSW	Arsenic	<0.001	<0.01	0.5	2	25
U	ICPWATVAR	Barium	0.04	0.4	20	100	300
U	ICPMSW	Cadmium	<0.00002	<0.0002	0.04	1	5
U	ICPMSW	Chromium	<0.001	<0.01	0.5	10	70
U	ICPMSW	Copper	0.002	0.02	2	50	100
U	ICPMSW	Mercury	<0.00003	<0.0003	0.01	0.2	2
U	ICPMSW	Molybdenum	0.017	0.17	0.5	10	30
U	ICPMSW	Nickel	<0.001	<0.01	0.4	10	40
U	ICPMSW	Lead	<0.001	<0.01	0.5	10	50
U	ICPMSW	Antimony	<0.001	<0.01	0.06	0.7	5
U	ICPMSW	Selenium	<0.001	<0.01	0.1	0.5	7
U	ICPMSW	Zinc	<0.002	<0.02	4	50	200
U	KONENS	Chloride	1	<10	800	15000	25000
U	ISEF	Fluoride	1.3	13	10	150	500
U	ICPWATVAR	Sulphate as SO4	17	169	1000	20000	50000
N	WSLM27	Total Dissolved Solids	118	1170	4000	60000	100000
U	SFAPI	Phenol Index	<0.05	<0.5	1		
U	WSLM13	Dissolved Organic Carbon	2.55	25.4	500	800	1000

Tests where the accreditation is set to U are UKAS accredited, those where the accreditation is set to N are not UKAS accredited.
Calculated data is not UKAS accredited
Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33436-8

DATE OF ISSUE: 06.06.23

DATE SAMPLES RECEIVED: 30.05.23

DATE ANALYSIS COMPLETED: 06.06.23

DESCRIPTION: Two soil/loose aggregate samples each weighing approximately 1.0kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of soil/loose aggregate samples for mass determination of asbestos.

METHODS:

Qualitative - The samples were analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in either of the soil samples by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org

CONTRACT NO: S33436-8
DATE OF ISSUE: 06.06.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23052698

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33436-16	23052698-001	HDP103A-1-ES-0.20	-	No Asbestos Detected
S33436-17	23052698-002	HDP103A-2-ES-0.60	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: [redacted]
.....
K Parsons-Hewes
Senior Laboratory Analyst

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
HDP103A-1-ES-0.20	23052698-001	**PHSOIL**						✓
HDP103A-1-ES-0.20	23052698-001	**VOCHSAS**						✓
HDP103A-2-ES-0.60	23052698-002	**PHSOIL**						✓

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 in Solids (BSEN 12457-2)	Filtered
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received

PAHMSUS	16 PAHs by GCMS	As Received
PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PCBECD	PCBs, CLEA 12 Congeners	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received
PHCONDW	Electrical Conductivity @ 25°C	Filtered
PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C10-C40)	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	BTEX by GCMS	As Received
WAC	WAC Report	
WSLM13	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052698
Date Issued: 09/06/2023

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23052701

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020Rolls Royce Phase 2

Contact: Sarah Clarke

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Sarah.Clarke@socotec.com

Phone: 1

No. Samples Received: 2

Date Received: 26/05/2023

Analysis Date: 09/06/2023

Date Issued: 09/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23052701-001	HDP101-2-ES-0.50	16/05/2023 16:00:00	SOLID	Soil Sample
23052701-002	HDP101-3-ES-0.65	16/05/2023 16:00:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM		<25.1* D	<0.289
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM		<1.25* D	<0.014
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM		<25.1* D	0.899
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM		<5.02* D	<0.058
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM		<25.1* D	<0.289
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM		<1.25* D	<0.014
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM		28.3*	1.13
Antimony as Sb	ICPMSW (Dissolved)	0.01	mg/kg^	N	0.21		
Arsenic as As	ICPMSW (Dissolved)	0.01	mg/kg^	N	0.03		
Barium as Ba	ICPWATVAR (Dissolved)	0.1	mg/kg^	N	1.9		
Cadmium as Cd	ICPMSW (Dissolved)	0.0002	mg/kg^	N	0.0003		
Chloride as Cl	KONENS	10	mg/kg^	N	20		
Total Chromium as Cr	ICPMSW (Dissolved)	0.01	mg/kg^	N	<0.01		
Copper as Cu	ICPMSW (Dissolved)	0.01	mg/kg^	N	0.02		
Lead as Pb	ICPMSW (Dissolved)	0.01	mg/kg^	N	<0.01		
Mercury as Hg	ICPMSW (Dissolved)	0.0003	mg/kg^	N	<0.0003		
Molybdenum as Mo	ICPMSW (Dissolved)	0.01	mg/kg^	N	0.40		
Nickel as Ni	ICPMSW (Dissolved)	0.01	mg/kg^	N	0.20		
Phenol Index	SFAPI	0.5	mg/kg^	N	0.8		

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL	SOLID	SOLID
					Sampling Date	16/05/2023	16/05/2023	16/05/2023
Selenium as Se	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		
Total Sulphur as SO4	ICPWATVAR (Dissolved)	30	mg/kg^	N		1480		
TDS as mg/kg	PHCONDW	700	mg/kg^	N		2200		
Leached Organic Carbon	WSLM13	2	mg/kg^	N		148		
Fluoride as F	ISEF	1	mg/kg^	N		5		
Zinc as Zn	ICPMSW (Dissolved)	0.02	mg/kg^	N		0.16		
Conductivity at 25°C	PHCONDW	100	µS/cm	N		325		
pH	PHCONDW	1	pH units	N		8.5		
TDS as mg/l	PHCONDW	70	mg/l	N		221		
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM			7.3*	7.1
Chloride as Cl	KONENS	1	mg/l	U		2		
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N			<0.1	<0.1
Phenol Index	SFAPI	0.05	mg/l	U		0.08		
Phenol Index	SFAPI	0.5	mg/kg^	U			1.8*	6.3
Total Cyanide	SFAPI	0.5	mg/kg^	UM			<0.6*	<0.7
Fluoride as F	ISEF	0.1	mg/l	U		0.5		
Total Organic Carbon	WSLM59	0.02	% m/m^	U			>21.3* E	19.4
Leached Organic Carbon	TOCW	0.4	mg/l	U		14.9		
Antimony as Sb	ICPMSS	0.1	mg/kg^	U			11.0*	6.5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL	SOLID	SOLID
					Sampling Date	16/05/2023	16/05/2023	16/05/2023
Arsenic as As	ICPMSS	0.3	mg/kg^	UM		18.0*	28.1
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM		2.9*	2.8
Copper as Cu	ICPMSS	1.6	mg/kg^	UM		339.8*	153.8
Lead as Pb	ICPMSS	0.7	mg/kg^	UM		117.8*	328.2
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM		5.6*	3.6
Nickel as Ni	ICPMSS	2	mg/kg^	UM		116.1*	79.7
Selenium as Se	ICPMSS	0.5	mg/kg^	UM		0.8*	1.0
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM		27.0*	39.5
Vanadium as V	ICPMSS	0.6	mg/kg^	N		269.3	119.0
Zinc as Zn	ICPMSS	16	mg/kg^	UM		681.5*	719.9
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U		1.14*	0.83
Boron as B	ICPBOR	0.5	mg/kg^	UM		2.7*	4.9
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	0.021		
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	0.003		
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	0.00003		
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001		
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	0.002		
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	0.001		
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003		

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL	SOLID	SOLID
					Sampling Date	16/05/2023	16/05/2023	16/05/2023
Molybdenum as Mo	ICPMSW (Dissolved)	0.001	mg/l	U		0.040		
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U		0.020		
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U		<0.001		
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U		0.016		
Barium as Ba	ICPWATVAR (Dissolved)	0.01	mg/l	U		0.19		
Total Sulphur as SO4	ICPWATVAR (Dissolved)	3	mg/l	U		149		
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<1250* D	<14
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<1250* D	<14
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM			<2510* D	<29
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<1250* D	<14
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<1250* D	<14
Benzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<1.25* D	
Ethylbenzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<1.25* D	
m/p-Xylene HS_1D_AR	BTEXHSA	0.02	mg/kg^	UM			<2.51* D	
o-Xylene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<1.25* D	
Toluene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<1.25* D	
Total BTEX HS_1D_AR	BTEXHSA	0.06	mg/kg^	UM			<7.53* D	
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM			45.6*	
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U			<10.0* D	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
Anthracene	PAHMSUS	0.08	mg/kg^	U		30.8*	
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM		24.2*	
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM		22.7*	
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		27.6*	
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM		11.8*	
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM		13.9*	
Chrysene	PAHMSUS	0.08	mg/kg^	UM		27.4*	
Coronene	PAHMSUS	0.08	mg/kg^	N		<10.0 D	
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM		<10.0* D	
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM		85.4*	
Fluorene	PAHMSUS	0.08	mg/kg^	UM		41.3*	
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM		11.1*	
Naphthalene	PAHMSUS	0.08	mg/kg^	UM		12.0*	
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM		113*	
Pyrene	PAHMSUS	0.08	mg/kg^	UM		67.4*	
Total PAH 16	PAHMSUS	1.28	mg/kg^	U		554*	
Total PAH 17	PAHMSUS	1.36	mg/kg^	N		564	
PCB 101	PCBECD	0.005	mg/kg^	UM		<0.006*	
PCB 118	PCBECD	0.005	mg/kg^	UM		<0.006*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
PCB 138	PCBECD	0.005	mg/kg^	UM		<0.006*	
PCB 153	PCBECD	0.005	mg/kg^	UM		<0.006*	
PCB 180	PCBECD	0.005	mg/kg^	UM		<0.006*	
PCB 28	PCBECD	0.005	mg/kg^	UM		<0.006*	
PCB 52	PCBECD	0.005	mg/kg^	UM		<0.006*	
Total PCB 7 Congeners	PCBECD	0.035	mg/kg^	UM		<0.044*	
1,2,4-Trichlorobenzene	SVOCSW	0.1	mg/kg^	N		<3.1 D	<3.6 D
1,2-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
1,3-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
1,4-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
1-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U		37.5*	149
2,4,5-Trichlorophenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
2,4,6-Trichlorophenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
2,4-Dichlorophenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
2,4-Dimethylphenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	4.2
2,4-Dinitrophenol	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
2,4-Dinitrotoluene	SVOCSW	0.2	mg/kg^	U		<6.3* D	<7.2 D
2,6-Dinitrotoluene	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
2-Chloronaphthalene	SVOCSW	0.1	mg/kg^	U		<3.1* B,D	<3.6* B,D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
2-Chlorophenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
2-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U		23.0*	222
2-Methylphenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
2-Nitroaniline	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
2-Nitrophenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
3- & 4-Methylphenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	5.3
3-Nitroaniline	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
4,6-Dinitro-2-methylphenol	SVOCSW	0.2	mg/kg^	N		<6.3 D	<7.2 D
4-Bromophenyl-phenylether	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
4-Chloro-3-methylphenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
4-Chloroaniline	SVOCSW	0.5	mg/kg^	N		66.3	463
4-Chlorophenol	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
4-Chlorophenyl-phenylether	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
4-Nitroaniline	SVOCSW	0.6	mg/kg^	N		<18.8 D	<21.6 D
4-Nitrophenol	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
Acenaphthene	SVOCSW	0.1	mg/kg^	U		68.1*	188
Acenaphthylene	SVOCSW	0.1	mg/kg^	U		5.6*	12.1
Anthracene	SVOCSW	0.1	mg/kg^	U		57.1*	208
Azobenzene	SVOCSW	0.3	mg/kg^	N		<9.4 D	<10.8 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
Benzo[a]anthracene	SVOCSW	0.2	mg/kg^	U		36.2*	141
Benzo[a]pyrene	SVOCSW	0.2	mg/kg^	U		33.8*	112
Benzo[b]fluoranthene	SVOCSW	0.2	mg/kg^	U		41.9*	141
Benzo[g,h,i]perylene	SVOCSW	0.5	mg/kg^	U		<15.7* D	40.0
Benzo[k]fluoranthene	SVOCSW	0.2	mg/kg^	U		12.6*	49.1
Benzoic Acid	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
Benzyl alcohol	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
Biphenyl	SVOCSW	0.1	mg/kg^	U		12.1*	49.8
bis(2-Chloroethoxy)methane	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
bis(2-Chloroethyl)ether	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
bis(2-Chloroisopropyl)ether	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
bis(2-Ethylhexyl)phthalate	SVOCSW	0.2	mg/kg^	U		<6.3* D	<7.2 D
Butylbenzylphthalate	SVOCSW	0.2	mg/kg^	U		<6.3* D	<7.2 D
Carbazole	SVOCSW	0.3	mg/kg^	N		88.9	208
Chrysene	SVOCSW	0.2	mg/kg^	U		35.8*	136
Coronene	SVOCSW	0.3	mg/kg^	N		<9.4 D	<10.8 D
Dibenzo[a,h]anthracene	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
Dibenzofuran	SVOCSW	0.1	mg/kg^	U		58.6*	174
Diethylphthalate	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
Dimethylphthalate	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
Di-n-butylphthalate	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
Di-n-octylphthalate	SVOCSW	0.2	mg/kg^	U		<6.3* B,D	<7.2* B,D
Diphenyl ether	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
Fluoranthene	SVOCSW	0.2	mg/kg^	U		123*	517
Fluorene	SVOCSW	0.2	mg/kg^	U		68.8*	209
Hexachlorobenzene	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
Hexachlorobutadiene	SVOCSW	0.1	mg/kg^	N		<3.1 D	<3.6 D
Hexachlorocyclopentadiene	SVOCSW	0.1	mg/kg^	N		<3.1 D	<3.6 D
Hexachloroethane	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D
Indeno[1,2,3-cd]pyrene	SVOCSW	0.5	mg/kg^	U		19.3*	54.1
Isophorone	SVOCSW	0.1	mg/kg^	N		<3.1 D	<3.6 D
Naphthalene	SVOCSW	0.1	mg/kg^	U		64.7*	467
Nitrobenzene	SVOCSW	0.5	mg/kg^	U		<15.7* D	<18.0 D
N-Nitroso-di-n-propylamine	SVOCSW	0.9	mg/kg^	N		<28.2 D	<32.5 D
N-Nitrosodiphenylamine	SVOCSW	0.1	mg/kg^	N		<3.1 D	<3.6 D
Pentachlorophenol	SVOCSW	0.5	mg/kg^	N		<15.7 D	<18.0 D
Phenanthrene	SVOCSW	0.1	mg/kg^	U		174*	692
Phenol	SVOCSW	0.1	mg/kg^	U		<3.1* D	<3.6 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
Pyrene	SVOCSW	0.2	mg/kg^	U		94.0*	364
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		301*	91.4
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		1800*	496
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		3230*	405
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U		1580*	370
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N		160	49.5
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		7080*	1410
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		124*	754
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		1490*	2410
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		3440*	4250
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U		3450*	5660
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N		485	586
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U		8900*	13600
>C10-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		7030*	
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U		7080*	
1,1,1,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,1,1-Trichloroethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,1,2,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	N		<1	<2
1,1,2-Trichloroethane	VOCHSAS	1	µg/kg^	UM		<1*	<2

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
1,1-Dichloroethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,1-Dichloroethene	VOCHSAS	1	µg/kg^	U		<1*	<2
1,1-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,2,3-Trichlorobenzene	VOCHSAS	3	µg/kg^	UM		<4*	<5
1,2,3-Trichloropropane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,2,4-Trichlorobenzene	VOCHSAS	3	µg/kg^	N		<4	<5
1,2,4-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM		260*	145
1,2-Dibromo-3-chloropropane	VOCHSAS	1	µg/kg^	U		<1*	<2
1,2-Dibromoethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,2-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,2-Dichloroethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,2-Dichloropropane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,3,5-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM		104*	45
1,3-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,3-Dichloropropane	VOCHSAS	1	µg/kg^	UM		<1*	<2
1,4-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1*	<2
2,2-Dichloropropane	VOCHSAS	2	µg/kg^	UM		<2*	<3
2-Chlorotoluene	VOCHSAS	1	µg/kg^	UM		<1*	<2
4-Chlorotoluene	VOCHSAS	1	µg/kg^	UM		<1*	<2

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
Benzene	VOCHSAS	1	µg/kg^	UM		3*	<2
Bromobenzene	VOCHSAS	1	µg/kg^	UM		<1*	<2
Bromochloromethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
Bromodichloromethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
Bromoform	VOCHSAS	1	µg/kg^	UM		<1*	<2
Bromomethane	VOCHSAS	1	µg/kg^	UM		<1* B	<2* B
Carbon Tetrachloride	VOCHSAS	1	µg/kg^	UM		<1*	<2
Chlorobenzene	VOCHSAS	1	µg/kg^	UM		<1*	<2
Chloroethane	VOCHSAS	2	µg/kg^	UM		<2* B	<3* B
Chloroform	VOCHSAS	1	µg/kg^	UM		<1*	<2
Chloromethane	VOCHSAS	3	µg/kg^	U		<4*	<5
cis 1,2-Dichloroethene	VOCHSAS	5	µg/kg^	UM		<6*	<8
cis 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1*	<2
Dibromochloromethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
Dibromomethane	VOCHSAS	1	µg/kg^	UM		<1*	<2
Dichlorodifluoromethane	VOCHSAS	1	µg/kg^	N		<1	<2
Ethylbenzene	VOCHSAS	2	µg/kg^	UM		91*	<3
Hexachlorobutadiene	VOCHSAS	2	µg/kg^	N		<2	<3
iso-Propylbenzene	VOCHSAS	1	µg/kg^	UM		137*	3

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	HDP101-2-ES-0.50	HDP101-3-ES-0.65
					Sample Type	LPL / SOLID	SOLID
					Sampling Date	16/05/2023 / 16/05/2023	16/05/2023
m and p-Xylene	VOCHSAS	4	µg/kg^	UM		102*	7
MTBE	VOCHSAS	1	µg/kg^	UM		<1*	<2
Naphthalene	VOCHSAS	5	µg/kg^	UM		36100*	59900
n-Butylbenzene	VOCHSAS	1	µg/kg^	U		163*	13
o-Xylene	VOCHSAS	2	µg/kg^	UM		125*	8
p-Isopropyltoluene	VOCHSAS	1	µg/kg^	UM		41* B	12* B
Propylbenzene	VOCHSAS	1	µg/kg^	UM		<1*	3
sec-Butylbenzene	VOCHSAS	1	µg/kg^	UM		278*	5
Styrene	VOCHSAS	1	µg/kg^	UM		<1*	<2
tert-Butylbenzene	VOCHSAS	1	µg/kg^	UM		10*	<2
Tetrachloroethene	VOCHSAS	3	µg/kg^	UM		7*	<5
Toluene	VOCHSAS	5	µg/kg^	UM		10*	<8
trans 1,2-Dichloroethene	VOCHSAS	1	µg/kg^	UM		<1*	<2
trans 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1*	<2
Trichloroethene	VOCHSAS	1	µg/kg^	U		21*	<2
Trichlorofluoromethane	VOCHSAS	1	µg/kg^	UM		<1* B	<2* B
Vinyl Chloride	VOCHSAS	1	µg/kg^	UM		<1* B	<2* B
Total Moisture at 35°C	CLANDPREP	0.1	%	N		20.3	30.7
Description of Solid Material	CLANDPREP		-	N		GRAVEL	SILT

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

					Sample ID	001		002
					Customer ID	HDP101-2-ES-0.50		HDP101-3-ES-0.65
					Sample Type	LPL	SOLID	SOLID
					Sampling Date	16/05/2023	16/05/2023	16/05/2023
Analysis	Method Code		MDL	Units	Accred.			
Equivalent Weight of Dry Material (kg)	Leachate Prep CEN 10:1			kg	N		0.090	
Fraction above 4mm (%)	Leachate Prep CEN 10:1			%	N		57.0	
Fraction of non-crushable material (%)	Leachate Prep CEN 10:1			%	N		0	
Volume of Water for 10:1 Leach (ltr)	Leachate Prep CEN 10:1			l	N		0.873	
Weight of Sample Leached (kg)	Leachate Prep CEN 10:1			kg	N		0.117	
WAC Report	WAC			-	N		See Attached	

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/2

Client	SOCOTEC Geotechnical	
Site	E3020Rolls Royce Phase 2	
Project	23052701	
Sample No	Sample Description	Issue Date
23052701-001	HDP101-2-ES-0.50	09/06/2023

Leaching Data	
Weight of Sample (kg)	0.117
Moisture content @ 105°C (% Wet Weight)	23.3
Equivalent weight based on drying @ 105°C (kg)	0.090
Volume of Water required for 10:1 stage (ltres)	0.873
Fraction of sample above 4mm %	57.0
Fraction of non-crushable material %	0

Note: The >4mm fraction is crushed using a disc mill

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	>21.3	3	5	6
	LOI450	Loss on Ignition (%)				10
N	BTEXHSA	Sum of BTEX (mg/kg)	<7.53	6		
N	PCBUSECD	Sum of 7 Congener PCBs (mg/kg)	<0.044	1		
N	TPHFIDUS	>C10-C40 Aliphatic (mg/kg) EH_1D_AL	7030	500		
N	PAHMSUS	Sum of 17 PAHs (mg/kg)	564	100		
N	PHSOIL	pH (pH Units)	7.3		>6	
	ANC	Acid Neutralisation Capacity (mol/kg)			To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	10:1 Single Stage Leachate	Cumulative Amount Leached at 10:1	Landfill Waste Acceptance Criteria Limit Values		
			mg/l except **	mg/kg (dry wt)	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM3**	pH (pH Units)	8.5				
N	WSLM2**	Conductivity (µS/cm)	325				
U	ICPMSW	Arsenic	0.003	0.03	0.5	2	25
U	ICPWATVAR	Barium	0.19	1.9	20	100	300
U	ICPMSW	Cadmium	0.00003	0.0003	0.04	1	5
U	ICPMSW	Chromium	<0.001	<0.01	0.5	10	70
U	ICPMSW	Copper	0.002	0.02	2	50	100
U	ICPMSW	Mercury	<0.00003	<0.0003	0.01	0.2	2
U	ICPMSW	Molybdenum	0.040	0.40	0.5	10	30
U	ICPMSW	Nickel	0.020	0.20	0.4	10	40
U	ICPMSW	Lead	0.001	<0.01	0.5	10	50
U	ICPMSW	Antimony	0.021	0.21	0.06	0.7	5
U	ICPMSW	Selenium	<0.001	<0.01	0.1	0.5	7
U	ICPMSW	Zinc	0.016	0.16	4	50	200
U	KONENS	Chloride	2	20	800	15000	25000
U	ISEF	Fluoride	0.5	5	10	150	500
U	ICPWATVAR	Sulphate as SO4	149	1480	1000	20000	50000
N	WSLM27	Total Dissolved Solids	221	2200	4000	60000	100000
U	SFAPI	Phenol Index	0.08	0.8	1		
U	WSLM13	Dissolved Organic Carbon	14.9	148	500	800	1000

Tests where the accreditation is set to U are UKAS accredited, those where the accreditation is set to N are not UKAS accredited.
Calculated data is not UKAS accredited
Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
HDP101-2-ES-0.50	23052701-001	**BTEXHSA**						✓
HDP101-2-ES-0.50	23052701-001	**GROHSA/BTEXHSA**						✓
HDP101-2-ES-0.50	23052701-001	**PHSOIL**						✓
HDP101-2-ES-0.50	23052701-001	**SFAPI**						✓
HDP101-2-ES-0.50	23052701-001	**SFAPI**						✓
HDP101-2-ES-0.50	23052701-001	**SVOCSW**						✓
HDP101-2-ES-0.50	23052701-001	**VOCHSAS**						✓
HDP101-3-ES-0.65	23052701-002	**BTEXHSA**						✓
HDP101-3-ES-0.65	23052701-002	**GROHSA/BTEXHSA**						✓
HDP101-3-ES-0.65	23052701-002	**PHSOIL**						✓
HDP101-3-ES-0.65	23052701-002	**SFAPI**						✓
HDP101-3-ES-0.65	23052701-002	**SFAPI**						✓
HDP101-3-ES-0.65	23052701-002	**SVOCSW**						✓
HDP101-3-ES-0.65	23052701-002	**VOCHSAS**						✓

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 in Solids (BSEN 12457-2)	Filtered
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received
PHCONDW	Electrical Conductivity @ 25°C	Filtered
PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
SVOCSW	SVOCs (Target List) by GCMS	As Received
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C10-C40)	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WAC	WAC Report	
WSLM13	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052701
Date Issued: 09/06/2023

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23052760

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Craig Curtis

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Craig.Curtis@socotec.com

Phone: 07867180305

No. Samples Received: 2

Date Received: 26/05/2023

Analysis Date: 09/06/2023

Date Issued: 09/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23052760-001	TT101-1-ES-0.10	15/05/2023 15:15:00	SOLID	Soil Sample
23052760-002	TT101-4-ES-0.40	15/05/2023 15:17:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
Antimony as Sb	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		<0.01	
Arsenic as As	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.08		<0.01	
Barium as Ba	ICPWATVAR (Dissolved)	0.1	mg/kg^	N		2.5		<0.1	
Cadmium as Cd	ICPMSW (Dissolved)	0.0002	mg/kg^	N		<0.0002		<0.0002	
Chloride as Cl	KONENS	10	mg/kg^	N		30		<10	
Total Chromium as Cr	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		<0.01	
Copper as Cu	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.02		0.02	
Lead as Pb	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		<0.01	
Mercury as Hg	ICPMSW (Dissolved)	0.0003	mg/kg^	N		<0.0003		<0.0003	
Molybdenum as Mo	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.04		0.02	
Nickel as Ni	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01		<0.01	
Phenol Index	SFAPI	0.5	mg/kg^	N		<0.5		<0.5	
Selenium as Se	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.02		<0.01	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	30	mg/kg^	N		190		109	
TDS as mg/kg	PHCONDW	700	mg/kg^	N		<700		1090	
Leached Organic Carbon	WSLM13	2	mg/kg^	N		10.0		32.3	
Fluoride as F	ISEF	1	mg/kg^	N		2		5	
Zinc as Zn	ICPMSW (Dissolved)	0.02	mg/kg^	N		<0.02		0.03	
Conductivity at 25°C	PHCONDW	100	µS/cm	N		<100		162	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
pH	PHCONDW	1	pH units	N		8.9		8.3	
TDS as mg/l	PHCONDW	70	mg/l	N		<70		110	
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM					8.4
Chloride as Cl	KONENS	1	mg/l	U		3		<1	
Phenol Index	SFAPI	0.05	mg/l	U		<0.05		<0.05	
Phenol Index	SFAPI	0.5	mg/kg^	U					<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM					<0.6
Fluoride as F	ISEF	0.1	mg/l	U		0.2		0.5	
Total Organic Carbon	WSLM59	0.02	% m/m^	U			0.61*		2.05
Leached Organic Carbon	TOCW	0.4	mg/l	U		1.00		3.26	
Antimony as Sb	ICPMSS	0.1	mg/kg^	U					0.3
Arsenic as As	ICPMSS	0.3	mg/kg^	UM					13.8
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM					0.8
Copper as Cu	ICPMSS	1.6	mg/kg^	UM					30.0
Lead as Pb	ICPMSS	0.7	mg/kg^	UM					41.8
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM					<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM					39.8
Selenium as Se	ICPMSS	0.5	mg/kg^	UM					<0.5
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM					34.4

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
Vanadium as V	ICPMSS	0.6	mg/kg^	N					44.2
Zinc as Zn	ICPMSS	16	mg/kg^	UM					132.1
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U					0.95
Boron as B	ICPBOR	0.5	mg/kg^	UM					2.5
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U		0.001		<0.001	
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U		0.008		<0.001	
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U		<0.00002		<0.00002	
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U		<0.001		<0.001	
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U		0.002		0.002	
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U		<0.001		<0.001	
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U		<0.00003		<0.00003	
Molybdenum as Mo	ICPMSW (Dissolved)	0.001	mg/l	U		0.004		0.002	
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U		<0.001		<0.001	
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U		0.002		0.001	
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U		<0.002		0.003	
Barium as Ba	ICPWATVAR (Dissolved)	0.01	mg/l	U		0.25		0.01	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	3	mg/l	U		19		11	
Benzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.010*		<0.013
Ethylbenzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.010*		<0.013

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
m/p-Xylene HS_1D_AR	BTEXHSA	0.02	mg/kg^	UM			<0.020*		<0.026
o-Xylene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.010*		<0.013
Toluene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.010*		<0.013
Total BTEX HS_1D_AR	BTEXHSA	0.06	mg/kg^	UM			<0.060*		<0.078
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U			<0.08*		<0.10
Anthracene	PAHMSUS	0.08	mg/kg^	U			<0.08*		<0.10
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Chrysene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Coronene	PAHMSUS	0.08	mg/kg^	N			<0.08		<0.10
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Fluorene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Naphthalene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Pyrene	PAHMSUS	0.08	mg/kg^	UM			<0.08*		<0.10
Total PAH 16	PAHMSUS	1.28	mg/kg^	U			<1.29*		<1.65
Total PAH 17	PAHMSUS	1.36	mg/kg^	N			<1.37		<1.76
PCB 101	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 118	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 138	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 153	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 180	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 28	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
PCB 52	PCBECD	0.005	mg/kg^	UM			<0.005*		<0.006
Total PCB 7 Congeners	PCBECD	0.035	mg/kg^	UM			<0.035*		<0.045
>C10-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U			<20.1*		28.7
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U			<20.1*		32.2
Total Moisture at 35°C	CLANDPREP	0.1	%	N			0.5		22.6
Description of Solid Material	CLANDPREP		-	N			GRAVEL		SILT
Equivalent Weight of Dry Material (kg)	Leachate Prep CEN 10:1		kg	N			0.090		0.090
Fraction above 4mm (%)	Leachate Prep CEN 10:1		%	N			80.7		2.6
Fraction of non-crushable material (%)	Leachate Prep CEN 10:1		%	N			0		0

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001		002	
					Customer ID	TT101-1-ES-0.10		TT101-4-ES-0.40	
					Sample Type	LPL	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023	15/05/2023
Volume of Water for 10:1 Leach (ltr)	Leachate Prep CEN 10:1		l	N		0.899		0.865	
Weight of Sample Leached (kg)	Leachate Prep CEN 10:1		kg	N		0.091		0.125	
WAC Report	WAC		-	N		See Attached		See Attached	

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/2

Client	SOCOTEC Geotechnical	
Site	E3020 Rolls Royce Phase 2	
Project	23052760	
Sample No	Sample Description	Issue Date
23052760-001	TT101-1-ES-0.10	09/06/2023

Leaching Data	
Weight of Sample (kg)	0.091
Moisture content @ 105°C (% Wet Weight)	0.6
Equivalent weight based on drying @ 105°C (kg)	0.090
Volume of Water required for 10:1 stage (ltres)	0.899
Fraction of sample above 4mm %	80.7
Fraction of non-crushable material %	0

Note: The >4mm fraction is crushed using a disc mill

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM59	Total Organic Carbon (% M/M)	0.61	3	5	6
	LOI450	Loss on Ignition (%)				10
N	BTEXHSA	Sum of BTEX (mg/kg)	<0.060	6		
N	PCBUSECD	Sum of 7 Congener PCBs (mg/kg)	<0.035	1		
N	TPHFIDUS	>C10-C40 Aliphatic (mg/kg) EH_1D_AL	<20.1	500		
N	PAHMSUS	Sum of 17 PAHs (mg/kg)	<1.37	100		
	PHSOIL	pH (pH Units)			>6	
	ANC	Acid Neutralisation Capacity (mol/kg)			To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	10:1 Single Stage Leachate	Cumulative Amount Leached at 10:1	Landfill Waste Acceptance Criteria Limit Values		
			mg/l except **	mg/kg (dry wt)	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM3**	pH (pH Units)	8.9				
N	WSLM2**	Conductivity (µS/cm)	<100				
U	ICPMSW	Arsenic	0.008	0.08	0.5	2	25
U	ICPWATVAR	Barium	0.25	2.5	20	100	300
U	ICPMSW	Cadmium	<0.00002	<0.0002	0.04	1	5
U	ICPMSW	Chromium	<0.001	<0.01	0.5	10	70
U	ICPMSW	Copper	0.002	0.02	2	50	100
U	ICPMSW	Mercury	<0.00003	<0.0003	0.01	0.2	2
U	ICPMSW	Molybdenum	0.004	0.04	0.5	10	30
U	ICPMSW	Nickel	<0.001	<0.01	0.4	10	40
U	ICPMSW	Lead	<0.001	<0.01	0.5	10	50
U	ICPMSW	Antimony	0.001	<0.01	0.06	0.7	5
U	ICPMSW	Selenium	0.002	0.02	0.1	0.5	7
U	ICPMSW	Zinc	<0.002	<0.02	4	50	200
U	KONENS	Chloride	3	30	800	15000	25000
U	ISEF	Fluoride	0.2	2	10	150	500
U	ICPWATVAR	Sulphate as SO4	19	190	1000	20000	50000
N	WSLM27	Total Dissolved Solids	<70	<700	4000	60000	100000
U	SFAPI	Phenol Index	<0.05	<0.5	1		
U	WSLM13	Dissolved Organic Carbon	1.00	10.0	500	800	1000

Tests where the accreditation is set to U are UKAS accredited, those where the accreditation is set to N are not UKAS accredited.
Calculated data is not UKAS accredited
Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/2

Client	SOCOTEC Geotechnical	
Site	E3020 Rolls Royce Phase 2	
Project	23052760	
Sample No	Sample Description	Issue Date
23052760-002	TT101-4-ES-0.40	09/06/2023

Leaching Data	
Weight of Sample (kg)	0.125
Moisture content @ 105°C (% Wet Weight)	28.2
Equivalent weight based on drying @ 105°C (kg)	0.090
Volume of Water required for 10:1 stage (ltres)	0.865
Fraction of sample above 4mm %	2.6
Fraction of non-crushable material %	0

Note: The >4mm fraction is crushed using a disc mill

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
U	WSLM59	Total Organic Carbon (% M/M)	2.05	3	5	6
	LOI450	Loss on Ignition (%)				10
UM	BTEXHSA	Sum of BTEX (mg/kg)	<0.078	6		
UM	PCBUSECD	Sum of 7 Congener PCBs (mg/kg)	<0.045	1		
U	TPHFIDUS	>C10-C40 Aliphatic (mg/kg) EH_1D_AL	28.7	500		
N	PAHMSUS	Sum of 17 PAHs (mg/kg)	<1.76	100		
UM	PHSOIL	pH (pH Units)	8.4		>6	
	ANC	Acid Neutralisation Capacity (mol/kg)			To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	10:1 Single Stage Leachate	Cumulative Amount Leached at 10:1	Landfill Waste Acceptance Criteria Limit Values		
			mg/l except **	mg/kg (dry wt)	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM3**	pH (pH Units)	8.3				
N	WSLM2**	Conductivity (µS/cm)	162				
U	ICPMSW	Arsenic	<0.001	<0.01	0.5	2	25
U	ICPWATVAR	Barium	0.01	<0.1	20	100	300
U	ICPMSW	Cadmium	<0.00002	<0.0002	0.04	1	5
U	ICPMSW	Chromium	<0.001	<0.01	0.5	10	70
U	ICPMSW	Copper	0.002	0.02	2	50	100
U	ICPMSW	Mercury	<0.00003	<0.0003	0.01	0.2	2
U	ICPMSW	Molybdenum	0.002	0.02	0.5	10	30
U	ICPMSW	Nickel	<0.001	<0.01	0.4	10	40
U	ICPMSW	Lead	<0.001	<0.01	0.5	10	50
U	ICPMSW	Antimony	<0.001	<0.01	0.06	0.7	5
U	ICPMSW	Selenium	0.001	<0.01	0.1	0.5	7
U	ICPMSW	Zinc	0.003	0.03	4	50	200
U	KONENS	Chloride	<1	<10	800	15000	25000
U	ISEF	Fluoride	0.5	5	10	150	500
U	ICPWATVAR	Sulphate as SO4	11	109	1000	20000	50000
N	WSLM27	Total Dissolved Solids	110	1090	4000	60000	100000
U	SFAPI	Phenol Index	<0.05	<0.5	1		
U	WSLM13	Dissolved Organic Carbon	3.26	32.3	500	800	1000

Tests where the accreditation is set to U are UKAS accredited, those where the accreditation is set to N are not UKAS accredited.
Calculated data is not UKAS accredited
Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
TT101-1-ES-0.10	23052760-001	**BTEXHSA**						✓
TT101-4-ES-0.40	23052760-002	**BTEXHSA**						✓
TT101-4-ES-0.40	23052760-002	**PHSOIL**						✓
TT101-4-ES-0.40	23052760-002	**SFAPI**						✓
TT101-4-ES-0.40	23052760-002	**SFAPI**						✓

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 in Solids (BSEN 12457-2)	Filtered
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received
PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received
PHCONDW	Electrical Conductivity @ 25°C	Filtered

PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C10-C40)	As Received
WAC	WAC Report	
WSLM13	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23052760
Date Issued: 09/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23052765

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020Rolls Royce Phase 2

Contact: Craig Curtis

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Craig.Curtis@socotec.com

Phone: 07867180305

No. Samples Received: 2

Date Received: 26/05/2023

Analysis Date: 12/06/2023

Date Issued: 12/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23052765-001	BH106-3-ES-0.15	15/05/2023 16:06:00	SOLID	Soil Sample
23052765-002	BH106-9-ES-0.70	15/05/2023 16:07:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002	
					Customer ID: BH106-3-ES-0.15	Customer ID: BH106-9-ES-0.70	
					Sample Type: SOLID	Sample Type: LPL	Sample Type: SOLID
					Sampling Date: 15/05/2023	Sampling Date: 15/05/2023	Sampling Date: 15/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.253
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM			<0.013
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.253
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM			<0.051
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.253
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM			<0.013
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM			<0.253
Antimony as Sb	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01	
Arsenic as As	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.02	
Barium as Ba	ICPWATVAR (Dissolved)	0.1	mg/kg^	N		0.6	
Cadmium as Cd	ICPMSW (Dissolved)	0.0002	mg/kg^	N		<0.0002	
Chloride as Cl	KONENS	10	mg/kg^	N		20	
Total Chromium as Cr	ICPMSW (Dissolved)	0.01	mg/kg^	N		<0.01	
Copper as Cu	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.07	
Lead as Pb	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.06	
Mercury as Hg	ICPMSW (Dissolved)	0.0003	mg/kg^	N		<0.0003	
Molybdenum as Mo	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.06	
Nickel as Ni	ICPMSW (Dissolved)	0.01	mg/kg^	N		0.03	
Phenol Index	SFAPI	0.5	mg/kg^	N		<0.5	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

					Sample ID	001	002	
					Customer ID	BH106-3-ES-0.15	BH106-9-ES-0.70	
					Sample Type	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023
Analysis	Method Code	MDL	Units	Accred.				
Selenium as Se	ICPMSW (Dissolved)	0.01	mg/kg^	N			<0.01	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	30	mg/kg^	N			169	
TDS as mg/kg	PHCONDW	700	mg/kg^	N			1590	
Leached Organic Carbon	WSLM13	2	mg/kg^	N			129	
Fluoride as F	ISEF	1	mg/kg^	N			4	
Zinc as Zn	ICPMSW (Dissolved)	0.02	mg/kg^	N			0.03	
Conductivity at 25°C	PHCONDW	100	µS/cm	N			235	
pH	PHCONDW	1	pH units	N			9.1	
TDS as mg/l	PHCONDW	70	mg/l	N			160	
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM		9.4*		8.3
Chloride as Cl	KONENS	1	mg/l	U			2	
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N		<0.1		<0.1
Phenol Index	SFAPI	0.05	mg/l	U			<0.05	
Phenol Index	SFAPI	0.5	mg/kg^	U		<0.5*		<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM		<0.5*		<0.6
Fluoride as F	ISEF	0.1	mg/l	U			0.4	
Total Organic Carbon	WSLM59	0.02	% m/m^	U		0.62*		2.65
Leached Organic Carbon	TOCW	0.4	mg/l	U			13.0	
Antimony as Sb	ICPMSS	0.1	mg/kg^	U		<0.1*		0.4

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

					Sample ID	001	002	
					Customer ID	BH106-3-ES-0.15	BH106-9-ES-0.70	
					Sample Type	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023
Analysis	Method Code	MDL	Units	Accred.				
Arsenic as As	ICPMSS	0.3	mg/kg^	UM		10.0*		25.6
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM		0.8*		1.5
Copper as Cu	ICPMSS	1.6	mg/kg^	UM		5.4*		29.1
Lead as Pb	ICPMSS	0.7	mg/kg^	UM		29.5*		78.5
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM		<0.5*		<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM		7.2*		30.5
Selenium as Se	ICPMSS	0.5	mg/kg^	UM		<0.5*		<0.5
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM		7.4*		28.6
Vanadium as V	ICPMSS	0.6	mg/kg^	N		10.2		36.8
Zinc as Zn	ICPMSS	16	mg/kg^	UM		73.4*		204.9
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U		0.15*		0.85
Boron as B	ICPBOR	0.5	mg/kg^	UM		<0.5*		2.7
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U			<0.001	
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U			0.002	
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U			<0.00002	
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U			<0.001	
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U			0.007	
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U			0.006	
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U			<0.00003	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002	
					Customer ID: BH106-3-ES-0.15	Customer ID: BH106-9-ES-0.70	
					Sample Type: SOLID	Sample Type: LPL	Sample Type: SOLID
					Sampling Date: 15/05/2023	Sampling Date: 15/05/2023	Sampling Date: 15/05/2023
Molybdenum as Mo	ICPMSW (Dissolved)	0.001	mg/l	U		0.006	
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U		0.003	
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U		<0.001	
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U		0.003	
Barium as Ba	ICPWATVAR (Dissolved)	0.01	mg/l	U		0.06	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	3	mg/l	U		17	
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<13
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<13
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM			<25
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<13
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM			<13
Benzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.013
Ethylbenzene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.013
m/p-Xylene HS_1D_AR	BTEXHSA	0.02	mg/kg^	UM			<0.025
o-Xylene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.013
Toluene HS_1D_AR	BTEXHSA	0.01	mg/kg^	UM			<0.013
Total BTEX HS_1D_AR	BTEXHSA	0.06	mg/kg^	UM			<0.076
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U			<10.1 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002	
					Customer ID: BH106-3-ES-0.15	Customer ID: BH106-9-ES-0.70	
					Sample Type: SOLID	Sample Type: LPL	Sample Type: SOLID
					Sampling Date: 15/05/2023	Sampling Date: 15/05/2023	Sampling Date: 15/05/2023
Anthracene	PAHMSUS	0.08	mg/kg^	U			<10.1 D
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Chrysene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Fluorene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Naphthalene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Pyrene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Total PAH 16	PAHMSUS	1.28	mg/kg^	U			<162 D
Acenaphthene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D
Acenaphthylene	PAHMSUS	0.08	mg/kg^	U			<10.1 D
Anthracene	PAHMSUS	0.08	mg/kg^	U			<10.1 D
Benzo[a]anthracene	PAHMSUS	0.08	mg/kg^	UM			<10.1 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

1252

Analysis Results

					Sample ID	001	002	
					Customer ID	BH106-3-ES-0.15	BH106-9-ES-0.70	
					Sample Type	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023
Analysis	Method Code	MDL	Units	Accred.				
Benzo[a]pyrene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Benzo[b]fluoranthene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Benzo[g,h,i]perylene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Benzo[k]fluoranthene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Chrysene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Coronene	PAHMSUS	0.08	mg/kg^	N				<10.1 D
Dibenzo[a,h]anthracene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Fluoranthene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Fluorene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Indeno[1,2,3-cd]pyrene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Naphthalene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Phenanthrene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Pyrene	PAHMSUS	0.08	mg/kg^	UM				<10.1 D
Total PAH 16	PAHMSUS	1.28	mg/kg^	U				<162 D
Total PAH 17	PAHMSUS	1.36	mg/kg^	N				<172 D
PCB 101	PCBECD	0.005	mg/kg^	UM				<0.006
PCB 118	PCBECD	0.005	mg/kg^	UM				<0.006
PCB 138	PCBECD	0.005	mg/kg^	UM				<0.006
PCB 153	PCBECD	0.005	mg/kg^	UM				<0.006

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002	
					Customer ID	BH106-3-ES-0.15	BH106-9-ES-0.70	
					Sample Type	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023
PCB 180	PCBECD	0.005	mg/kg^	UM				<0.006
PCB 28	PCBECD	0.005	mg/kg^	UM				<0.006
PCB 52	PCBECD	0.005	mg/kg^	UM				<0.006
Total PCB 7 Congeners	PCBECD	0.035	mg/kg^	UM				<0.044
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U				<5.06
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U				5.40
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U				9.61
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U				19.0
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N				10.4
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U				43.9
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U				17.4* B
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U				39.1* B
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U				40.2
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U				71.1
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N				43.3
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U				206
>C10-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U				41.2
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U				43.9
Benzene	VOCHSAS	1	µg/kg^	UM				<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

					Sample ID	001	002	
					Customer ID	BH106-3-ES-0.15	BH106-9-ES-0.70	
					Sample Type	SOLID	LPL	SOLID
					Sampling Date	15/05/2023	15/05/2023	15/05/2023
Analysis	Method Code	MDL	Units	Accred.				
Ethylbenzene	VOCHSAS	2	µg/kg^	UM				<3
m and p-Xylene	VOCHSAS	4	µg/kg^	UM				<6
o-Xylene	VOCHSAS	2	µg/kg^	UM				<3
Toluene	VOCHSAS	5	µg/kg^	UM				<7
Total Moisture at 35°C	CLANDPREP	0.1	%	N		4.0		20.9
Description of Solid Material	CLANDPREP		-	N		GRAVEL		SILT
Equivalent Weight of Dry Material (kg)	Leachate Prep CEN 10:1		kg	N				0.090
Fraction above 4mm (%)	Leachate Prep CEN 10:1		%	N				59.8
Fraction of non-crushable material (%)	Leachate Prep CEN 10:1		%	N				0
Volume of Water for 10:1 Leach (ltr)	Leachate Prep CEN 10:1		l	N				0.875
Weight of Sample Leached (kg)	Leachate Prep CEN 10:1		kg	N				0.115
WAC Report	WAC		-	N				See Attached
Asbestos Identification	SUB020		-	N		NAIIS		NAIIS

WASTE ACCEPTANCE CRITERIA TESTING
BSEN 12457/2

Client	SOCOTEC Geotechnical	
Site	E3020Rolls Royce Phase 2	
Project	23052765	
Sample No	Sample Description	Issue Date
23052765-002	BH106-9-ES-0.70	12/06/2023

Leaching Data	
Weight of Sample (kg)	0.115
Moisture content @ 105°C (% Wet Weight)	22.0
Equivalent weight based on drying @ 105°C (kg)	0.090
Volume of Water required for 10:1 stage (ltres)	0.875
Fraction of sample above 4mm %	59.8
Fraction of non-crushable material %	0

Note: The >4mm fraction is crushed using a disc mill

Accreditation	Method Code	Solid Waste Analysis (Dry Basis)	Concentration in Solid (Dry Weight Basis)	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
U	WSLM59	Total Organic Carbon (% M/M)	2.65	3	5	6
	LOI450	Loss on Ignition (%)				10
UM	BTEXHSA	Sum of BTEX (mg/kg)	<0.076	6		
UM	PCBUSECD	Sum of 7 Congener PCBs (mg/kg)	<0.044	1		
U	TPHFIDUS	>C10-C40 Aliphatic (mg/kg) EH_1D_AL	41.2	500		
N	PAHMSUS	Sum of 17 PAHs (mg/kg)	<172	100		
UM	PHSOIL	pH (pH Units)	8.3		>6	
	ANC	Acid Neutralisation Capacity (mol/kg)			To be evaluated	To be evaluated

Accreditation	Method Code	Leachate Analysis	10:1 Single Stage Leachate	Cumulative Amount Leached at 10:1	Landfill Waste Acceptance Criteria Limit Values		
			mg/l except **	mg/kg (dry wt)	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
N	WSLM3**	pH (pH Units)	9.1				
N	WSLM2**	Conductivity (µS/cm)	235				
U	ICPMSW	Arsenic	0.002	0.02	0.5	2	25
U	ICPWATVAR	Barium	0.06	0.6	20	100	300
U	ICPMSW	Cadmium	<0.00002	<0.0002	0.04	1	5
U	ICPMSW	Chromium	<0.001	<0.01	0.5	10	70
U	ICPMSW	Copper	0.007	0.07	2	50	100
U	ICPMSW	Mercury	<0.00003	<0.0003	0.01	0.2	2
U	ICPMSW	Molybdenum	0.006	0.06	0.5	10	30
U	ICPMSW	Nickel	0.003	0.03	0.4	10	40
U	ICPMSW	Lead	0.006	0.06	0.5	10	50
U	ICPMSW	Antimony	<0.001	<0.01	0.06	0.7	5
U	ICPMSW	Selenium	<0.001	<0.01	0.1	0.5	7
U	ICPMSW	Zinc	0.003	0.03	4	50	200
U	KONENS	Chloride	2	20	800	15000	25000
U	ISEF	Fluoride	0.4	4	10	150	500
U	ICPWATVAR	Sulphate as SO4	17	169	1000	20000	50000
N	WSLM27	Total Dissolved Solids	160	1590	4000	60000	100000
U	SFAPI	Phenol Index	<0.05	<0.5	1		
U	WSLM13	Dissolved Organic Carbon	13.0	129	500	800	1000

Tests where the accreditation is set to U are UKAS accredited, those where the accreditation is set to N are not UKAS accredited.
Calculated data is not UKAS accredited
Landfill Waste Acceptance Criteria limit values correct as of 11th March 2009.

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33547-4

DATE OF ISSUE: 09.06.23

DATE SAMPLES RECEIVED: 01.06.23

DATE ANALYSIS COMPLETED: 09.06.23

DESCRIPTION: Two soil/loose aggregate samples each weighing approximately 0.8-1.1kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of soil/loose aggregate samples for mass determination of asbestos.

METHODS:

Qualitative - The samples were analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in either of the soil samples by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org

UKAS TESTING
0374

CONTRACT NO: S33547-4
DATE OF ISSUE: 09.06.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23052765

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33547-6	23052765-001	BH106-3-ES-0.15	-	No Asbestos Detected
S33547-7	23052765-002	BH106-9-ES-0.70	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: [redacted]

J Simpson
Senior Laboratory Analyst

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
BH106-3-ES-0.15	23052765-001	**PHSOIL**						✓
BH106-3-ES-0.15	23052765-001	**SFAPI**						✓
BH106-3-ES-0.15	23052765-001	**SFAPI**						✓
BH106-9-ES-0.70	23052765-002	**BTEXHSA**						✓
BH106-9-ES-0.70	23052765-002	**GROHSA/BTEXHSA**						✓
BH106-9-ES-0.70	23052765-002	**PHSOIL**						✓
BH106-9-ES-0.70	23052765-002	**SFAPI**						✓
BH106-9-ES-0.70	23052765-002	**SFAPI**						✓
BH106-9-ES-0.70	23052765-002	**VOCHSAS**						✓

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 in Solids (BSEN 12457-2)	Filtered
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

PAHMSUS	16 PAHs by GCMS	As Received
PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received
PHCONDW	Electrical Conductivity @ 25°C	Filtered
PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C10-C40)	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	BTEX by GCMS	As Received
WAC	WAC Report	
WSLM13	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020Rolls Royce Phase 2
Project No: 23052765
Date Issued: 12/06/2023

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23053105

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 2

Date Received: 31/05/2023

Analysis Date: 16/06/2023

Date Issued: 16/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23053105-001	BH101-1-ES-0.20	26/05/2023 11:10:00	SOLID	Soil Sample
23053105-002	BH101-7-ES-0.70	26/05/2023 11:13:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234*	<0.235
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.012*	<0.012
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234*	<0.235
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM	<0.047*	<0.048
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234*	<0.235
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.012*	<0.012
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234*	<0.235
C5-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM		<0.235
C5-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.06	mg/kg^	UM		<0.072
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM	8.1*	8.3
Conductivity in 5:1 Water Extract	TSCONW	10	µS/cm	N		256
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N	<0.1	<0.1
Phenol Index	SFAPI	0.5	mg/kg^	U	<0.6*	<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM	<0.6*	<0.6
Total Organic Carbon	WSLM59	0.02	% m/m^	U	2.13*	0.64
Antimony as Sb	ICPMSS	0.1	mg/kg^	U	1.3*	0.5
Arsenic as As	ICPMSS	0.3	mg/kg^	UM	15.5*	7.0
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM	0.7*	0.2
Copper as Cu	ICPMSS	1.6	mg/kg^	UM	48.2*	13.1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
Lead as Pb	ICPMSS	0.7	mg/kg^	UM	75.8*	14.9
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM	<0.5*	<0.5
Nickel as Ni	ICPMSS	2	mg/kg^	UM	21.7*	21.6
Selenium as Se	ICPMSS	0.5	mg/kg^	UM	<0.5*	<0.5
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM	15.9*	11.4
Vanadium as V	ICPMSS	0.6	mg/kg^	N	20.8	17.6
Zinc as Zn	ICPMSS	16	mg/kg^	UM	162.2*	24.0
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U	<0.10*	<0.10
Boron as B	ICPBOR	0.5	mg/kg^	UM	2.7*	2.3
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12*	<12
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12*	<12
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM	<23*	<24
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12*	<12
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12*	<12
1,2,4-Trichlorobenzene	SVOCSW	0.1	mg/kg^	N	<0.1	
1,2-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<0.1*	
1,3-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<0.1*	
1,4-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<0.1*	
1-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U	<0.1*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
2,4,5-Trichlorophenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2,4,6-Trichlorophenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2,4-Dichlorophenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2,4-Dimethylphenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2,4-Dinitrophenol	SVOCSW	0.5	mg/kg^	N	<0.6	
2,4-Dinitrotoluene	SVOCSW	0.2	mg/kg^	U	<0.2*	
2,6-Dinitrotoluene	SVOCSW	0.5	mg/kg^	U	<0.6*	
2-Chloronaphthalene	SVOCSW	0.1	mg/kg^	U	<0.1*	
2-Chlorophenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U	<0.1*	
2-Methylphenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
2-Nitroaniline	SVOCSW	0.5	mg/kg^	N	<0.6	
2-Nitrophenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
3- & 4-Methylphenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
3-Nitroaniline	SVOCSW	0.5	mg/kg^	N	<0.6	
4,6-Dinitro-2-methylphenol	SVOCSW	0.2	mg/kg^	N	<0.2	
4-Bromophenyl-phenylether	SVOCSW	0.1	mg/kg^	U	<0.1*	
4-Chloro-3-methylphenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
4-Chloroaniline	SVOCSW	0.5	mg/kg^	N	<0.6	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
4-Chlorophenol	SVOCSW	0.5	mg/kg^	U	<0.6*	
4-Chlorophenyl-phenylether	SVOCSW	0.1	mg/kg^	U	<0.1*	
4-Nitroaniline	SVOCSW	0.6	mg/kg^	N	<0.7	
4-Nitrophenol	SVOCSW	0.5	mg/kg^	N	<0.6	
Acenaphthene	SVOCSW	0.1	mg/kg^	U	0.2*	
Acenaphthylene	SVOCSW	0.1	mg/kg^	U	<0.1*	
Anthracene	SVOCSW	0.1	mg/kg^	U	0.8*	
Azobenzene	SVOCSW	0.3	mg/kg^	N	<0.4	
Benzo[a]anthracene	SVOCSW	0.2	mg/kg^	U	2.4*	
Benzo[a]pyrene	SVOCSW	0.2	mg/kg^	U	2.3*	
Benzo[b]fluoranthene	SVOCSW	0.2	mg/kg^	U	3.1*	
Benzo[g,h,i]perylene	SVOCSW	0.5	mg/kg^	U	1.2*	
Benzo[k]fluoranthene	SVOCSW	0.2	mg/kg^	U	1.1*	
Benzoic Acid	SVOCSW	0.5	mg/kg^	N	<0.6	
Benzyl alcohol	SVOCSW	0.5	mg/kg^	U	<0.6*	
Biphenyl	SVOCSW	0.1	mg/kg^	U	<0.1*	
bis(2-Chloroethoxy)methane	SVOCSW	0.1	mg/kg^	U	<0.1*	
bis(2-Chloroethyl)ether	SVOCSW	0.1	mg/kg^	U	<0.1*	
bis(2-Chloroisopropyl)ether	SVOCSW	0.5	mg/kg^	U	<0.6*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
bis(2-Ethylhexyl)phthalate	SVOCSW	0.2	mg/kg^	U	0.3*	
Butylbenzylphthalate	SVOCSW	0.2	mg/kg^	U	<0.2*	
Carbazole	SVOCSW	0.3	mg/kg^	N	<0.4	
Chrysene	SVOCSW	0.2	mg/kg^	U	2.5*	
Coronene	SVOCSW	0.3	mg/kg^	N	<0.4	
Dibenzo[a,h]anthracene	SVOCSW	0.5	mg/kg^	U	<0.6*	
Dibenzofuran	SVOCSW	0.1	mg/kg^	U	<0.1*	
Diethylphthalate	SVOCSW	0.1	mg/kg^	U	<0.1*	
Dimethylphthalate	SVOCSW	0.1	mg/kg^	U	<0.1*	
Di-n-butylphthalate	SVOCSW	0.1	mg/kg^	U	<0.1*	
Di-n-octylphthalate	SVOCSW	0.2	mg/kg^	U	<0.2*	
Diphenyl ether	SVOCSW	0.1	mg/kg^	U	<0.1*	
Fluoranthene	SVOCSW	0.2	mg/kg^	U	4.8*	
Fluorene	SVOCSW	0.2	mg/kg^	U	<0.2*	
Hexachlorobenzene	SVOCSW	0.1	mg/kg^	U	<0.1*	
Hexachlorobutadiene	SVOCSW	0.1	mg/kg^	N	<0.1	
Hexachlorocyclopentadiene	SVOCSW	0.1	mg/kg^	N	<0.1	
Hexachloroethane	SVOCSW	0.1	mg/kg^	U	<0.1*	
Indeno[1,2,3-cd]pyrene	SVOCSW	0.5	mg/kg^	U	1.5*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
Isophorone	SVOCSW	0.1	mg/kg^	N	<0.1	
Naphthalene	SVOCSW	0.1	mg/kg^	U	0.1*	
Nitrobenzene	SVOCSW	0.5	mg/kg^	U	<0.6*	
N-Nitroso-di-n-propylamine	SVOCSW	0.9	mg/kg^	N	<1.1	
N-Nitrosodiphenylamine	SVOCSW	0.1	mg/kg^	N	<0.1	
Pentachlorophenol	SVOCSW	0.5	mg/kg^	N	<0.6	
Phenanthrene	SVOCSW	0.1	mg/kg^	U	2.6*	
Phenol	SVOCSW	0.1	mg/kg^	U	<0.1*	
Pyrene	SVOCSW	0.2	mg/kg^	U	3.6*	
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	6.11*	<4.71
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	8.33*	<4.71
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	12.7*	<4.71
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U	57.4*	<11.8
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N	18.7	<7.06
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U	102*	<23.5
>C10-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U		<4.71
>C16-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	16	mg/kg^	U		<18.8
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	<4.67*	8.81
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	4.85*	9.92

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	31.9*	21.3
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U	111*	127
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N	35.2	29.9
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U	168*	190
>C10-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U		18.7
>C16-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	15	mg/kg^	U		165
1,1,1,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	UM	<1*	
1,1,1-Trichloroethane	VOCHSAS	1	µg/kg^	UM	<1*	
1,1,2,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	N	<1	
1,1,2-Trichloroethane	VOCHSAS	1	µg/kg^	UM	<1*	
1,1-Dichloroethane	VOCHSAS	1	µg/kg^	UM	<1*	
1,1-Dichloroethene	VOCHSAS	1	µg/kg^	U	<1*	
1,1-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<1*	
1,2,3-Trichlorobenzene	VOCHSAS	3	µg/kg^	UM	<4*	
1,2,3-Trichloropropane	VOCHSAS	1	µg/kg^	UM	<1*	
1,2,4-Trichlorobenzene	VOCHSAS	3	µg/kg^	N	<4	
1,2,4-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM	2*	
1,2-Dibromo-3-chloropropane	VOCHSAS	1	µg/kg^	U	<1*	
1,2-Dibromoethane	VOCHSAS	1	µg/kg^	UM	<1*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
1,2-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<1*	
1,2-Dichloroethane	VOCHSAS	1	µg/kg^	UM	<1*	
1,2-Dichloropropane	VOCHSAS	1	µg/kg^	UM	<1*	
1,3,5-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM	1*	
1,3-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<1*	
1,3-Dichloropropane	VOCHSAS	1	µg/kg^	UM	<1*	
1,4-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<1*	
2,2-Dichloropropane	VOCHSAS	2	µg/kg^	UM	<2*	
2-Chlorotoluene	VOCHSAS	1	µg/kg^	UM	<1*	
4-Chlorotoluene	VOCHSAS	1	µg/kg^	UM	<1*	
Benzene	VOCHSAS	1	µg/kg^	UM	3*	
Bromobenzene	VOCHSAS	1	µg/kg^	UM	<1*	
Bromochloromethane	VOCHSAS	1	µg/kg^	UM	<1*	
Bromodichloromethane	VOCHSAS	1	µg/kg^	UM	<1*	
Bromoform	VOCHSAS	1	µg/kg^	UM	<1*	
Bromomethane	VOCHSAS	1	µg/kg^	UM	<1*	
Carbon Tetrachloride	VOCHSAS	1	µg/kg^	UM	<1*	
Chlorobenzene	VOCHSAS	1	µg/kg^	UM	<1*	
Chloroethane	VOCHSAS	2	µg/kg^	UM	<2*	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
Chloroform	VOCHSAS	1	µg/kg^	UM	<1*	
Chloromethane	VOCHSAS	3	µg/kg^	U	<4*	
cis 1,2-Dichloroethene	VOCHSAS	5	µg/kg^	UM	<6*	
cis 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<1*	
Dibromochloromethane	VOCHSAS	1	µg/kg^	UM	<1*	
Dibromomethane	VOCHSAS	1	µg/kg^	UM	<1*	
Dichlorodifluoromethane	VOCHSAS	1	µg/kg^	N	<1	
Ethylbenzene	VOCHSAS	2	µg/kg^	UM	<2*	
Hexachlorobutadiene	VOCHSAS	2	µg/kg^	N	<2	
iso-Propylbenzene	VOCHSAS	1	µg/kg^	UM	<1*	
m and p-Xylene	VOCHSAS	4	µg/kg^	UM	5*	
MTBE	VOCHSAS	1	µg/kg^	UM	<1*	
Naphthalene	VOCHSAS	5	µg/kg^	UM	116*	
n-Butylbenzene	VOCHSAS	1	µg/kg^	U	<1*	
o-Xylene	VOCHSAS	2	µg/kg^	UM	<2*	
p-Isopropyltoluene	VOCHSAS	1	µg/kg^	UM	<1*	
Propylbenzene	VOCHSAS	1	µg/kg^	UM	<1*	
sec-Butylbenzene	VOCHSAS	1	µg/kg^	UM	<1*	
Styrene	VOCHSAS	1	µg/kg^	UM	<1* B	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH101-1-ES-0.20	Customer ID: BH101-7-ES-0.70
					Sample Type: SOLID	Sample Type: SOLID
					Sampling Date: 26/05/2023	Sampling Date: 26/05/2023
tert-Butylbenzene	VOCHSAS	1	µg/kg^	UM	<1*	
Tetrachloroethene	VOCHSAS	3	µg/kg^	UM	<4*	
Toluene	VOCHSAS	5	µg/kg^	UM	7*	
trans 1,2-Dichloroethene	VOCHSAS	1	µg/kg^	UM	<1*	
trans 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<1*	
Trichloroethene	VOCHSAS	1	µg/kg^	U	<1*	
Trichlorofluoromethane	VOCHSAS	1	µg/kg^	UM	<1*	
Vinyl Chloride	VOCHSAS	1	µg/kg^	UM	<1*	
1,1,1,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	UM		<1
1,1,1-Trichloroethane	VOCHSAS	1	µg/kg^	UM		<1
1,1,2,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	N		<1
1,1,2-Trichloroethane	VOCHSAS	1	µg/kg^	UM		<1
1,1-Dichloroethane	VOCHSAS	1	µg/kg^	UM		<1
1,1-Dichloroethene	VOCHSAS	1	µg/kg^	U		<1
1,1-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1
1,2,3-Trichlorobenzene	VOCHSAS	3	µg/kg^	UM		<4
1,2,3-Trichloropropane	VOCHSAS	1	µg/kg^	UM		<1
1,2,4-Trichlorobenzene	VOCHSAS	3	µg/kg^	N		<4
1,2,4-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM		<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
1,2-Dibromo-3-chloropropane	VOCHSAS	1	µg/kg^	N		<1
1,2-Dibromoethane	VOCHSAS	1	µg/kg^	UM		<1
1,2-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1
1,2-Dichloroethane	VOCHSAS	1	µg/kg^	UM		<1
1,2-Dichloropropane	VOCHSAS	1	µg/kg^	UM		<1
1,3,5-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM		<1
1,3-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1
1,3-Dichloropropane	VOCHSAS	1	µg/kg^	UM		<1
1,4-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM		<1
2,2-Dichloropropane	VOCHSAS	2	µg/kg^	UM		<2
2-Chlorotoluene	VOCHSAS	1	µg/kg^	UM		<1
4-Chlorotoluene	VOCHSAS	1	µg/kg^	UM		<1
Benzene	VOCHSAS	1	µg/kg^	UM		<1
Bromobenzene	VOCHSAS	1	µg/kg^	UM		<1
Bromochloromethane	VOCHSAS	1	µg/kg^	UM		<1
Bromodichloromethane	VOCHSAS	1	µg/kg^	UM		<1
Bromoform	VOCHSAS	1	µg/kg^	UM		<1
Bromomethane	VOCHSAS	1	µg/kg^	UM		<1
Carbon Tetrachloride	VOCHSAS	1	µg/kg^	UM		<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
Chlorobenzene	VOCHSAS	1	µg/kg^	UM		<1
Chloroethane	VOCHSAS	2	µg/kg^	UM		<2
Chloroform	VOCHSAS	1	µg/kg^	UM		<1
Chloromethane	VOCHSAS	3	µg/kg^	U		<4
cis 1,2-Dichloroethene	VOCHSAS	5	µg/kg^	UM		<6
cis 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1
Dibromochloromethane	VOCHSAS	1	µg/kg^	UM		<1
Dibromomethane	VOCHSAS	1	µg/kg^	UM		<1
Dichlorodifluoromethane	VOCHSAS	1	µg/kg^	N		<1
Ethylbenzene	VOCHSAS	2	µg/kg^	UM		<2
Hexachlorobutadiene	VOCHSAS	2	µg/kg^	N		<2
iso-Propylbenzene	VOCHSAS	1	µg/kg^	UM		<1
m and p-Xylene	VOCHSAS	4	µg/kg^	UM		<5
MTBE	VOCHSAS	1	µg/kg^	UM		<1
Naphthalene	VOCHSAS	5	µg/kg^	UM		<6
n-Butylbenzene	VOCHSAS	1	µg/kg^	U		<1
o-Xylene	VOCHSAS	2	µg/kg^	UM		<2
p-Isopropyltoluene	VOCHSAS	1	µg/kg^	UM		<1
Propylbenzene	VOCHSAS	1	µg/kg^	UM		<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
sec-Butylbenzene	VOCHSAS	1	µg/kg^	UM		<1
Styrene	VOCHSAS	1	µg/kg^	UM		<1* B
tert-Butylbenzene	VOCHSAS	1	µg/kg^	UM		<1
Tetrachloroethene	VOCHSAS	3	µg/kg^	UM		<4
TIC List	VOCHSAS	5	µg/kg	N		See Attached
Toluene	VOCHSAS	5	µg/kg^	UM		<6
trans 1,2-Dichloroethene	VOCHSAS	1	µg/kg^	UM		<1
trans 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM		<1
Trichloroethene	VOCHSAS	1	µg/kg^	U		<1
Trichlorofluoromethane	VOCHSAS	1	µg/kg^	UM		<1
Vinyl Chloride	VOCHSAS	1	µg/kg^	UM		<1
Total Moisture at 35°C	CLANDPREP	0.1	%	N	14.4	15.0
Description of Solid Material	CLANDPREP		-	N	GRAVEL	CLAY
Redox Potential	SUB016		mV	N		194.56
1,2,4-Trichlorobenzene	SUB016	10	µg/kg	N		<10
1,2-Dichlorobenzene	SUB016	10	µg/kg	N		<10
1,3-Dichlorobenzene	SUB016	10	µg/kg	N		<10
1,4-Dichlorobenzene	SUB016	10	µg/kg	N		<10
2,4,5-Trichlorophenol	SUB016	10	µg/kg	N		<10

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH101-1-ES-0.20 Sample Type: SOLID Sampling Date: 26/05/2023	Sample ID: 002 Customer ID: BH101-7-ES-0.70 Sample Type: SOLID Sampling Date: 26/05/2023
2,4,6-Trichlorophenol	SUB016	10	µg/kg	N		<10
2,4-Dichlorophenol	SUB016	10	µg/kg	N		<10
2,4-Dimethylphenol	SUB016	10	µg/kg	N		<10
2,4-Dinitrotoluene	SUB016	10	µg/kg	N		<10
2,6-Dinitrotoluene	SUB016	10	µg/kg	N		<10
2-Chloronaphthalene	SUB016	10	µg/kg	N		<10
2-Chlorophenol	SUB016	10	µg/kg	N		<10
2-Methylnaphthalene	SUB016	10	µg/kg	N		<10
2-Methylphenol	SUB016	10	µg/kg	N		<10
2-Nitroaniline	SUB016	10	µg/kg	N		<10
2-Nitrophenol	SUB016	10	µg/kg	N		<10
3-Nitroaniline	SUB016	10	µg/kg	N		<10
4-Bromophenylphenylether	SUB016	10	µg/kg	N		<10
4-Chloro-3-methylphenol	SUB016	10	µg/kg	N		<10
4-Chloroaniline	SUB016	10	µg/kg	N		<10
4-Chlorophenylphenylether	SUB016	10	µg/kg	N		<10
4-Methylphenol	SUB016	10	µg/kg	N		<10
4-Nitroaniline	SUB016	10	µg/kg	N		<10
4-Nitrophenol	SUB016	10	µg/kg	N		<10

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	BH101-1-ES-0.20	BH101-7-ES-0.70
					Sample Type	SOLID	SOLID
					Sampling Date	26/05/2023	26/05/2023
Acenaphthene	SUB016	10	µg/kg	N			<10
Acenaphthylene	SUB016	10	µg/kg	N			<10
Anthracene	SUB016	10	µg/kg	N			<10
Azobenzene	SUB016	10	µg/kg	N			<10
Benzo(a)anthracene	SUB016	10	µg/kg	N			46
Benzo(a)pyrene	SUB016	10	µg/kg	N			24
Benzo(bk)fluoranthene	SUB016	10	µg/kg	N			51
Benzo(ghi)perylene	SUB016	10	µg/kg	N			17
Bis(2-chloroethoxy)methane	SUB016	10	µg/kg	N			<10
Bis(2-chloroethyl)ether	SUB016	10	µg/kg	N			<10
Bis(2-ethylhexyl) phthalate	SUB016	100	µg/kg	N			<100
Butylbenzyl phthalate	SUB016	100	µg/kg	N			<100
Carbazole	SUB016	10	µg/kg	N			<10
Chrysene	SUB016	10	µg/kg	N			33
Dibenzo(a,h)anthracene	SUB016	10	µg/kg	N			<10
Dibenzofuran	SUB016	10	µg/kg	N			<10
Diethyl phthalate	SUB016	100	µg/kg	N			<100
Dimethyl phthalate	SUB016	100	µg/kg	N			<100
Di-n-butyl phthalate	SUB016	100	µg/kg	N			<100

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

UKAS TESTING 1252

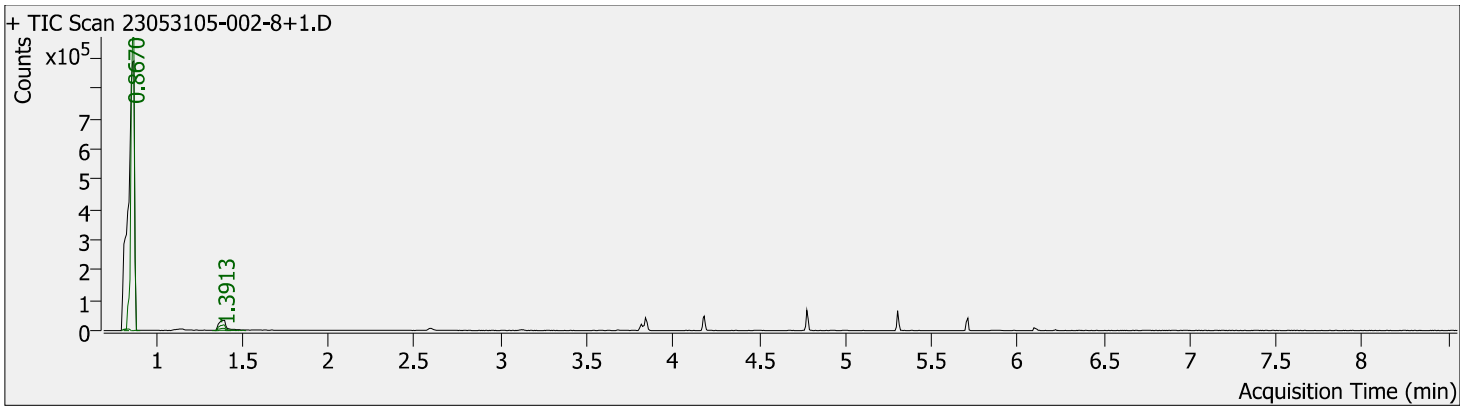
mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID	001	002
					Customer ID	BH101-1-ES-0.20	BH101-7-ES-0.70
					Sample Type	SOLID	SOLID
					Sampling Date	26/05/2023	26/05/2023
Di-n-Octyl phthalate	SUB016	100	µg/kg	N			<100
Fluoranthene	SUB016	10	µg/kg	N			56
Fluorene	SUB016	10	µg/kg	N			<10
Hexachlorobenzene	SUB016	10	µg/kg	N			<10
Hexachlorobutadiene	SUB016	10	µg/kg	N			<10
Hexachlorocyclopentadiene	SUB016	10	µg/kg	N			<10
Hexachloroethane	SUB016	10	µg/kg	N			<10
Indeno(1,2,3-cd)pyrene	SUB016	10	µg/kg	N			15
Isophorone	SUB016	10	µg/kg	N			<10
Naphthalene	SUB016	10	µg/kg	N			<10
Nitrobenzene	SUB016	10	µg/kg	N			<10
N-nitrosodi-n-propylamine	SUB016	10	µg/kg	N			<10
Pentachlorophenol	SUB016	10	µg/kg	N			<10
Phenanthrene	SUB016	10	µg/kg	N			52
Phenol	SUB016	10	µg/kg	N			<10
Pyrene	SUB016	10	µg/kg	N			42
TIC	SUB016		-	N			See Attached
Asbestos Identification	SUB020		-	N		NAIIS	

SOCOTEC - VOC Unknowns Analysis Report

Sample Name: 23053105-002-8+1



Component RT	Compound Name	Match Score	CAS#	Estimated Concentration
1.3913	Naphthalene, 1-(phenylthio)-	65.6	7570-98-1	234 ug/kg
1.3838	4-(Dibromomethyl)-2-(methylthio)pyrimidine	60.1	1000326-73-0	165 ug/kg
1.3755	1,3-Benzodioxole, 4,5-dimethoxy-6-[2-(methylsulfinyl)-2-(methylthio)ethenyl]-	50.1	75629-02-6	13 ug/kg

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33599-6

DATE OF ISSUE: 12.06.23

DATE SAMPLES RECEIVED: 02.06.23

DATE ANALYSIS COMPLETED: 12.06.23

DESCRIPTION: One soil/loose aggregate sample weighing approximately 1.2kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of a soil/loose aggregate sample for mass determination of asbestos.

METHODS:

Qualitative - The sample was analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address: Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org

UKAS TESTING
0374

CONTRACT NO: S33599-6
DATE OF ISSUE: 12.06.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23053105

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33599-11	23053105-001	BH101-1-ES-0.20	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: [redacted]

J Simpson
Senior Laboratory Analyst

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

Socotec
ESG
ESG House, Bretby Business Park
Bretby
Burton upon Trent
United Kingdom

Attention :	Chem Subcon
Date :	10th June, 2023
Your reference :	23053105
Our reference :	Test Report 23/8928 Batch 1
Location :	E3020 Rolls Royce Phase 2
Date samples received :	2nd June, 2023
Status :	Final Report
Issue :	1

One sample was received for analysis on 2nd June, 2023 and was 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.

Authorised By:

[redacted]

Liza Klebe
Project Co-ordinator

Element Materials Technology

Client Name: Socotec
Reference: 23053105
Location: E3020 Rolls Royce Phase 2
Contact: Chem Subcon
EMT Job No: 23/8928

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1												
Sample ID	23053105-002												
Depth	0.70												
COC No / misc													
Containers	J												
Sample Date	26/05/2023 11:13												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	02/06/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
SVOC TICs	ND											None	TM16/PM8
Natural Moisture Content	12.8										<0.1	%	PM4/PM0
Redox Potential	194.56											mV	TM139/PM0

Client Name: Socotec
Reference: 23053105
Location: E3020 Rolls Royce Phase 2
Contact: Chem Subcon
EMT Job No: 23/8928

SVOC Report : **Solid**

EMT Sample No.	1												
Sample ID	23053105-002												
Depth	0.70										Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	J												
Sample Date	26/05/2023 11:13												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	02/06/2023										LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<10										<10	ug/kg	TM16/PM8
2-Methylphenol	<10										<10	ug/kg	TM16/PM8
2-Nitrophenol	<10										<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10										<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10										<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10										<10	ug/kg	TM16/PM8
4-Methylphenol	<10										<10	ug/kg	TM16/PM8
4-Nitrophenol	<10										<10	ug/kg	TM16/PM8
Pentachlorophenol	<10										<10	ug/kg	TM16/PM8
Phenol #	<10										<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10										<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	<10										<10	ug/kg	TM16/PM8
Naphthalene	<10										<10	ug/kg	TM16/PM8
Acenaphthylene	<10										<10	ug/kg	TM16/PM8
Acenaphthene	<10										<10	ug/kg	TM16/PM8
Fluorene	<10										<10	ug/kg	TM16/PM8
Phenanthrene #	52										<10	ug/kg	TM16/PM8
Anthracene	<10										<10	ug/kg	TM16/PM8
Fluoranthene #	56										<10	ug/kg	TM16/PM8
Pyrene #	42										<10	ug/kg	TM16/PM8
Benzo(a)anthracene	46										<10	ug/kg	TM16/PM8
Chrysene	33										<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	51										<10	ug/kg	TM16/PM8
Benzo(a)pyrene	24										<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	15										<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	<10										<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	17										<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	37										<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	14										<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100										<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100										<100	ug/kg	TM16/PM8
Diethyl phthalate	<100										<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100										<100	ug/kg	TM16/PM8

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Socotec
Reference: 23053105
Location: E3020 Rolls Royce Phase 2
Contact: Chem Subcon
EMT Job No: 23/8928

SVOC Report : **Solid**

EMT Sample No.	1												
Sample ID	23053105-002												
Depth	0.70										Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	J												
Sample Date	26/05/2023 11:13												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	02/06/2023										LOD/LOR	Units	Method No.
SVOC MS													
Other SVOCs													
1,2-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10										<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
2-Nitroaniline	<10										<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
3-Nitroaniline	<10										<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10										<10	ug/kg	TM16/PM8
4-Chloroaniline	<10										<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10										<10	ug/kg	TM16/PM8
4-Nitroaniline	<10										<10	ug/kg	TM16/PM8
Azobenzene	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10										<10	ug/kg	TM16/PM8
Carbazole	<10										<10	ug/kg	TM16/PM8
Dibenzofuran #	<10										<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10										<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10										<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10										<10	ug/kg	TM16/PM8
Hexachloroethane	<10										<10	ug/kg	TM16/PM8
Isophorone #	<10										<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10										<10	ug/kg	TM16/PM8
Nitrobenzene #	<10										<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	116										<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	106										<0	%	TM16/PM8

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Socotec
Reference: 23053105
Location: E3020 Rolls Royce Phase 2
Contact: Chem Subcon

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/8928						

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.

EMT Job No.: 23/8928

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 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease 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 overesitimate 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 or Fats, Oils and Grease 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.

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.
AD	Samples are dried at 35°C ±5°C
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: 23/8928

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM139	ASTM G200-09 (2014) Oxidation-Reduction potential of soil samples removed from the ground, using Redox probe and meter.	PM0	No preparation is required.			AR	No

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
GROHSA/BTEXHSA	GRO UKWIR Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB016	Redox Potential in Soil	
SUB016	SVOCs Low Level (Target List + TICs)	
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
SVOCSW	SVOCs (Target List) by GCMS	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aliphatic)	TPH (UKWIR) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (UKWIR) Aromatic Split with Carbon Banding	As Received
TSCONW	Electrical Conductivity (5:1)	Air Dried & Ground
VOCHSAS	VOCs (Target List and TICs) by GCMS	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23053105
Date Issued: 16/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23060051

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 1

Date Received: 01/06/2023

Analysis Date: 19/06/2023

Date Issued: 19/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Lead
Martin Elliott-Palmer
01283 554137

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23060051-001	BH103-2-ES-0.20	02/05/2023 15:19:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH103-2-ES-0.20
					Sample Type: SOLID
					Sampling Date: 02/05/2023
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.012
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.04	mg/kg^	UM	<0.047
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.01	mg/kg^	UM	<0.012
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.2	mg/kg^	UM	<0.234
pH (2.5:1 extraction)	PHSOIL	1	pH units	UM	8.7
Chromium (VI) as Cr	KONENS	0.1	mg/kg^	N	<0.1
Phenol Index	SFAPI	0.5	mg/kg^	U	<0.6
Total Cyanide	SFAPI	0.5	mg/kg^	UM	<0.6
Total Organic Carbon	WSLM59	0.02	% m/m^	U	6.16
Antimony as Sb	ICPMSS	0.1	mg/kg^	U	3.0
Arsenic as As	ICPMSS	0.3	mg/kg^	UM	20.4
Cadmium as Cd	ICPMSS	0.2	mg/kg^	UM	0.9
Copper as Cu	ICPMSS	1.6	mg/kg^	UM	42.3
Lead as Pb	ICPMSS	0.7	mg/kg^	UM	1076
Mercury as Hg	ICPMSS	0.5	mg/kg^	UM	0.8
Nickel as Ni	ICPMSS	2	mg/kg^	UM	29.5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH103-2-ES-0.20	Sample Type: SOLID	Sampling Date: 02/05/2023
Selenium as Se	ICPMSS	0.5	mg/kg^	UM	<0.5			
Total Chromium as Cr	ICPMSS	1.2	mg/kg^	UM	19.6			
Vanadium as V	ICPMSS	0.6	mg/kg^	N	36.6			
Zinc as Zn	ICPMSS	16	mg/kg^	UM	279.1			
Beryllium as Be	ICPSOIL	0.1	mg/kg^	U	0.19			
Boron as B	ICPBOR	0.5	mg/kg^	UM	1.0			
Benzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12			
Ethylbenzene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12			
m/p-Xylene HS_1D_AR	BTEXHSA	20	µg/kg^	UM	<23			
o-Xylene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12			
Toluene HS_1D_AR	BTEXHSA	10	µg/kg^	UM	<12			
PCB 105	PCBECD	5	µg/kg^	UM	<5.86			
PCB 114	PCBECD	5	µg/kg^	UM	<5.86			
PCB 118	PCBECD	5	µg/kg^	UM	<5.86			
PCB 123	PCBECD	5	µg/kg^	UM	<5.86			
PCB 126	PCBECD	5	µg/kg^	UM	<5.86			
PCB 156	PCBECD	5	µg/kg^	UM	<5.86			
PCB 157	PCBECD	5	µg/kg^	UM	<5.86			
PCB 167	PCBECD	5	µg/kg^	UM	<5.86			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH103-2-ES-0.20 Sample Type: SOLID Sampling Date: 02/05/2023
PCB 169	PCBECD	5	µg/kg^	UM	<5.86
PCB 189	PCBECD	5	µg/kg^	UM	<5.86
PCB 77	PCBECD	5	µg/kg^	UM	<5.86
PCB 81	PCBECD	5	µg/kg^	UM	<5.86
1,2,4-Trichlorobenzene	SVOCSW	0.1	mg/kg^	N	<1.2 D
1,2-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<1.2 D
1,3-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<1.2 D
1,4-Dichlorobenzene	SVOCSW	0.1	mg/kg^	U	<1.2 D
1-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U	<1.2 D
2,4,5-Trichlorophenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2,4,6-Trichlorophenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2,4-Dichlorophenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2,4-Dimethylphenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2,4-Dinitrophenol	SVOCSW	0.5	mg/kg^	N	<5.9 D
2,4-Dinitrotoluene	SVOCSW	0.2	mg/kg^	U	<2.3 D
2,6-Dinitrotoluene	SVOCSW	0.5	mg/kg^	U	<5.9 D
2-Chloronaphthalene	SVOCSW	0.1	mg/kg^	U	<1.2 D
2-Chlorophenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2-Methylnaphthalene	SVOCSW	0.1	mg/kg^	U	<1.2 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH103-2-ES-0.20 Sample Type: SOLID Sampling Date: 02/05/2023
2-Methylphenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
2-Nitroaniline	SVOCSW	0.5	mg/kg^	N	<5.9 D
2-Nitrophenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
3- & 4-Methylphenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
3-Nitroaniline	SVOCSW	0.5	mg/kg^	N	<5.9 D
4,6-Dinitro-2-methylphenol	SVOCSW	0.2	mg/kg^	N	<2.3 D
4-Bromophenyl-phenylether	SVOCSW	0.1	mg/kg^	U	<1.2 D
4-Chloro-3-methylphenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
4-Chloroaniline	SVOCSW	0.5	mg/kg^	N	<5.9 D
4-Chlorophenol	SVOCSW	0.5	mg/kg^	U	<5.9 D
4-Chlorophenyl-phenylether	SVOCSW	0.1	mg/kg^	U	<1.2 D
4-Nitroaniline	SVOCSW	0.6	mg/kg^	N	<7.0 D
4-Nitrophenol	SVOCSW	0.5	mg/kg^	N	<5.9 D
Acenaphthene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Acenaphthylene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Anthracene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Azobenzene	SVOCSW	0.3	mg/kg^	N	<3.5 D
Benzo[a]anthracene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Benzo[a]pyrene	SVOCSW	0.2	mg/kg^	U	<2.3 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH103-2-ES-0.20 Sample Type: SOLID Sampling Date: 02/05/2023
Benzo[b]fluoranthene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Benzo[g,h,i]perylene	SVOCSW	0.5	mg/kg^	U	<5.9 D
Benzo[k]fluoranthene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Benzoic Acid	SVOCSW	0.5	mg/kg^	N	<5.9 D
Benzyl alcohol	SVOCSW	0.5	mg/kg^	U	<5.9 D
Biphenyl	SVOCSW	0.1	mg/kg^	U	<1.2 D
bis(2-Chloroethoxy)methane	SVOCSW	0.1	mg/kg^	U	<1.2 D
bis(2-Chloroethyl)ether	SVOCSW	0.1	mg/kg^	U	<1.2 D
bis(2-Chloroisopropyl)ether	SVOCSW	0.5	mg/kg^	U	<5.9 D
bis(2-Ethylhexyl)phthalate	SVOCSW	0.2	mg/kg^	U	<2.3 D
Butylbenzylphthalate	SVOCSW	0.2	mg/kg^	U	<2.3 D
Carbazole	SVOCSW	0.3	mg/kg^	N	<3.5 D
Chrysene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Coronene	SVOCSW	0.3	mg/kg^	N	<3.5 D
Dibenzo[a,h]anthracene	SVOCSW	0.5	mg/kg^	U	<5.9 D
Dibenzofuran	SVOCSW	0.1	mg/kg^	U	<1.2 D
Diethylphthalate	SVOCSW	0.1	mg/kg^	U	<1.2 D
Dimethylphthalate	SVOCSW	0.1	mg/kg^	U	<1.2 D
Di-n-butylphthalate	SVOCSW	0.1	mg/kg^	U	<1.2 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH103-2-ES-0.20 Sample Type: SOLID Sampling Date: 02/05/2023
Di-n-octylphthalate	SVOCSW	0.2	mg/kg^	U	<2.3 D
Diphenyl ether	SVOCSW	0.1	mg/kg^	U	<1.2 D
Fluoranthene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Fluorene	SVOCSW	0.2	mg/kg^	U	<2.3 D
Hexachlorobenzene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Hexachlorobutadiene	SVOCSW	0.1	mg/kg^	N	<1.2 D
Hexachlorocyclopentadiene	SVOCSW	0.1	mg/kg^	N	<1.2 D
Hexachloroethane	SVOCSW	0.1	mg/kg^	U	<1.2 D
Indeno[1,2,3-cd]pyrene	SVOCSW	0.5	mg/kg^	U	<5.9 D
Isophorone	SVOCSW	0.1	mg/kg^	N	<1.2 D
Naphthalene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Nitrobenzene	SVOCSW	0.5	mg/kg^	U	<5.9 D
N-Nitroso-di-n-propylamine	SVOCSW	0.9	mg/kg^	N	<10.6 D
N-Nitrosodiphenylamine	SVOCSW	0.1	mg/kg^	N	<1.2 D
Pentachlorophenol	SVOCSW	0.5	mg/kg^	N	<5.9 D
Phenanthrene	SVOCSW	0.1	mg/kg^	U	<1.2 D
Phenol	SVOCSW	0.1	mg/kg^	U	<1.2 D
Pyrene	SVOCSW	0.2	mg/kg^	U	<2.3 D
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.69

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

			Sample ID		001
			Customer ID		BH103-2-ES-0.20
			Sample Type		SOLID
			Sampling Date		02/05/2023
Analysis	Method Code	MDL	Units	Accred.	
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.69
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	4	mg/kg^	U	<4.69
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	10	mg/kg^	U	85.0
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	6	mg/kg^	N	49.5
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFIDUS (Aliphatic)	20	mg/kg^	U	127
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	6.10
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	8.14
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	4	mg/kg^	U	6.28
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	10	mg/kg^	U	197
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	6	mg/kg^	N	99.9
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFIDUS (Aromatic)	20	mg/kg^	U	291
1,1,1,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,1,1-Trichloroethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,1,2,2-Tetrachloroethane	VOCHSAS	1	µg/kg^	N	<12 D
1,1,2-Trichloroethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,1-Dichloroethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,1-Dichloroethene	VOCHSAS	1	µg/kg^	U	<12 D
1,1-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<12 D
1,2,3-Trichlorobenzene	VOCHSAS	3	µg/kg^	UM	<35 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

UKAS TESTING 1252

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH103-2-ES-0.20 Sample Type: SOLID Sampling Date: 02/05/2023
1,2,3-Trichloropropane	VOCHSAS	1	µg/kg^	UM	<12 D
1,2,4-Trichlorobenzene	VOCHSAS	3	µg/kg^	N	<35 D
1,2,4-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D
1,2-Dibromo-3-chloropropane	VOCHSAS	1	µg/kg^	U	<12 D
1,2-Dibromoethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,2-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<12 D
1,2-Dichloroethane	VOCHSAS	1	µg/kg^	UM	<12 D
1,2-Dichloropropane	VOCHSAS	1	µg/kg^	UM	<12 D
1,3,5-Trimethylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D
1,3-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<12 D
1,3-Dichloropropane	VOCHSAS	1	µg/kg^	UM	<12 D
1,4-Dichlorobenzene	VOCHSAS	1	µg/kg^	UM	<12 D
2,2-Dichloropropane	VOCHSAS	2	µg/kg^	UM	<23 D
2-Chlorotoluene	VOCHSAS	1	µg/kg^	UM	<12 D
4-Chlorotoluene	VOCHSAS	1	µg/kg^	UM	<12 D
Benzene	VOCHSAS	1	µg/kg^	UM	<12 D
Bromobenzene	VOCHSAS	1	µg/kg^	UM	<12 D
Bromochloromethane	VOCHSAS	1	µg/kg^	UM	<12 D
Bromodichloromethane	VOCHSAS	1	µg/kg^	UM	<12 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 / Customer ID: BH103-2-ES-0.20 / Sample Type: SOLID / Sampling Date: 02/05/2023
Bromoform	VOCHSAS	1	µg/kg^	UM	<12 D
Bromomethane	VOCHSAS	1	µg/kg^	UM	<12 D
Carbon Tetrachloride	VOCHSAS	1	µg/kg^	UM	<12 D
Chlorobenzene	VOCHSAS	1	µg/kg^	UM	<12 D
Chloroethane	VOCHSAS	2	µg/kg^	UM	<23 D
Chloroform	VOCHSAS	1	µg/kg^	UM	17
Chloromethane	VOCHSAS	3	µg/kg^	U	<35 D
cis 1,2-Dichloroethene	VOCHSAS	5	µg/kg^	UM	<59 D
cis 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<12 D
Dibromochloromethane	VOCHSAS	1	µg/kg^	UM	<12 D
Dibromomethane	VOCHSAS	1	µg/kg^	UM	<12 D
Dichlorodifluoromethane	VOCHSAS	1	µg/kg^	N	<12 D
Ethylbenzene	VOCHSAS	2	µg/kg^	UM	<23 D
Hexachlorobutadiene	VOCHSAS	2	µg/kg^	N	<23 D
iso-Propylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D
m and p-Xylene	VOCHSAS	4	µg/kg^	UM	<47 D
MTBE	VOCHSAS	1	µg/kg^	UM	<12 D
Naphthalene	VOCHSAS	5	µg/kg^	UM	<59 D
n-Butylbenzene	VOCHSAS	1	µg/kg^	U	<12 D

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH103-2-ES-0.20	Sample Type: SOLID	Sampling Date: 02/05/2023
o-Xylene	VOCHSAS	2	µg/kg^	UM	<23 D			
p-Isopropyltoluene	VOCHSAS	1	µg/kg^	UM	<12 D			
Propylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D			
sec-Butylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D			
Styrene	VOCHSAS	1	µg/kg^	UM	<12 D			
tert-Butylbenzene	VOCHSAS	1	µg/kg^	UM	<12 D			
Tetrachloroethene	VOCHSAS	3	µg/kg^	UM	<35 D			
Toluene	VOCHSAS	5	µg/kg^	UM	<59 D			
trans 1,2-Dichloroethene	VOCHSAS	1	µg/kg^	UM	<12 D			
trans 1,3-Dichloropropene	VOCHSAS	1	µg/kg^	UM	<12 D			
Trichloroethene	VOCHSAS	1	µg/kg^	U	<12 D			
Trichlorofluoromethane	VOCHSAS	1	µg/kg^	UM	<12 D			
Vinyl Chloride	VOCHSAS	1	µg/kg^	UM	<12* B,D			
Total Moisture at 35°C	CLANDPREP	0.1	%	N	14.7			
Description of Solid Material	CLANDPREP		-	N	SILT			
Asbestos Identification	SUB020		-	N	NAIIS			

working for a healthy and sustainable world

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S33599-11

DATE OF ISSUE: 12.06.23

DATE SAMPLES RECEIVED: 02.06.23

DATE ANALYSIS COMPLETED: 12.06.23

DESCRIPTION: One soil/loose aggregate sample weighing approximately 0.9kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of a soil/loose aggregate sample for mass determination of asbestos.

METHODS:

Qualitative - The sample was analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing and/or fibre counting/sizing as appropriate.

RESULTS:

Initial Screening

No asbestos was detected in the soil sample by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.

www.iom-world.org
Registered Address Research Avenue North, Riccarton, Edinburgh, EH14 4AP, United Kingdom
Tel: 0131 449 8000 Fax: 0131 449 8084 Email: iom@iom-world.org
IOM CONSULTING LIMITED, registered in Scotland No. SC205670

UKAS TESTING
0374

CONTRACT NO: S33599-11
DATE OF ISSUE: 12.06.23

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 23060051

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S33599-25	23060051-001	BH103-2-ES-0.20	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY: [redacted]

J Simpson
Senior Laboratory Analyst

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
BH103-2-ES-0.20	23060051-001	**BTEXHSA**						✓
BH103-2-ES-0.20	23060051-001	**CLANDPREP**						✓
BH103-2-ES-0.20	23060051-001	**GROHSA/BTEXHSA**						✓
BH103-2-ES-0.20	23060051-001	**ICPBOR**						✓
BH103-2-ES-0.20	23060051-001	**PCBECD**						✓
BH103-2-ES-0.20	23060051-001	**PHSOIL**						✓
BH103-2-ES-0.20	23060051-001	**SFAPI**						✓
BH103-2-ES-0.20	23060051-001	**SFAPI**						✓
BH103-2-ES-0.20	23060051-001	**SVOCSW**						✓
BH103-2-ES-0.20	23060051-001	**TPHFIDUS (Aliphatic)**						✓
BH103-2-ES-0.20	23060051-001	**TPHFIDUS (Aromatic)**						✓
BH103-2-ES-0.20	23060051-001	**VOCHSAS**						✓
BH103-2-ES-0.20	23060051-001	**WSLM59**						✓

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	Basic Solid Description	As Received
CLANDPREP	DW35 - CLand Prep and Dry Weight Correction to 35°C	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Antimony in Solids by ICPMS	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Vanadium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPSOIL	Beryllium in Solids by ICPOES	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PCBECD	PCBs, CLEA 12 Congeners	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB020	Asbestos Stage 1 (with Stage 2+3 Trigger)	
SVOCSW	SVOCs (Target List) by GCMS	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.

F Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.

G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060051
Date Issued: 19/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 35° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23060737

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 1

Date Received: 07/06/2023

Analysis Date: 20/06/2023

Date Issued: 20/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Lead
Martin Elliott-Palmer
01283 554137

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23060737-001	TP102-1-ES-0.10	28/04/2023 13:00:00	SOLID	Soil Sample

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	
					Customer ID: TP102-1-ES-0.10	
					Sample Type: LPL	SOLID
					Sampling Date: 28/04/2023	28/04/2023
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.04	
pH	PHCONDW	1	pH units	N	8.4	
Chloride as Cl	KONENS	1	mg/l	U	32	
Phenol Index	SFAPI	0.05	mg/l	U	<0.05	
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02	
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	0.004	
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	0.010	
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	<0.00002	
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	0.005	
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	0.003	
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	
Manganese as Mn	ICPMSW (Dissolved)	0.002	mg/l	U	<0.002	
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003	
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.001	
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	0.004	
Vanadium as V	ICPMSW (Dissolved)	0.001	mg/l	U	0.009	
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	<0.002	
Beryllium as Be	ICPWATVAR (Dissolved)	0.01	mg/l	N	<0.01	
Calcium as Ca	ICPWATVAR (Dissolved)	1	mg/l	U	88	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	
					Customer ID: TP102-1-ES-0.10	
					Sample Type: LPL	SOLID
					Sampling Date: 28/04/2023	28/04/2023
Acenaphthene	PAHMSW	0.01	µg/l	U	0.08	
Acenaphthylene	PAHMSW	0.01	µg/l	U	0.04	
Anthracene	PAHMSW	0.01	µg/l	U	<0.01	
Benzo[a]anthracene	PAHMSW	0.01	µg/l	U	<0.01	
Benzo[a]pyrene	PAHMSW	0.01	µg/l	U	<0.01	
Benzo[b]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	
Benzo[g,h,i]perylene	PAHMSW	0.01	µg/l	U	<0.01	
Benzo[k]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	
Chrysene	PAHMSW	0.01	µg/l	U	<0.01* B	
Dibenzo[a,h]anthracene	PAHMSW	0.01	µg/l	U	<0.01	
Fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	
Fluorene	PAHMSW	0.01	µg/l	U	0.01	
Indeno[1,2,3-cd]pyrene	PAHMSW	0.01	µg/l	U	<0.01	
Naphthalene	PAHMSW	0.01	µg/l	U	0.05	
Phenanthrene	PAHMSW	0.01	µg/l	U	<0.01* B	
Pyrene	PAHMSW	0.01	µg/l	U	0.01	
Total PAH 16	PAHMSW	0.16	µg/l	U	0.30	
Benzene	VOCHSAW	1	µg/l	N	<1	
Ethylbenzene	VOCHSAW	0.5	µg/l	N	<0.5	

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

1252

Analysis Results

					Sample ID	001	
					Customer ID	TP102-1-ES-0.10	
					Sample Type	LPL	SOLID
					Sampling Date	28/04/2023	28/04/2023
Analysis	Method Code	MDL	Units	Accred.			
m and p-Xylene	VOCHSAW	1	µg/l	N		<1	
o-Xylene	VOCHSAW	1	µg/l	N		<1	
Toluene	VOCHSAW	1	µg/l	N		<1	
Equivalent Weight of Dry Material (kg)	Leachate Prep CEN 2:1		kg	N			0.400
Fraction above 4 mm (%)	Leachate Prep CEN 2:1		%	N			0
Fraction of non-crushable material (%)	Leachate Prep CEN 2:1		%	N			0
Volume of Water for 2:1 Leach (ltr)	Leachate Prep CEN 2:1		l	N			0.730
Weight of Sample Leached (kg)	Leachate Prep CEN 2:1		kg	N			0.470

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
ICPMSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Lab Leachate by ICPOES	Filtered
KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
Leachate Prep CEN 2:1	Leachate Prep, 1-Stage 2:1 (BSEN 12457-1)	As Received
PAHMSW	16 PAHs by GCMS	Filtered
PHCONDW	pH	Filtered
SFAPI	Cyanide (Total) by SFA	Filtered
SFAPI	Phenol Index (Total) by SFA	Filtered
VOCHSAW	BTEX by GCMS	Unfiltered

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce Phase 2
Project No:	23060737
Date Issued:	20/06/2023

F Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.

G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060737
Date Issued: 20/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23060208

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce Phase 2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 1

Date Received: 02/06/2023

Analysis Date: 14/06/2023

Date Issued: 14/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23060208-001	BH107-18-EW-9.30	30/05/2023 00:00:00	WATER	Ground Water

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH107-18-EW-9.30
					Sample Type: WATER
					Sampling Date: 30/05/2023
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.07
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.02	mg/l	U	<0.020
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.1	mg/l	U	<0.100
pH	PHCONDW	1	pH units	U	7.4
Chloride as Cl	KONENS	1	mg/l	U	56
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02
Dissolved Organic Carbon	TOCW	0.4	mg/l	U	1.74
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	0.001
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	0.00005
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	0.001
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001
Manganese as Mn	ICPMSW (Dissolved)	0.002	mg/l	U	0.056

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH107-18-EW-9.30
					Sample Type: WATER
					Sampling Date: 30/05/2023
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.004
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001
Vanadium as V	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	0.010
Beryllium as Be	ICPWATVAR (Dissolved)	0.01	mg/l	N	<0.01
Calcium as Ca	ICPWATVAR (Dissolved)	1	mg/l	U	177
Total Hardness as CaCO3	ICPWATVAR (Dissolved)	6.6	mg/l	U	658
Benzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5
Ethylbenzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5
m/p-Xylene HS_1D_AR	BTEXHSA	10	µg/l	U	<10
o-Xylene HS_1D_AR	BTEXHSA	5	µg/l	U	<5
Toluene HS_1D_AR	BTEXHSA	5	µg/l	U	<5
Acenaphthene	PAHMSW	0.01	µg/l	U	<0.01
Acenaphthylene	PAHMSW	0.01	µg/l	U	<0.01
Anthracene	PAHMSW	0.01	µg/l	U	<0.01
Benzo[a]anthracene	PAHMSW	0.01	µg/l	U	<0.01
Benzo[a]pyrene	PAHMSW	0.01	µg/l	U	<0.01
Benzo[b]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH107-18-EW-9.30	Sample Type: WATER	Sampling Date: 30/05/2023
Benzo[g,h,i]perylene	PAHMSW	0.01	µg/l	U	<0.01			
Benzo[k]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01			
Chrysene	PAHMSW	0.01	µg/l	U	<0.01			
Dibenzo[a,h]anthracene	PAHMSW	0.01	µg/l	U	<0.01			
Fluoranthene	PAHMSW	0.01	µg/l	U	<0.01			
Fluorene	PAHMSW	0.01	µg/l	U	<0.01			
Indeno[1,2,3-cd]pyrene	PAHMSW	0.01	µg/l	U	<0.01			
Naphthalene	PAHMSW	0.01	µg/l	U	<0.01			
Phenanthrene	PAHMSW	0.01	µg/l	U	<0.01			
Pyrene	PAHMSW	0.01	µg/l	U	<0.01			
Total PAH 16	PAHMSW	0.16	µg/l	U	<0.16			
PCB 101	PCBECD	0.01	µg/l	N	<0.01			
PCB 118	PCBECD	0.01	µg/l	N	<0.01			
PCB 138	PCBECD	0.01	µg/l	N	<0.01			
PCB 153	PCBECD	0.01	µg/l	N	<0.01			
PCB 180	PCBECD	0.01	µg/l	N	<0.01			
PCB 28	PCBECD	0.01	µg/l	N	<0.01			
PCB 52	PCBECD	0.01	µg/l	N	<0.01			
Dimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH107-18-EW-9.30	Sample Type: WATER	Sampling Date: 30/05/2023
Methylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05			
Phenol	PHEHPLCUV	0.05	mg/l	U	<0.05			
Total Phenols	PHEHPLCUV	0.2	mg/l	U	<0.20			
Trimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05			
1,2,4-Trichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,2-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,3-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,4-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002			
2,4,5-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4,6-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dimethylphenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dinitrophenol	SVOCSW	0.01	mg/l	N	<0.010			
2,4-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005			
2,6-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005			
2-Chloronaphthalene	SVOCSW	0.002	mg/l	N	<0.002			
2-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH107-18-EW-9.30
					Sample Type: WATER
					Sampling Date: 30/05/2023
2-Methylphenol	SVOCSW	0.005	mg/l	N	<0.005
2-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
2-Nitrophenol	SVOCSW	0.02	mg/l	N	<0.020
3- & 4-Methylphenol	SVOCSW	0.02	mg/l	N	<0.020
3-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
4,6-Dinitro-2-methylphenol	SVOCSW	0.05	mg/l	N	<0.050
4-Bromophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005
4-Chloro-3-methylphenol	SVOCSW	0.005	mg/l	N	<0.005
4-Chloroaniline	SVOCSW	0.005	mg/l	N	<0.005
4-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020
4-Chlorophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005
4-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
4-Nitrophenol	SVOCSW	0.05	mg/l	N	<0.050
Acenaphthene	SVOCSW	0.002	mg/l	N	<0.002
Acenaphthylene	SVOCSW	0.002	mg/l	N	<0.002
Anthracene	SVOCSW	0.002	mg/l	N	<0.002
Azobenzene	SVOCSW	0.01	mg/l	N	<0.010
Benzo[a]anthracene	SVOCSW	0.002	mg/l	N	<0.002
Benzo[a]pyrene	SVOCSW	0.002	mg/l	N	<0.002

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH107-18-EW-9.30	Sample Type: WATER	Sampling Date: 30/05/2023
Benzo[b]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002			
Benzo[g,h,i]perylene	SVOCSW	0.002	mg/l	N	<0.002			
Benzo[k]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002			
Benzoic Acid	SVOCSW	0.1	mg/l	N	<0.100			
Benzyl alcohol	SVOCSW	0.005	mg/l	N	<0.005			
Biphenyl	SVOCSW	0.002	mg/l	N	<0.002			
bis(2-Chloroethoxy)methane	SVOCSW	0.005	mg/l	N	<0.005			
bis(2-Chloroethyl)ether	SVOCSW	0.005	mg/l	N	<0.005			
bis(2-Chloroisopropyl)ether	SVOCSW	0.005	mg/l	N	<0.005			
bis(2-Ethylhexyl)phthalate	SVOCSW	0.005	mg/l	N	<0.005			
Butylbenzylphthalate	SVOCSW	0.005	mg/l	N	<0.005			
Carbazole	SVOCSW	0.01	mg/l	N	<0.010			
Chrysene	SVOCSW	0.002	mg/l	N	<0.002			
Coronene	SVOCSW	0.05	mg/l	N	<0.050			
Dibenzo[a,h]anthracene	SVOCSW	0.002	mg/l	N	<0.002			
Dibenzofuran	SVOCSW	0.005	mg/l	N	<0.005			
Diethylphthalate	SVOCSW	0.005	mg/l	N	<0.005			
Dimethylphthalate	SVOCSW	0.005	mg/l	N	<0.005			
Di-n-butylphthalate	SVOCSW	0.005	mg/l	N	<0.005			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH107-18-EW-9.30
					Sample Type: WATER
					Sampling Date: 30/05/2023
Di-n-octylphthalate	SVOCSW	0.002	mg/l	N	<0.002
Diphenyl ether	SVOCSW	0.002	mg/l	N	<0.002
Fluoranthene	SVOCSW	0.002	mg/l	N	<0.002
Fluorene	SVOCSW	0.002	mg/l	N	<0.002
Hexachlorobenzene	SVOCSW	0.005	mg/l	N	<0.005
Hexachlorobutadiene	SVOCSW	0.005	mg/l	N	<0.005
Hexachlorocyclopentadiene	SVOCSW	0.005	mg/l	N	<0.005
Hexachloroethane	SVOCSW	0.005	mg/l	N	<0.005
Indeno[1,2,3-cd]pyrene	SVOCSW	0.002	mg/l	N	<0.002
Isophorone	SVOCSW	0.005	mg/l	N	<0.005
Naphthalene	SVOCSW	0.002	mg/l	N	<0.002
Nitrobenzene	SVOCSW	0.005	mg/l	N	<0.005
N-Nitroso-di-n-propylamine	SVOCSW	0.005	mg/l	N	<0.005
N-Nitrosodiphenylamine	SVOCSW	0.005	mg/l	N	<0.005
Pentachlorophenol	SVOCSW	0.05	mg/l	N	<0.050
Phenanthrene	SVOCSW	0.002	mg/l	N	<0.002
Phenol	SVOCSW	0.02	mg/l	N	<0.020
Pyrene	SVOCSW	0.002	mg/l	N	<0.002
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001
					Customer ID: BH107-18-EW-9.30
					Sample Type: WATER
					Sampling Date: 30/05/2023
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	N	<0.01
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	0.02
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	0.01
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	N	<0.01
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	0.02
Benzene	VOCHSAW	1	µg/l	U	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5
m and p-Xylene	VOCHSAW	1	µg/l	U	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1
Toluene	VOCHSAW	1	µg/l	U	<1
1,1,1,2-Tetrachloroethane	VOCHSAW	1	µg/l	U	<1
1,1,1-Trichloroethane	VOCHSAW	1	µg/l	U	<1
1,1,2,2-Tetrachloroethane	VOCHSAW	1	µg/l	N	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 / Customer ID: BH107-18-EW-9.30 / Sample Type: WATER / Sampling Date: 30/05/2023
1,1,2-Trichloroethane	VOCHSAW	1	µg/l	U	<1
1,1-Dichloroethane	VOCHSAW	1	µg/l	U	<1
1,1-Dichloroethene	VOCHSAW	1	µg/l	U	<1
1,1-Dichloropropene	VOCHSAW	1	µg/l	U	<1
1,2,3-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2,3-Trichloropropane	VOCHSAW	1	µg/l	U	<1
1,2,4-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2,4-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1
1,2-Dibromo-3-chloropropane	VOCHSAW	5	µg/l	U	<5
1,2-Dibromoethane	VOCHSAW	1	µg/l	U	<1
1,2-Dichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2-Dichloroethane	VOCHSAW	1	µg/l	U	<1
1,2-Dichloropropane	VOCHSAW	1	µg/l	U	<1
1,3,5-Trimethylbenzene	VOCHSAW	0.6	µg/l	U	<0.6
1,3-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1
1,3-Dichloropropane	VOCHSAW	1	µg/l	N	<1
1,4-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1
2,2-Dichloropropane	VOCHSAW	1	µg/l	N	<1
2-Chlorotoluene	VOCHSAW	1	µg/l	U	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH107-18-EW-9.30 Sample Type: WATER Sampling Date: 30/05/2023
4-Chlorotoluene	VOCHSAW	1	µg/l	U	<1
Benzene	VOCHSAW	1	µg/l	U	<1
Bromobenzene	VOCHSAW	1	µg/l	U	<1
Bromochloromethane	VOCHSAW	1	µg/l	U	<1
Bromodichloromethane	VOCHSAW	1	µg/l	U	<1
Bromoform	VOCHSAW	1	µg/l	U	<1
Bromomethane	VOCHSAW	5	µg/l	N	<5
Carbon Tetrachloride	VOCHSAW	1	µg/l	U	<1
Chlorobenzene	VOCHSAW	1	µg/l	U	<1
Chloroethane	VOCHSAW	5	µg/l	U	<5
Chloroform	VOCHSAW	5	µg/l	U	<5
Chloromethane	VOCHSAW	1	µg/l	U	<1
cis 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1
cis 1,3-Dichloropropene	VOCHSAW	1	µg/l	N	<1
Dibromochloromethane	VOCHSAW	1	µg/l	U	<1
Dibromomethane	VOCHSAW	1	µg/l	U	<1
Dichlorodifluoromethane	VOCHSAW	1	µg/l	N	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5
Hexachlorobutadiene	VOCHSAW	5	µg/l	U	<5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH107-18-EW-9.30	Sample Type: WATER	Sampling Date: 30/05/2023
iso-Propylbenzene	VOCHSAW	1	µg/l	U	<1			
m and p-Xylene	VOCHSAW	1	µg/l	U	<1			
MTBE	VOCHSAW	1	µg/l	N	<1			
Naphthalene	VOCHSAW	5	µg/l	U	<5			
n-Butylbenzene	VOCHSAW	1	µg/l	U	<1			
o-Xylene	VOCHSAW	1	µg/l	U	<1			
p-Isopropyltoluene	VOCHSAW	1	µg/l	U	<1			
Propylbenzene	VOCHSAW	1	µg/l	U	<1			
sec-Butylbenzene	VOCHSAW	1	µg/l	U	<1			
Styrene	VOCHSAW	1	µg/l	U	<1			
tert-Butylbenzene	VOCHSAW	1	µg/l	U	<1			
Tetrachloroethene	VOCHSAW	5	µg/l	U	<5			
Toluene	VOCHSAW	1	µg/l	U	<1			
trans 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1			
trans 1,3-Dichloropropene	VOCHSAW	1	µg/l	U	<1			
Trichloroethene	VOCHSAW	5	µg/l	U	<5			
Trichlorofluoromethane	VOCHSAW	1	µg/l	U	<1			
Vinyl Chloride	VOCHSAW	1	µg/l	U	<1			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	Unfiltered
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	Unfiltered
ICPMSW (Dissolved)	Antimony (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Water by ICPMS	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Hardness as CaCO3 in Water	Filtered
KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
PAHMSW	16 PAHs by GCMS	Unfiltered
PCBECD	PCBs, ICES 7 Congeners	Unfiltered
PHCONDW	pH	Unfiltered
PHEHPLCUV	Phenols Suite by HPLC UV	Unfiltered
SFAPI	Cyanide (Total) by SFA	Unfiltered
SVOCSW	SVOCs (Target List) by GCMS	Unfiltered
TOCW	DOC: Dissolved Organic Carbon	Unfiltered
TPHFID (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	Unfiltered
TPHFID (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	Unfiltered
VOCHSAW	BTEX by GCMS	Unfiltered
VOCHSAW	VOCs (Target List) by GCMS	Unfiltered

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce Phase 2
Project No: 23060208
Date Issued: 14/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23061086

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020-23

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 1

Date Received: 09/06/2023

Analysis Date: 22/06/2023

Date Issued: 22/06/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Lead
Martin Elliott-Palmer
01283 554137

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020-23
Project No:	23061086
Date Issued:	22/06/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23061086-001	BH105-60523-W-3.00	06/06/2023 15:19:00	WATER	Ground Water

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH105-60523-W-3.00	Sample Type: WATER	Sampling Date: 06/06/2023
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.09			
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100			
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005			
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100			
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.02	mg/l	U	<0.020			
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100			
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005			
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.1	mg/l	U	<0.100			
pH	PHCONDW	1	pH units	U	7.3			
Chloride as Cl	KONENS	1	mg/l	U	54			
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02			
Dissolved Organic Carbon	TOCW	0.4	mg/l	U	2.45			
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001			
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001			
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	<0.00002			
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001 c			
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001 c			
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001			
Manganese as Mn	ICPMSW (Dissolved)	0.002	mg/l	U	0.006 c			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH105-60523-W-3.00	Sample Type: WATER	Sampling Date: 06/06/2023
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003			
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.002 c			
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	0.001			
Vanadium as V	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001 c			
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	0.004			
Beryllium as Be	ICPWATVAR (Dissolved)	0.01	mg/l	N	<0.01			
Calcium as Ca	ICPWATVAR (Dissolved)	1	mg/l	U	151			
Total Hardness as CaCO3	ICPWATVAR (Dissolved)	6.6	mg/l	U	540			
Benzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5			
Ethylbenzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5			
m/p-Xylene HS_1D_AR	BTEXHSA	10	µg/l	U	<10			
o-Xylene HS_1D_AR	BTEXHSA	5	µg/l	U	<5			
Toluene HS_1D_AR	BTEXHSA	5	µg/l	U	<5			
Acenaphthene	PAHMSW	0.01	µg/l	U	<0.01			
Acenaphthylene	PAHMSW	0.01	µg/l	U	<0.01			
Anthracene	PAHMSW	0.01	µg/l	U	<0.01			
Benzo[a]anthracene	PAHMSW	0.01	µg/l	U	<0.01			
Benzo[a]pyrene	PAHMSW	0.01	µg/l	U	<0.01			
Benzo[b]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
Benzo[g,h,i]perylene	PAHMSW	0.01	µg/l	U	<0.01
Benzo[k]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01
Chrysene	PAHMSW	0.01	µg/l	U	<0.01
Dibenzo[a,h]anthracene	PAHMSW	0.01	µg/l	U	<0.01
Fluoranthene	PAHMSW	0.01	µg/l	U	<0.01
Fluorene	PAHMSW	0.01	µg/l	U	<0.01
Indeno[1,2,3-cd]pyrene	PAHMSW	0.01	µg/l	U	<0.01
Naphthalene	PAHMSW	0.01	µg/l	U	<0.01
Phenanthrene	PAHMSW	0.01	µg/l	U	<0.01
Pyrene	PAHMSW	0.01	µg/l	U	<0.01
Total PAH 16	PAHMSW	0.16	µg/l	U	<0.16
PCB 101	PCBECD	0.01	µg/l	N	<0.01
PCB 118	PCBECD	0.01	µg/l	N	<0.01
PCB 138	PCBECD	0.01	µg/l	N	<0.01
PCB 153	PCBECD	0.01	µg/l	N	<0.01
PCB 180	PCBECD	0.01	µg/l	N	<0.01
PCB 28	PCBECD	0.01	µg/l	N	<0.01
PCB 52	PCBECD	0.01	µg/l	N	<0.01
Dimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Customer ID: BH105-60523-W-3.00	Sample Type: WATER	Sampling Date: 06/06/2023
Methylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05			
Phenol	PHEHPLCUV	0.05	mg/l	U	<0.05			
Total Phenols	PHEHPLCUV	0.2	mg/l	U	<0.20			
Trimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05* B			
1,2,4-Trichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,2-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,3-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1,4-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005			
1-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002			
2,4,5-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4,6-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dichlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dimethylphenol	SVOCSW	0.02	mg/l	N	<0.020			
2,4-Dinitrophenol	SVOCSW	0.01	mg/l	N	<0.010			
2,4-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005			
2,6-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005			
2-Chloronaphthalene	SVOCSW	0.002	mg/l	N	<0.002			
2-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020			
2-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002			

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
2-Methylphenol	SVOCSW	0.005	mg/l	N	<0.005
2-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
2-Nitrophenol	SVOCSW	0.02	mg/l	N	<0.020
3- & 4-Methylphenol	SVOCSW	0.02	mg/l	N	<0.020
3-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
4,6-Dinitro-2-methylphenol	SVOCSW	0.05	mg/l	N	<0.050
4-Bromophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005
4-Chloro-3-methylphenol	SVOCSW	0.005	mg/l	N	<0.005
4-Chloroaniline	SVOCSW	0.005	mg/l	N	<0.005
4-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020
4-Chlorophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005
4-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005
4-Nitrophenol	SVOCSW	0.05	mg/l	N	<0.050
Acenaphthene	SVOCSW	0.002	mg/l	N	<0.002
Acenaphthylene	SVOCSW	0.002	mg/l	N	<0.002
Anthracene	SVOCSW	0.002	mg/l	N	<0.002
Azobenzene	SVOCSW	0.01	mg/l	N	<0.010
Benzo[a]anthracene	SVOCSW	0.002	mg/l	N	<0.002
Benzo[a]pyrene	SVOCSW	0.002	mg/l	N	<0.002

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
Benzo[b]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002
Benzo[g,h,i]perylene	SVOCSW	0.002	mg/l	N	<0.002
Benzo[k]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002
Benzoic Acid	SVOCSW	0.1	mg/l	N	<0.100
Benzyl alcohol	SVOCSW	0.005	mg/l	N	<0.005
Biphenyl	SVOCSW	0.002	mg/l	N	<0.002
bis(2-Chloroethoxy)methane	SVOCSW	0.005	mg/l	N	<0.005
bis(2-Chloroethyl)ether	SVOCSW	0.005	mg/l	N	<0.005
bis(2-Chloroisopropyl)ether	SVOCSW	0.005	mg/l	N	<0.005
bis(2-Ethylhexyl)phthalate	SVOCSW	0.005	mg/l	N	<0.005
Butylbenzylphthalate	SVOCSW	0.005	mg/l	N	<0.005
Carbazole	SVOCSW	0.01	mg/l	N	<0.010
Chrysene	SVOCSW	0.002	mg/l	N	<0.002
Coronene	SVOCSW	0.05	mg/l	N	<0.050
Dibenzo[a,h]anthracene	SVOCSW	0.002	mg/l	N	<0.002
Dibenzofuran	SVOCSW	0.005	mg/l	N	<0.005
Diethylphthalate	SVOCSW	0.005	mg/l	N	<0.005
Dimethylphthalate	SVOCSW	0.005	mg/l	N	<0.005
Di-n-butylphthalate	SVOCSW	0.005	mg/l	N	<0.005

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
Di-n-octylphthalate	SVOCSW	0.002	mg/l	N	<0.002
Diphenyl ether	SVOCSW	0.002	mg/l	N	<0.002
Fluoranthene	SVOCSW	0.002	mg/l	N	<0.002
Fluorene	SVOCSW	0.002	mg/l	N	<0.002
Hexachlorobenzene	SVOCSW	0.005	mg/l	N	<0.005
Hexachlorobutadiene	SVOCSW	0.005	mg/l	N	<0.005
Hexachlorocyclopentadiene	SVOCSW	0.005	mg/l	N	<0.005
Hexachloroethane	SVOCSW	0.005	mg/l	N	<0.005
Indeno[1,2,3-cd]pyrene	SVOCSW	0.002	mg/l	N	<0.002
Isophorone	SVOCSW	0.005	mg/l	N	<0.005
Naphthalene	SVOCSW	0.002	mg/l	N	<0.002
Nitrobenzene	SVOCSW	0.005	mg/l	N	<0.005
N-Nitroso-di-n-propylamine	SVOCSW	0.005	mg/l	N	<0.005
N-Nitrosodiphenylamine	SVOCSW	0.005	mg/l	N	<0.005
Pentachlorophenol	SVOCSW	0.05	mg/l	N	<0.050
Phenanthrene	SVOCSW	0.002	mg/l	N	<0.002
Phenol	SVOCSW	0.02	mg/l	N	<0.020
Pyrene	SVOCSW	0.002	mg/l	N	<0.002
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	0.01
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	N	<0.01
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	0.02
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	N	<0.01
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	0.01
Benzene	VOCHSAW	1	µg/l	U	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5
m and p-Xylene	VOCHSAW	1	µg/l	U	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1
Toluene	VOCHSAW	1	µg/l	U	<1
1,1,1,2-Tetrachloroethane	VOCHSAW	1	µg/l	U	<1
1,1,1-Trichloroethane	VOCHSAW	1	µg/l	U	<1
1,1,2,2-Tetrachloroethane	VOCHSAW	1	µg/l	N	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
1,1,2-Trichloroethane	VOCHSAW	1	µg/l	U	<1
1,1-Dichloroethane	VOCHSAW	1	µg/l	U	<1
1,1-Dichloroethene	VOCHSAW	1	µg/l	U	<1
1,1-Dichloropropene	VOCHSAW	1	µg/l	U	<1
1,2,3-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2,3-Trichloropropane	VOCHSAW	1	µg/l	U	<1
1,2,4-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2,4-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1
1,2-Dibromo-3-chloropropane	VOCHSAW	5	µg/l	U	<5
1,2-Dibromoethane	VOCHSAW	1	µg/l	U	<1
1,2-Dichlorobenzene	VOCHSAW	5	µg/l	U	<5
1,2-Dichloroethane	VOCHSAW	1	µg/l	U	<1
1,2-Dichloropropane	VOCHSAW	1	µg/l	U	<1
1,3,5-Trimethylbenzene	VOCHSAW	0.6	µg/l	U	<0.6
1,3-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1
1,3-Dichloropropane	VOCHSAW	1	µg/l	N	<1
1,4-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1
2,2-Dichloropropane	VOCHSAW	1	µg/l	N	<1
2-Chlorotoluene	VOCHSAW	1	µg/l	U	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
4-Chlorotoluene	VOCHSAW	1	µg/l	U	<1
Benzene	VOCHSAW	1	µg/l	U	<1
Bromobenzene	VOCHSAW	1	µg/l	U	<1
Bromochloromethane	VOCHSAW	1	µg/l	U	<1
Bromodichloromethane	VOCHSAW	1	µg/l	U	<1
Bromoform	VOCHSAW	1	µg/l	U	<1
Bromomethane	VOCHSAW	5	µg/l	N	<5
Carbon Tetrachloride	VOCHSAW	1	µg/l	U	<1
Chlorobenzene	VOCHSAW	1	µg/l	U	<1
Chloroethane	VOCHSAW	5	µg/l	U	<5
Chloroform	VOCHSAW	5	µg/l	U	<5
Chloromethane	VOCHSAW	1	µg/l	U	<1
cis 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1
cis 1,3-Dichloropropene	VOCHSAW	1	µg/l	N	<1
Dibromochloromethane	VOCHSAW	1	µg/l	U	<1
Dibromomethane	VOCHSAW	1	µg/l	U	<1
Dichlorodifluoromethane	VOCHSAW	1	µg/l	N	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5
Hexachlorobutadiene	VOCHSAW	5	µg/l	U	<5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-60523-W-3.00 Sample Type: WATER Sampling Date: 06/06/2023
iso-Propylbenzene	VOCHSAW	1	µg/l	U	<1
m and p-Xylene	VOCHSAW	1	µg/l	U	<1
MTBE	VOCHSAW	1	µg/l	N	<1
Naphthalene	VOCHSAW	5	µg/l	U	<5
n-Butylbenzene	VOCHSAW	1	µg/l	U	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1
p-Isopropyltoluene	VOCHSAW	1	µg/l	U	<1
Propylbenzene	VOCHSAW	1	µg/l	U	<1
sec-Butylbenzene	VOCHSAW	1	µg/l	U	<1
Styrene	VOCHSAW	1	µg/l	U	<1
tert-Butylbenzene	VOCHSAW	1	µg/l	U	<1
Tetrachloroethene	VOCHSAW	5	µg/l	U	<5
Toluene	VOCHSAW	1	µg/l	U	<1
trans 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	2
trans 1,3-Dichloropropene	VOCHSAW	1	µg/l	U	<1
Trichloroethene	VOCHSAW	5	µg/l	U	<5
Trichlorofluoromethane	VOCHSAW	1	µg/l	U	<1
Vinyl Chloride	VOCHSAW	1	µg/l	U	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
BH105-60523-W-3.00	23061086-001	**PHCONDW**						✓

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	Unfiltered
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	Unfiltered
ICPMSW (Dissolved)	Antimony (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Water by ICPMS	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Hardness as CaCO3 in Water	Filtered
KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
PAHMSW	16 PAHs by GCMS	Unfiltered
PCBECD	PCBs, ICES 7 Congeners	Unfiltered
PHCONDW	pH	Unfiltered
PHEHPLCUV	Phenols Suite by HPLC UV	Unfiltered
SFAPI	Cyanide (Total) by SFA	Unfiltered
SVOCSW	SVOCs (Target List) by GCMS	Unfiltered
TOCW	DOC: Dissolved Organic Carbon	Unfiltered
TPHFID (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	Unfiltered
TPHFID (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	Unfiltered
VOCHSAW	BTEX by GCMS	Unfiltered
VOCHSAW	VOCs (Target List) by GCMS	Unfiltered

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020-23
Project No:	23061086
Date Issued:	22/06/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020-23
Project No: 23061086
Date Issued: 22/06/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105 º C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35º C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23062783

Quote: BEC230128522 V4.1

Project Ref: E3020-23

Site: E3020 Rolls Royce P2

Contact: Ian Campbell

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Ian.Campbell@socotec.com

Phone: 01926 819 300

No. Samples Received: 2

Date Received: 23/06/2023

Analysis Date: 10/07/2023

Date Issued: 10/07/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Co-Ordinator
Angela Kirby

Client:	SOCOTEC Geotechnical
Project Name:	E3020-23-E3020 Rolls Royce P2
Project No:	23062783
Date Issued:	10/07/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23062783-001	BH106-14-EW-2.90	21/06/2023 13:30:00	WATER	Ground Water
23062783-002	BH106-15-EW-1.90	21/06/2023 13:30:00	WATER	Ground Water

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH106-14-EW-2.90	Customer ID: BH106-15-EW-1.90
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/06/2023	Sampling Date: 21/06/2023
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.01	0.03
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.02	mg/l	U	<0.020	<0.020
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.1	mg/l	U	<0.100	<0.100
pH	PHCONDW	1	pH units	U	6.9	7.0
Chloride as Cl	KONENS	1	mg/l	U	55	52
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02	<0.02
Dissolved Organic Carbon	TOCW	0.4	mg/l	U	1.99	3.08
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	0.003	0.003
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	<0.00002	<0.00002
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Manganese as Mn	ICPMSW (Dissolved)	0.002	mg/l	U	0.040	0.131

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003	<0.00003
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.009	0.009
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	0.002	0.002
Vanadium as V	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	0.015	0.010
Beryllium as Be	ICPWATVAR (Dissolved)	0.01	mg/l	N	<0.01	<0.01
Calcium as Ca	ICPWATVAR (Dissolved)	1	mg/l	U	477	505
Total Hardness as CaCO3	ICPWATVAR (Dissolved)	6.6	mg/l	U	1790	1860
Benzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
Ethylbenzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
m/p-Xylene HS_1D_AR	BTEXHSA	10	µg/l	U	<10	<10
o-Xylene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
Toluene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
Acenaphthene	PAHMSW	0.01	µg/l	U	<0.01	0.02
Acenaphthylene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Anthracene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Benzo[a]anthracene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Benzo[a]pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Benzo[b]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
Benzo[g,h,i]perylene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Benzo[k]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Chrysene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Dibenzo[a,h]anthracene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Fluorene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Indeno[1,2,3-cd]pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Naphthalene	PAHMSW	0.01	µg/l	U	<0.01	0.01
Phenanthrene	PAHMSW	0.01	µg/l	U	<0.01	0.03
Pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01
Total PAH 16	PAHMSW	0.16	µg/l	U	<0.16	0.19
PCB 101	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 118	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 138	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 153	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 180	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 28	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 52	PCBECD	0.01	µg/l	N	<0.01	<0.01
Dimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH106-14-EW-2.90	Customer ID: BH106-15-EW-1.90
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/06/2023	Sampling Date: 21/06/2023
Methylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
Phenol	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
Total Phenols	PHEHPLCUV	0.2	mg/l	U	<0.20	<0.20
Trimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
1,2,4-Trichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,2-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,3-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,4-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
2,4,5-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4,6-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dimethylphenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dinitrophenol	SVOCSW	0.01	mg/l	N	<0.010	<0.010
2,4-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2,6-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Chloronaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
2-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
2-Methylphenol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Nitrophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
3- & 4-Methylphenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
3-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4,6-Dinitro-2-methylphenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
4-Bromophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chloro-3-methylphenol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chloroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
4-Chlorophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Nitrophenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
Acenaphthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Acenaphthylene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Azobenzene	SVOCSW	0.01	mg/l	N	<0.010	<0.010
Benzo[a]anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[a]pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH106-14-EW-2.90	Customer ID: BH106-15-EW-1.90
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/06/2023	Sampling Date: 21/06/2023
Benzo[b]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[g,h,i]perylene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[k]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzoic Acid	SVOCSW	0.1	mg/l	N	<0.100	<0.100
Benzyl alcohol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Biphenyl	SVOCSW	0.002	mg/l	N	<0.002	<0.002
bis(2-Chloroethoxy)methane	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Chloroethyl)ether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Chloroisopropyl)ether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Ethylhexyl)phthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Butylbenzylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Carbazole	SVOCSW	0.01	mg/l	N	<0.010	<0.010
Chrysene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Coronene	SVOCSW	0.05	mg/l	N	<0.050	<0.050
Dibenzo[a,h]anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Dibenzofuran	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Diethylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Dimethylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Di-n-butylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
Di-n-octylphthalate	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Diphenyl ether	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Fluorene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Hexachlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachlorobutadiene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachlorocyclopentadiene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachloroethane	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Indeno[1,2,3-cd]pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Isophorone	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Naphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Nitrobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
N-Nitroso-di-n-propylamine	SVOCSW	0.005	mg/l	N	<0.005	<0.005
N-Nitrosodiphenylamine	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Pentachlorophenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
Phenanthrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Phenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
Pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	N	<0.01	<0.01
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01* B	0.02* B
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	N	<0.01	<0.01
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	0.01	0.03
Benzene	VOCHSAW	1	µg/l	U	<1	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5	<0.5
m and p-Xylene	VOCHSAW	1	µg/l	U	<1	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1	<1
Toluene	VOCHSAW	1	µg/l	U	<1	<1
1,1,1,2-Tetrachloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1,1-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1,2,2-Tetrachloroethane	VOCHSAW	1	µg/l	N	<1	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH106-14-EW-2.90 Sample Type: WATER Sampling Date: 21/06/2023	Sample ID: 002 Customer ID: BH106-15-EW-1.90 Sample Type: WATER Sampling Date: 21/06/2023
1,1,2-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1
1,2,3-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5
1,2,3-Trichloropropane	VOCHSAW	1	µg/l	U	<1	<1
1,2,4-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5
1,2,4-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dibromo-3-chloropropane	VOCHSAW	5	µg/l	U	<5	<5
1,2-Dibromoethane	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5
1,2-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dichloropropane	VOCHSAW	1	µg/l	U	<1	<1
1,3,5-Trimethylbenzene	VOCHSAW	0.6	µg/l	U	<0.6* B	<0.6* B
1,3-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
1,3-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1
1,4-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
2,2-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1
2-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH106-14-EW-2.90	Customer ID: BH106-15-EW-1.90
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/06/2023	Sampling Date: 21/06/2023
4-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1
Benzene	VOCHSAW	1	µg/l	U	<1	<1
Bromobenzene	VOCHSAW	1	µg/l	U	<1	<1
Bromochloromethane	VOCHSAW	1	µg/l	U	<1	<1
Bromodichloromethane	VOCHSAW	1	µg/l	U	<1	<1
Bromoform	VOCHSAW	1	µg/l	U	<1	<1
Bromomethane	VOCHSAW	5	µg/l	N	<5	<5
Carbon Tetrachloride	VOCHSAW	1	µg/l	U	<1	<1
Chlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
Chloroethane	VOCHSAW	5	µg/l	U	<5* B	<5* B
Chloroform	VOCHSAW	5	µg/l	U	<5	<5
Chloromethane	VOCHSAW	1	µg/l	U	<1	<1
cis 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1
cis 1,3-Dichloropropene	VOCHSAW	1	µg/l	N	<1	<1
Dibromochloromethane	VOCHSAW	1	µg/l	U	<1	<1
Dibromomethane	VOCHSAW	1	µg/l	U	<1	<1
Dichlorodifluoromethane	VOCHSAW	1	µg/l	N	<1	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5	<0.5
Hexachlorobutadiene	VOCHSAW	5	µg/l	U	<5	<5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH106-14-EW-2.90	Customer ID: BH106-15-EW-1.90
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/06/2023	Sampling Date: 21/06/2023
iso-Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1
m and p-Xylene	VOCHSAW	1	µg/l	U	<1	<1
MTBE	VOCHSAW	1	µg/l	N	<1	<1
Naphthalene	VOCHSAW	5	µg/l	U	<5	<5
n-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1	<1
p-Isopropyltoluene	VOCHSAW	1	µg/l	U	<1* B	<1* B
Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1
sec-Butylbenzene	VOCHSAW	1	µg/l	U	<1* B	<1* B
Styrene	VOCHSAW	1	µg/l	U	<1	<1
tert-Butylbenzene	VOCHSAW	1	µg/l	U	<1* B	<1* B
Tetrachloroethene	VOCHSAW	5	µg/l	U	<5	<5
Toluene	VOCHSAW	1	µg/l	U	<1	<1
trans 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1
trans 1,3-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1
Trichloroethene	VOCHSAW	5	µg/l	U	<5	<5
Trichlorofluoromethane	VOCHSAW	1	µg/l	U	<1	<1
Vinyl Chloride	VOCHSAW	1	µg/l	U	<1	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	Unfiltered
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	Unfiltered
ICPMSW (Dissolved)	Antimony (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Water by ICPMS	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Hardness as CaCO3 in Water	Filtered
KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
PAHMSW	16 PAHs by GCMS	Unfiltered
PCBECD	PCBs, ICES 7 Congeners	Unfiltered
PHCONDW	pH	Unfiltered
PHEHPLCUV	Phenols Suite by HPLC UV	Unfiltered
SFAPI	Cyanide (Total) by SFA	Unfiltered
SVOCSW	SVOCs (Target List) by GCMS	Unfiltered
TOCW	DOC: Dissolved Organic Carbon	Unfiltered
TPHFID (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	Unfiltered
TPHFID (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	Unfiltered
VOCHSAW	BTEX by GCMS	Unfiltered
VOCHSAW	VOCs (Target List) by GCMS	Unfiltered

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-E3020 Rolls Royce P2
Project No: 23062783
Date Issued: 10/07/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

SOCOTEC

Environmental Chemistry

Certificate of Analysis

Client: SOCOTEC Geotechnical

Project: 23072907

Quote: BEC230128522 V5.3

Project Ref: E3020-23

Site: Rolls Royce Phase 2

Contact: Craig Curtis

Address: SOCOTEC Central
Leofric Business Park
Progress Close
Coventry
CV3 2TF

E-Mail: Craig.Curtis@socotec.com

Phone: 07867180305

No. Samples Received: 2

Date Received: 25/07/2023

Analysis Date: 04/08/2023

Date Issued: 04/08/2023

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

[redacted]

Reported by Customer Service Lead
Martin Elliott-Palmer
01283 554137

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
23072907-001	BH105-14-EW-3.70	21/07/2023 13:03:00	WATER	Ground Water
23072907-002	BH106-15-EW-4.27	21/07/2023 11:34:00	WATER	Ground Water

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.09	0.02
>C6-C8 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
>C7-C8 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005
>C8-C10 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
>C8-C10 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.02	mg/l	U	<0.020	<0.020
C5-C6 Aliphatic HS_1D_AL	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100
C5-C7 Aromatic HS_1D_AR	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005
Total GRO C5-C10 HS_1D_Total	GROHSA/BTEXHSA	0.1	mg/l	U	<0.100	<0.100
pH	PHCONDW	1	pH units	U	7.1	7.2
Chloride as Cl	KONENS	1	mg/l	U	56	52
Nitrate as NO3	KONENS	0.9	mg/l	U	<0.9	
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02	<0.02
Dissolved Organic Carbon	TOCW	0.4	mg/l	U	2.28	2.92
Antimony as Sb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	0.003
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	<0.00002	<0.00002
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	0.002
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-14-EW-3.70 Sample Type: WATER Sampling Date: 21/07/2023	Sample ID: 002 Customer ID: BH106-15-EW-4.27 Sample Type: WATER Sampling Date: 21/07/2023
Manganese as Mn	ICPMSW (Dissolved)	0.002	mg/l	U	0.006	0.085
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003	<0.00003
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.001	0.011
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Vanadium as V	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	0.006	0.005
Beryllium as Be	ICPWATVAR (Dissolved)	0.01	mg/l	N	<0.01	<0.01
Calcium as Ca	ICPWATVAR (Dissolved)	1	mg/l	U	186	366
Magnesium as Mg	ICPWATVAR (Dissolved)	1	mg/l	U	52	
Total Sulphur as SO4	ICPWATVAR (Dissolved)	3	mg/l	U	194	
Total Hardness as CaCO3	ICPWATVAR (Dissolved)	6.6	mg/l	U	679	1350
Benzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
Ethylbenzene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
m/p-Xylene HS_1D_AR	BTEXHSA	10	µg/l	U	<10	<10
o-Xylene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
Toluene HS_1D_AR	BTEXHSA	5	µg/l	U	<5	<5
PCB 101	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 118	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 138	PCBECD	0.01	µg/l	N	<0.01	<0.01

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
PCB 153	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 180	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 28	PCBECD	0.01	µg/l	N	<0.01	<0.01
PCB 52	PCBECD	0.01	µg/l	N	<0.01	<0.01
Dimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	0.66
Methylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
Phenol	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
Total Phenols	PHEHPLCUV	0.2	mg/l	U	<0.20	0.81
Trimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05
1,2,4-Trichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,2-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,3-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1,4-Dichlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
1-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
2,4,5-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4,6-Trichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dichlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dimethylphenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2,4-Dinitrophenol	SVOCSW	0.01	mg/l	N	<0.010	<0.010

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-14-EW-3.70 Sample Type: WATER Sampling Date: 21/07/2023	Sample ID: 002 Customer ID: BH106-15-EW-4.27 Sample Type: WATER Sampling Date: 21/07/2023
2,4-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2,6-Dinitrotoluene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Chloronaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
2-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
2-Methylnaphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
2-Methylphenol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
2-Nitrophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
3- & 4-Methylphenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
3-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4,6-Dinitro-2-methylphenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
4-Bromophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chloro-3-methylphenol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chloroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Chlorophenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
4-Chlorophenyl-phenylether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Nitroaniline	SVOCSW	0.005	mg/l	N	<0.005	<0.005
4-Nitrophenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
Acenaphthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
Acenaphthylene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Azobenzene	SVOCSW	0.01	mg/l	N	<0.010	<0.010
Benzo[a]anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[a]pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[b]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[g,h,i]perylene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzo[k]fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Benzoic Acid	SVOCSW	0.1	mg/l	N	<0.100	<0.100
Benzyl alcohol	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Biphenyl	SVOCSW	0.002	mg/l	N	<0.002	<0.002
bis(2-Chloroethoxy)methane	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Chloroethyl)ether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Chloroisopropyl)ether	SVOCSW	0.005	mg/l	N	<0.005	<0.005
bis(2-Ethylhexyl)phthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Butylbenzylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Carbazole	SVOCSW	0.01	mg/l	N	<0.010	<0.010
Chrysene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Coronene	SVOCSW	0.05	mg/l	N	<0.050	<0.050

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
Dibenzo[a,h]anthracene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Dibenzofuran	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Diethylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Dimethylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Di-n-butylphthalate	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Di-n-octylphthalate	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Diphenyl ether	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Fluoranthene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Fluorene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Hexachlorobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachlorobutadiene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachlorocyclopentadiene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Hexachloroethane	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Indeno[1,2,3-cd]pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Isophorone	SVOCSW	0.005	mg/l	N	<0.005	<0.005
Naphthalene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Nitrobenzene	SVOCSW	0.005	mg/l	N	<0.005	<0.005
N-Nitroso-di-n-propylamine	SVOCSW	0.005	mg/l	N	<0.005	<0.005
N-Nitrosodiphenylamine	SVOCSW	0.005	mg/l	N	<0.005	<0.005

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
Pentachlorophenol	SVOCSW	0.05	mg/l	N	<0.050	<0.050
Phenanthrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
Phenol	SVOCSW	0.02	mg/l	N	<0.020	<0.020
Pyrene	SVOCSW	0.002	mg/l	N	<0.002	<0.002
>C10-C12 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C12-C16 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C16-C21 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01
>C21-C35 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	0.01
>C35-C44 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	N	<0.01	<0.01
Total TPH >C8-C40 (Aliphatic) EH_CU_1D_AL	TPHFID (Aliphatic)	0.01	mg/l	U	0.01	0.02
>C10-C12 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01
>C12-C16 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01
>C16-C21 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	0.01
>C21-C35 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	0.02
>C35-C44 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	N	<0.01	<0.01
Total TPH >C8-C40 (Aromatic) EH_CU_1D_AR	TPHFID (Aromatic)	0.01	mg/l	U	0.02	0.04
1,1,1,2-Tetrachloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1,1-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1,2,2-Tetrachloroethane	VOCHSAW	1	µg/l	N	<1	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-14-EW-3.70 Sample Type: WATER Sampling Date: 21/07/2023	Sample ID: 002 Customer ID: BH106-15-EW-4.27 Sample Type: WATER Sampling Date: 21/07/2023
1,1,2-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1
1,1-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1
1,2,3-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5* B	<5* B
1,2,3-Trichloropropane	VOCHSAW	1	µg/l	U	<1	<1
1,2,4-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5
1,2,4-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dibromo-3-chloropropane	VOCHSAW	5	µg/l	U	<5	<5
1,2-Dibromoethane	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5
1,2-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1
1,2-Dichloropropane	VOCHSAW	1	µg/l	U	<1	<1
1,3,5-Trimethylbenzene	VOCHSAW	0.6	µg/l	U	<0.6	<0.6
1,3-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
1,3-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1
1,4-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
2,2-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1
2-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001 Customer ID: BH105-14-EW-3.70 Sample Type: WATER Sampling Date: 21/07/2023	Sample ID: 002 Customer ID: BH106-15-EW-4.27 Sample Type: WATER Sampling Date: 21/07/2023
4-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1
Benzene	VOCHSAW	1	µg/l	U	<1	<1
Bromobenzene	VOCHSAW	1	µg/l	U	<1	<1
Bromochloromethane	VOCHSAW	1	µg/l	U	<1	<1
Bromodichloromethane	VOCHSAW	1	µg/l	U	<1	<1
Bromoform	VOCHSAW	1	µg/l	U	<1	<1
Bromomethane	VOCHSAW	5	µg/l	N	<5	<5
Carbon Tetrachloride	VOCHSAW	1	µg/l	U	<1	<1
Chlorobenzene	VOCHSAW	1	µg/l	U	<1	<1
Chloroethane	VOCHSAW	5	µg/l	U	<5	<5
Chloroform	VOCHSAW	5	µg/l	U	<5	<5
Chloromethane	VOCHSAW	1	µg/l	U	<1* B	<1* B
cis 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	2	<1
cis 1,3-Dichloropropene	VOCHSAW	1	µg/l	N	<1	<1
Dibromochloromethane	VOCHSAW	1	µg/l	U	<1	<1
Dibromomethane	VOCHSAW	1	µg/l	U	<1	<1
Dichlorodifluoromethane	VOCHSAW	1	µg/l	N	<1	<1
Ethylbenzene	VOCHSAW	0.5	µg/l	U	<0.5	<0.5
Hexachlorobutadiene	VOCHSAW	5	µg/l	U	<5	<5

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

UKAS TESTING 1252

Analysis Results

Analysis	Method Code	MDL	Units	Accred.	Sample ID: 001	Sample ID: 002
					Customer ID: BH105-14-EW-3.70	Customer ID: BH106-15-EW-4.27
					Sample Type: WATER	Sample Type: WATER
					Sampling Date: 21/07/2023	Sampling Date: 21/07/2023
iso-Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1
m and p-Xylene	VOCHSAW	1	µg/l	U	<1	<1
MTBE	VOCHSAW	1	µg/l	N	<1	<1
Naphthalene	VOCHSAW	5	µg/l	U	<5	<5
n-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1	<1
p-Isopropyltoluene	VOCHSAW	1	µg/l	U	<1	<1
Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1
sec-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1
Styrene	VOCHSAW	1	µg/l	U	<1	<1
tert-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1
Tetrachloroethene	VOCHSAW	5	µg/l	U	<5	<5
Toluene	VOCHSAW	1	µg/l	U	<1	<1
trans 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1
trans 1,3-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1
Trichloroethene	VOCHSAW	5	µg/l	U	<5	<5
Trichlorofluoromethane	VOCHSAW	1	µg/l	U	<1	<1
Vinyl Chloride	VOCHSAW	1	µg/l	U	<1* B	<1* B

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	Unfiltered
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	Unfiltered
ICPMSW (Dissolved)	Antimony (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Arsenic (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Manganese (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Selenium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Vanadium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Water by ICPMS	Filtered
ICPWATVAR (Dissolved)	Beryllium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Calcium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Magnesium (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Hardness as CaCO3 in Water	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Water	Filtered
KONENS	Ammoniacal Nitrogen as N	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Nitrate as NO3 by Colorimetry	Filtered
PCBECD	PCBs, ICES 7 Congeners	Unfiltered
PHCONDW	pH	Unfiltered
PHEHPLCUV	Phenols Suite by HPLC UV	Unfiltered
SFAPI	Cyanide (Total) by SFA	Unfiltered
SVOCSW	SVOCs (Target List) by GCMS	Unfiltered
TOCW	DOC: Dissolved Organic Carbon	Unfiltered
TPHFID (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	Unfiltered
TPHFID (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	Unfiltered
VOCHSAW	VOCs (Target List) by GCMS	Unfiltered

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing . Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Client: SOCOTEC Geotechnical
Project Name: E3020-23-Rolls Royce Phase 2
Project No: 23072907
Date Issued: 04/08/2023

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

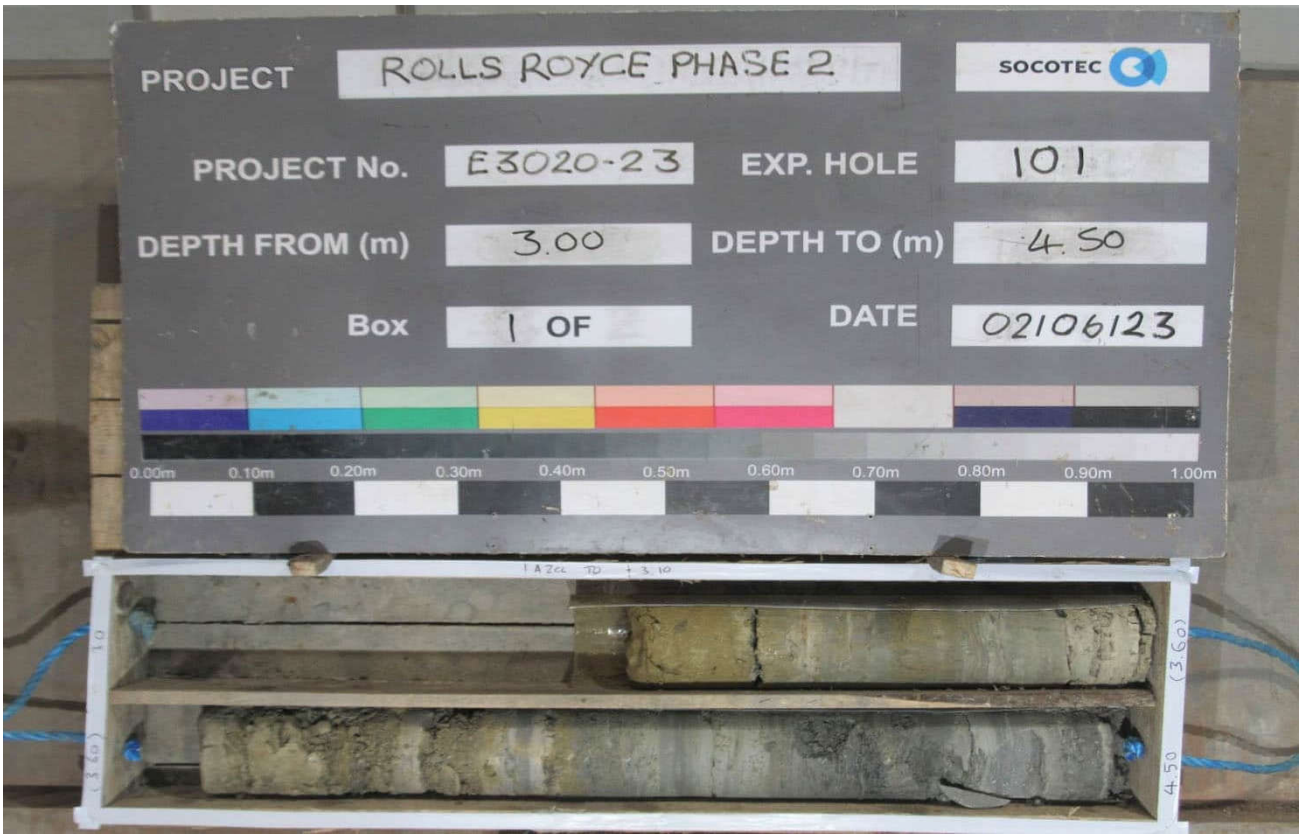
Summaries of analysis methods are available upon request.

End of Certificate of Analysis

APPENDIX G
PHOTOGRAPHS

Dynamic Sample and Core Photographs

BH101 1.20m to 2.70m



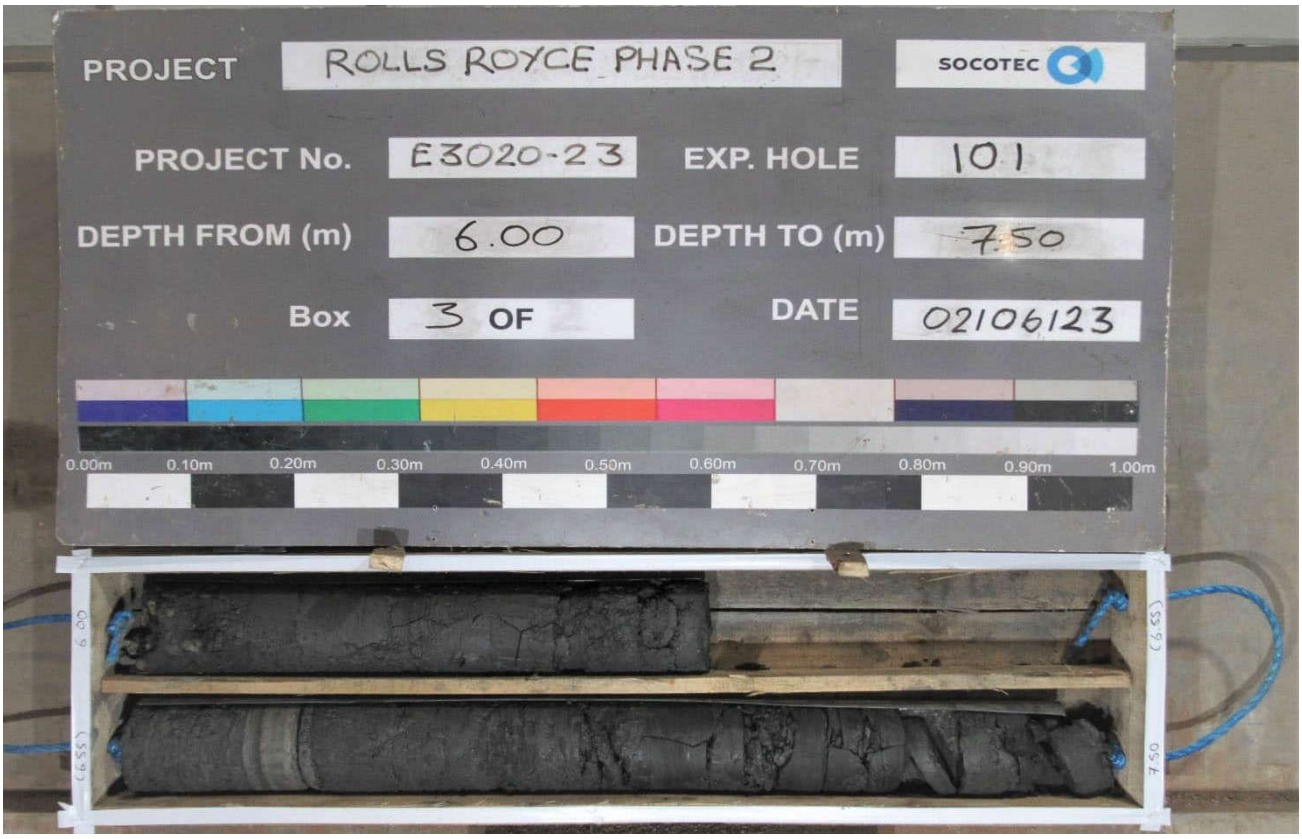
BH101 3.00m to 4.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet 1
	Proiect No.	E3020-23	
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

SOCOTEC

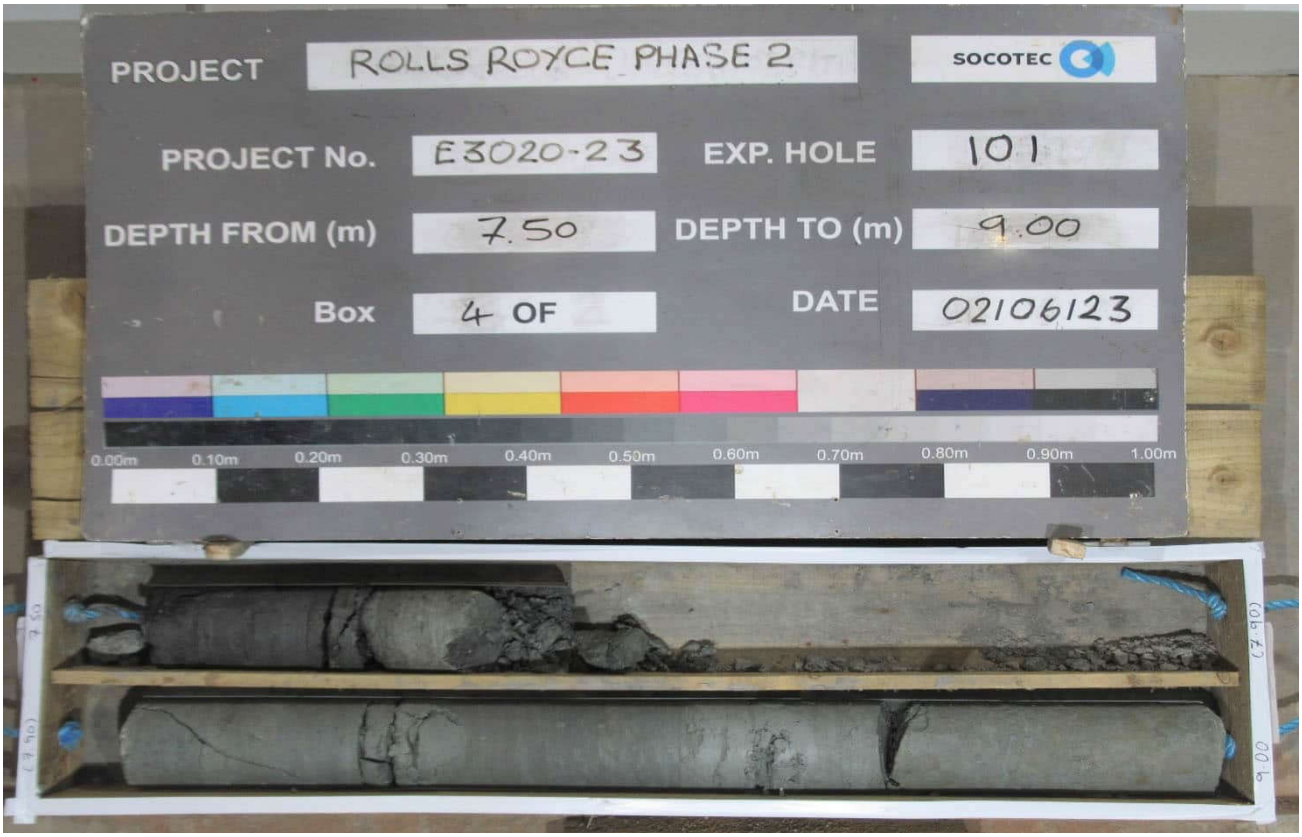
BH101 4.50m to 6.00m



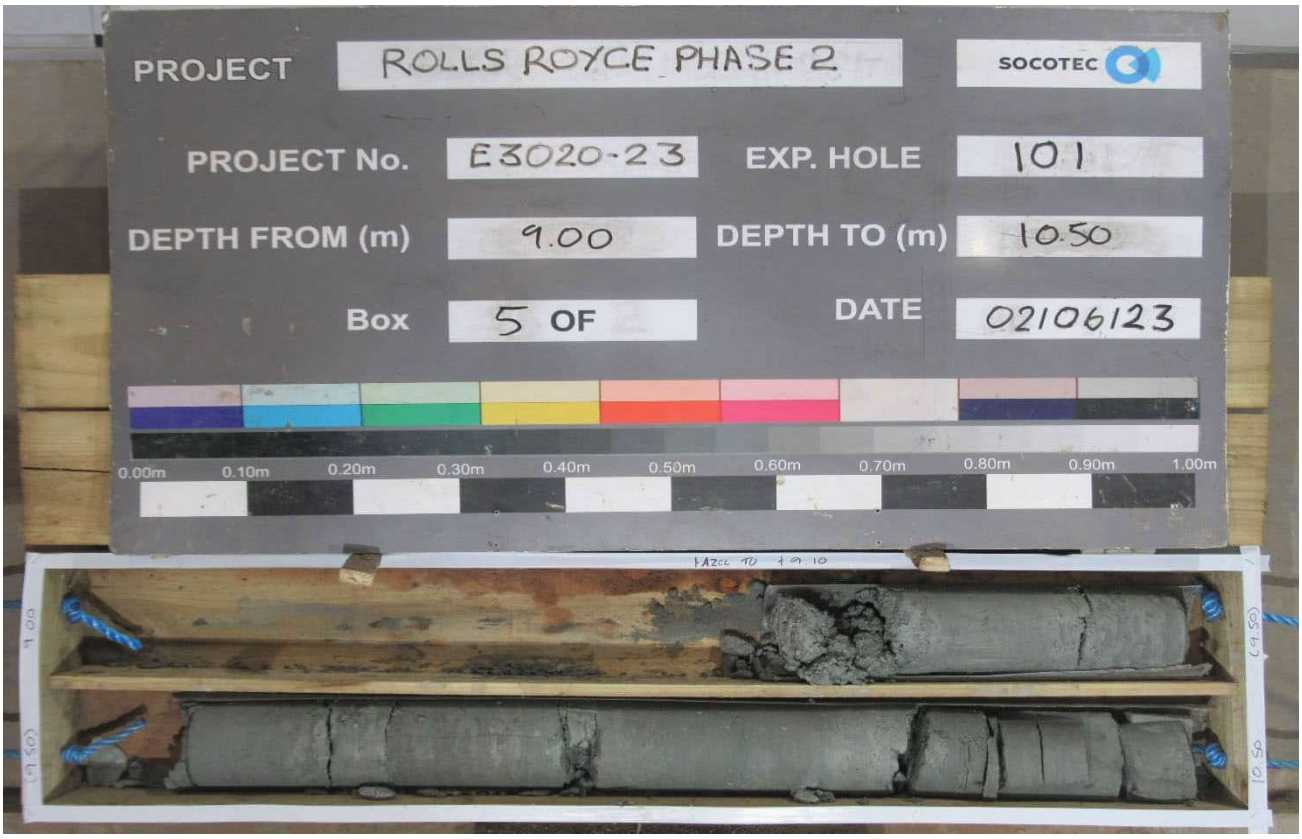
BH101 6.00m to 7.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	2
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



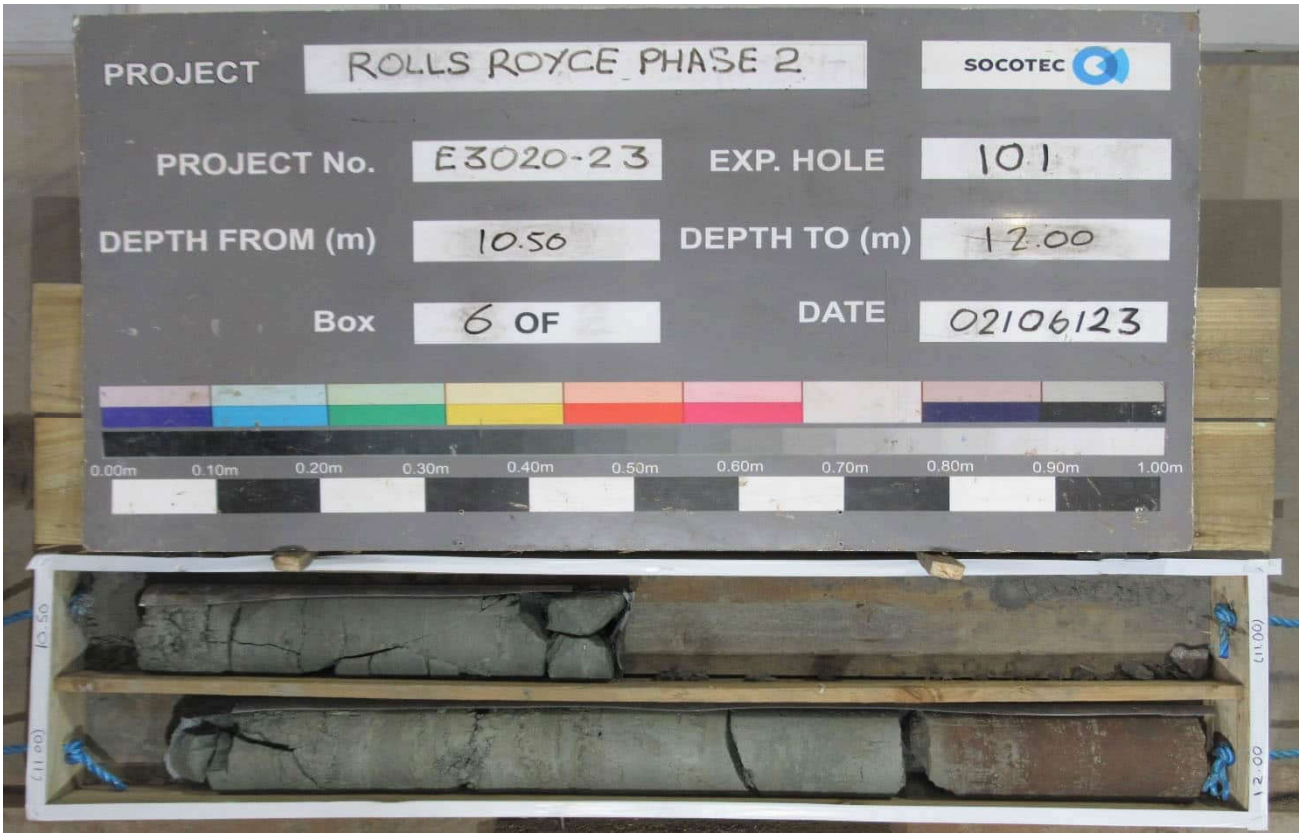
BH101 7.50m to 9.00m



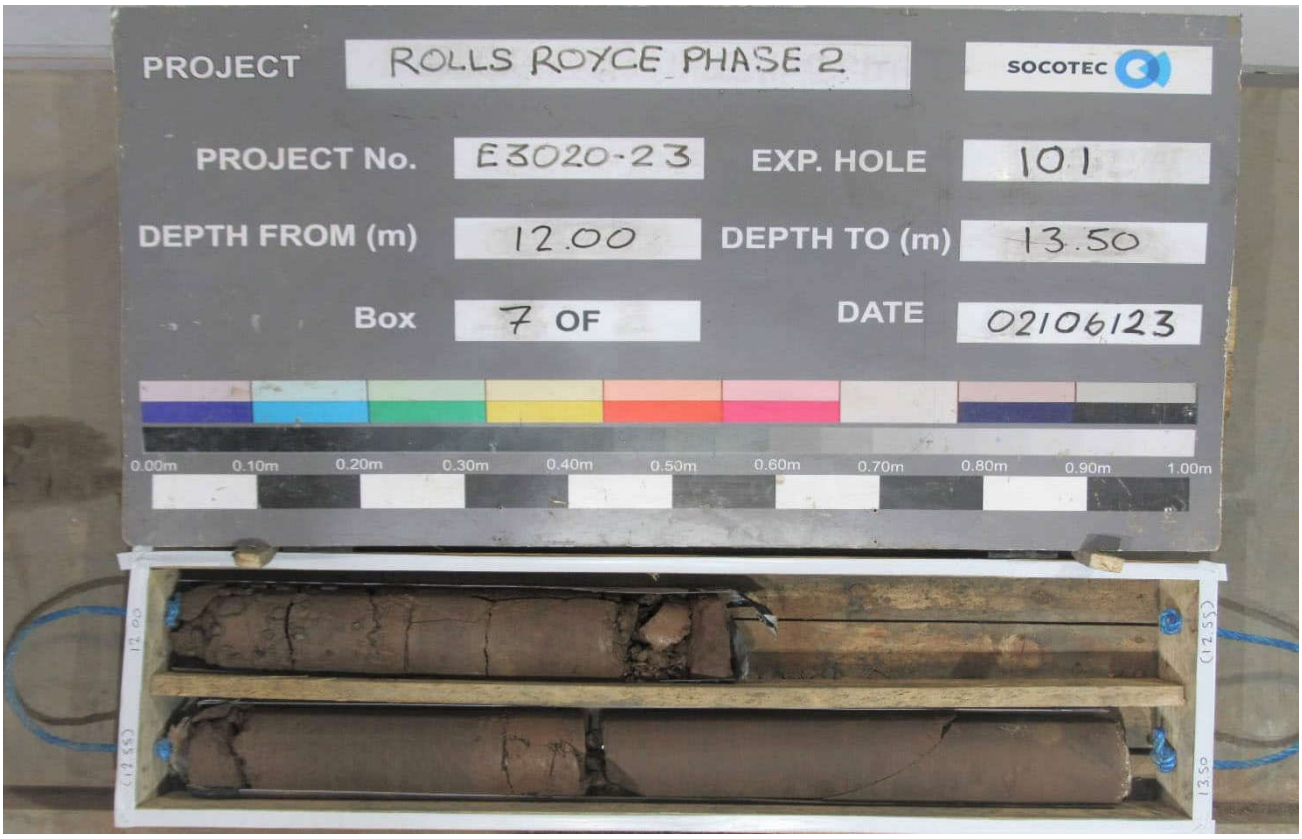
BH101 9.00m to 10.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	3
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



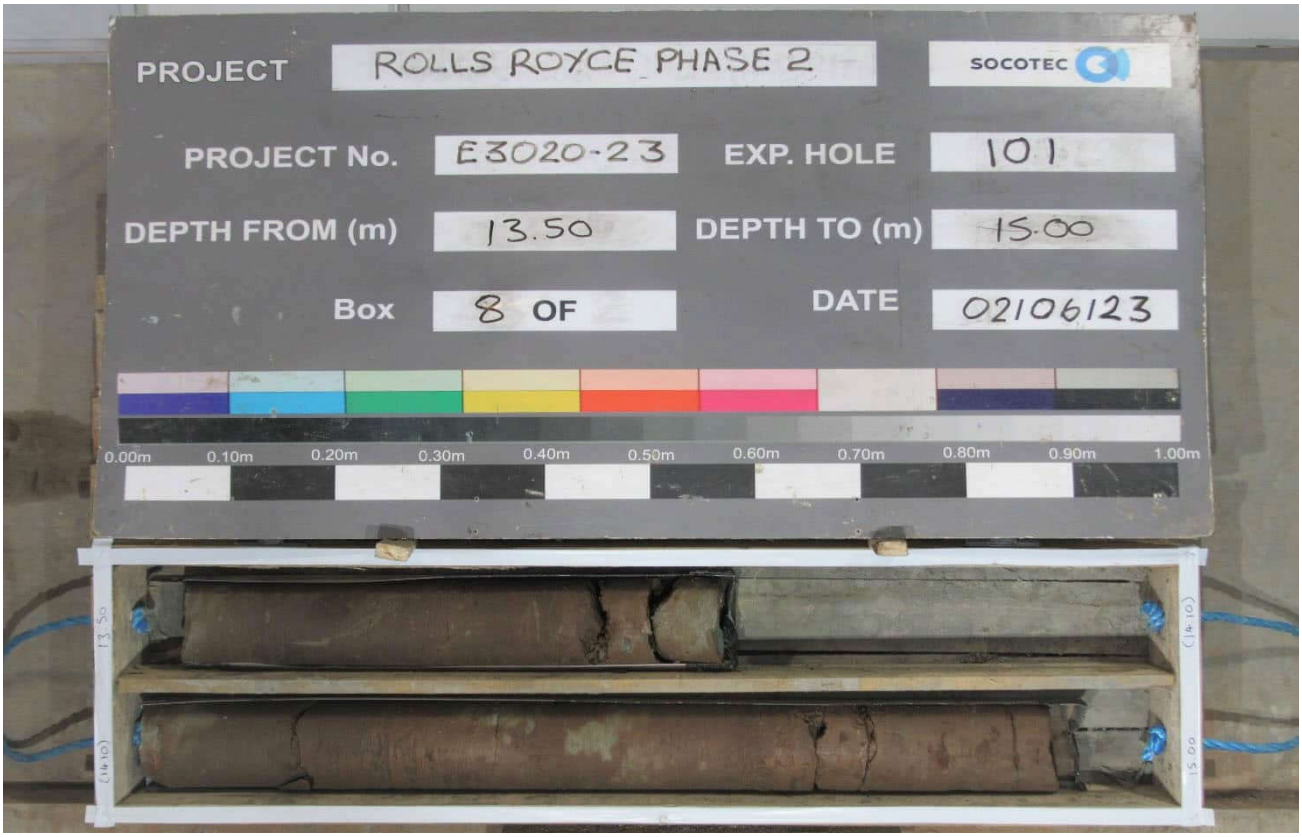
BH101 10.50m to 12.00m



BH101 12.00m to 13.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet 4
	Proiect No.	E3020-23	
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



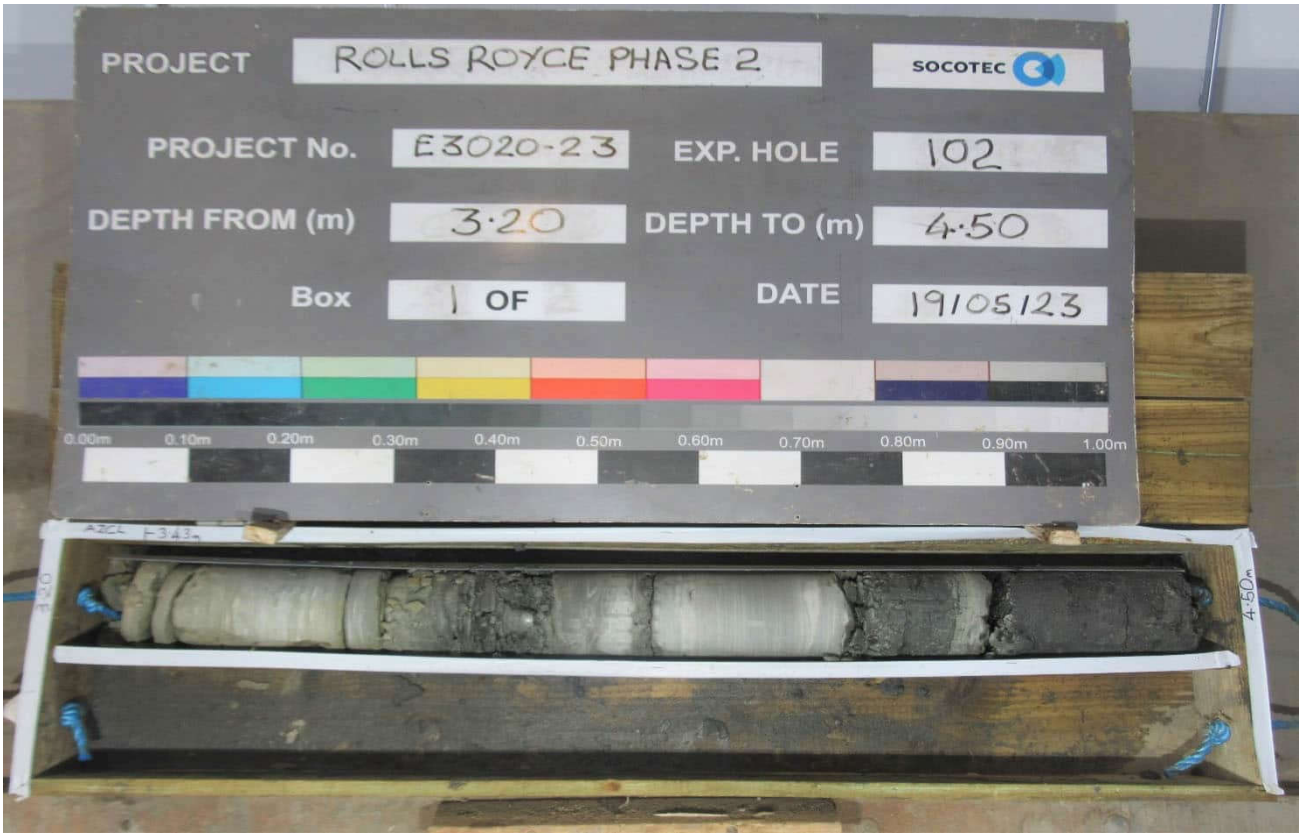
BH101 13.50m to 15.00m

BH102 1.20m to 3.20m

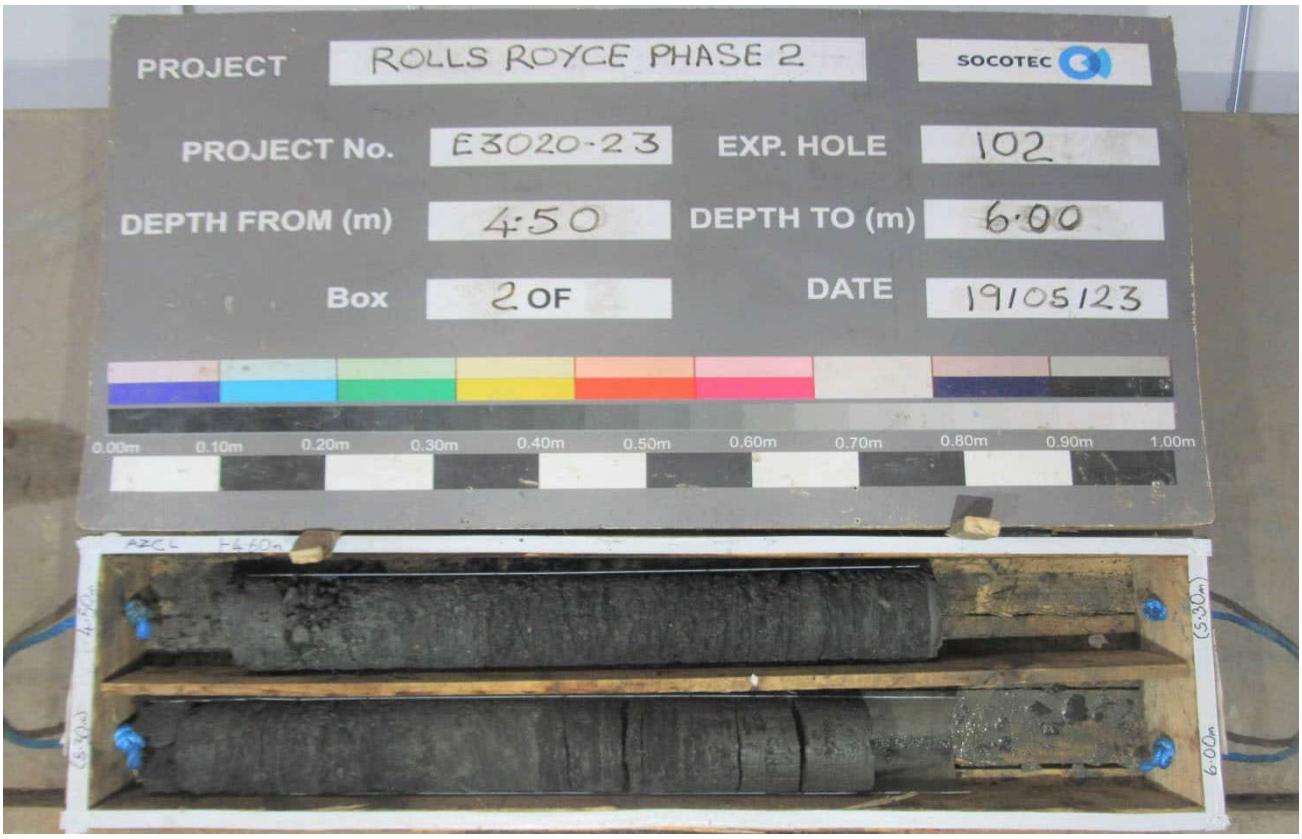
Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	5
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

SOCOTEC



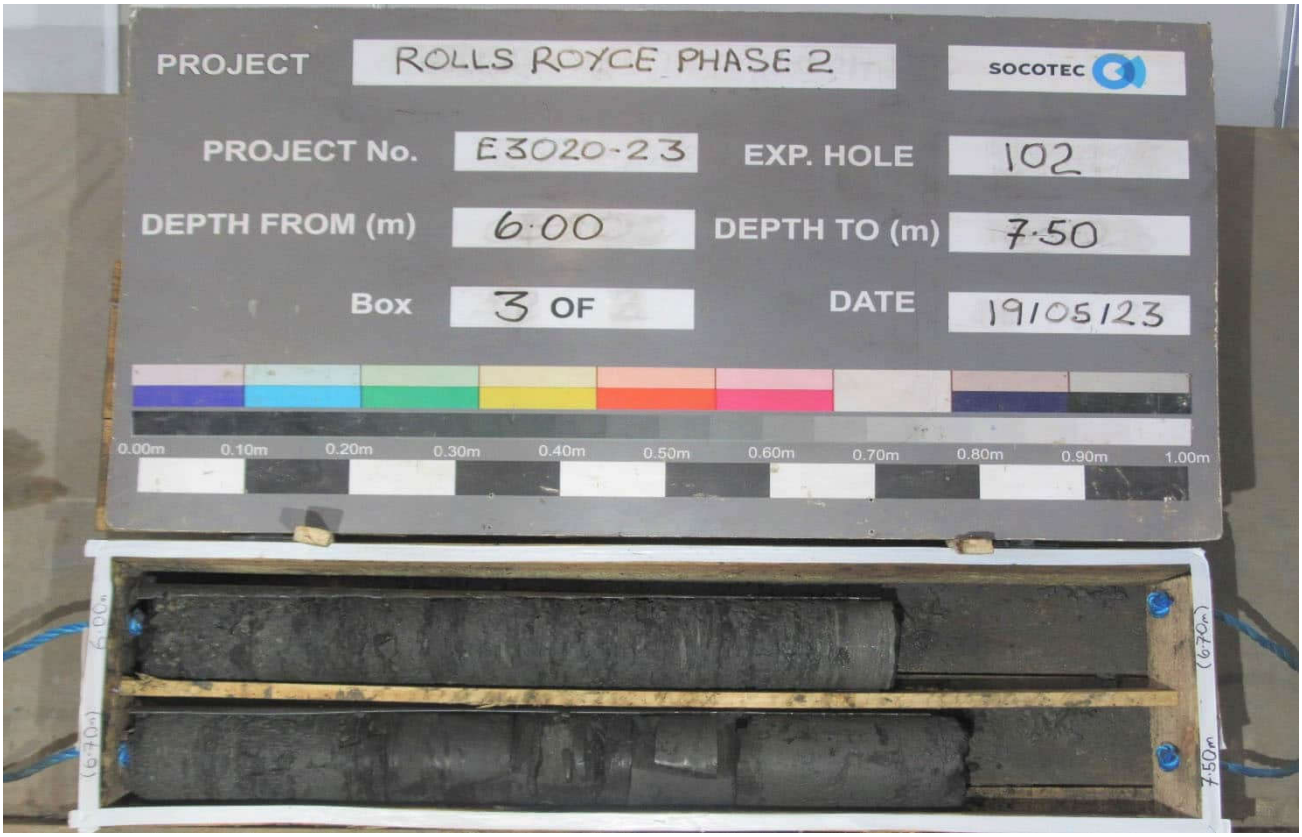
BH102 3.20m to 4.50m



BH102 4.50m to 6.00m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	6
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



BH102 6.00m to 7.50m

BH102 7.50m to 9.00m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	7
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

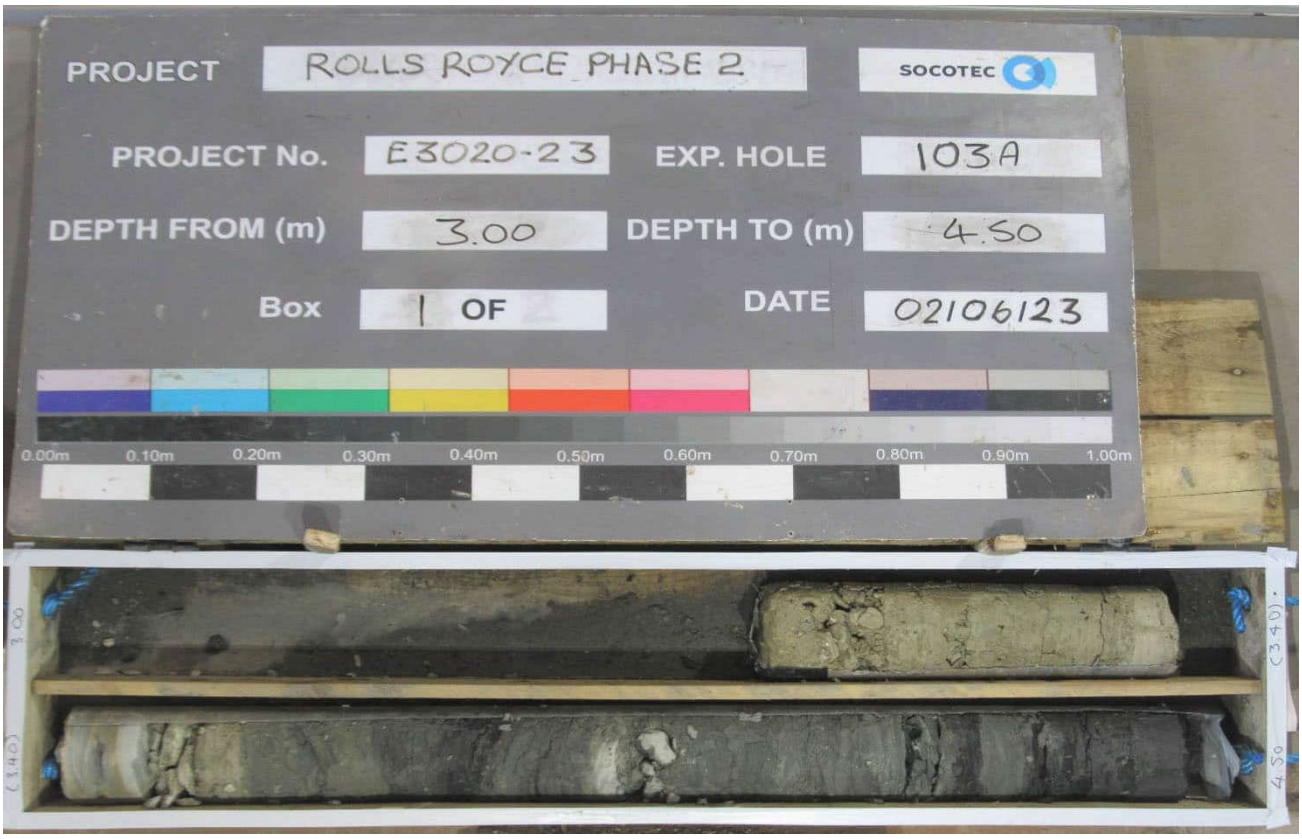
BH102 9.00m to 10.00m

BH103A 1.20m to 2.20m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	8
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH103A 2.20m to 3.00m



BH103A 3.00m to 4.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	9
	Carried out for	Buckingham Group Contracting Limited	

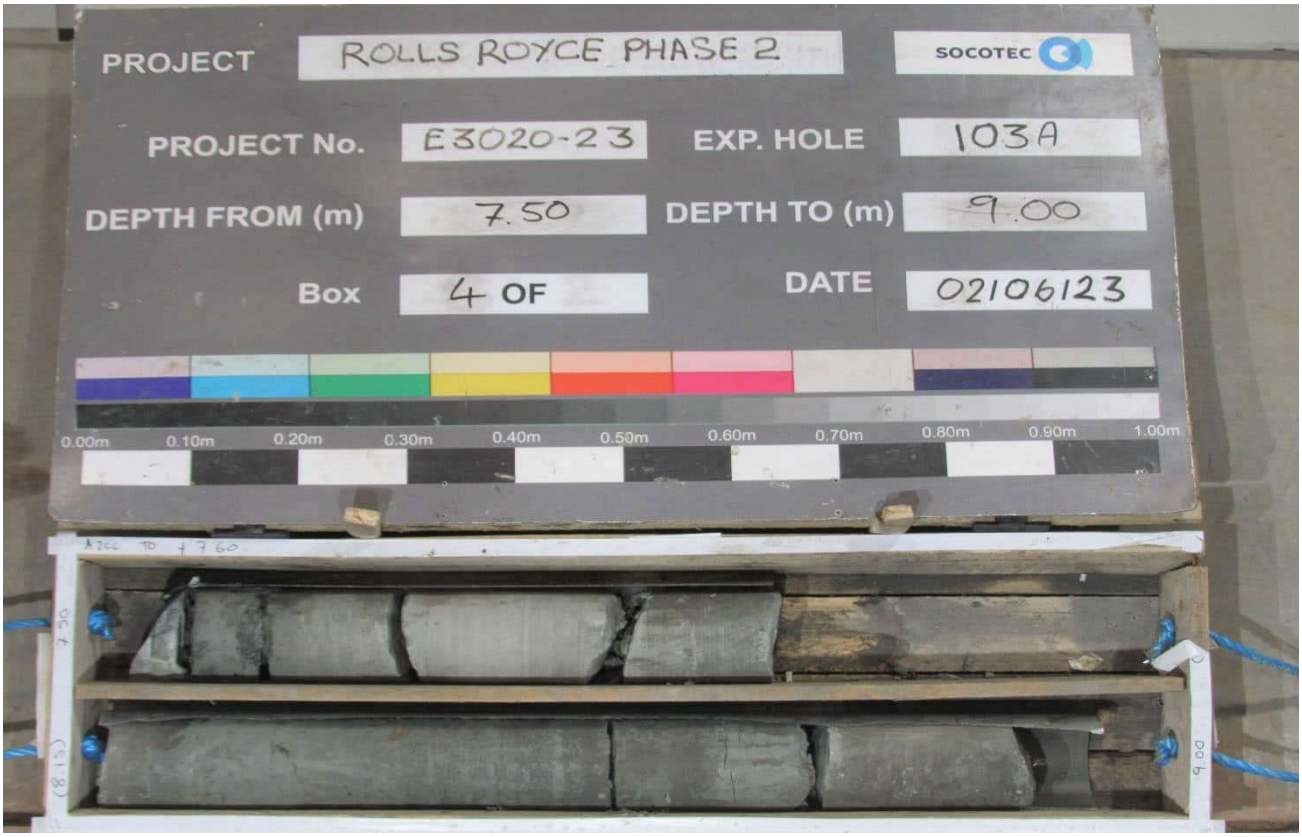
Dynamic Sample and Core Photographs

BH103A 4.50m to 6.00m

BH103A 6.00m to 7.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	10
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



BH103A 7.50m to 9.00m

BH103A 9.00m to 10.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	11
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH103A 10.50m to 12.00m

BH103A 12.00m to 13.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	12
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH103A 13.50m to 15.00m

BH104 1.20m to 2.00m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	13
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

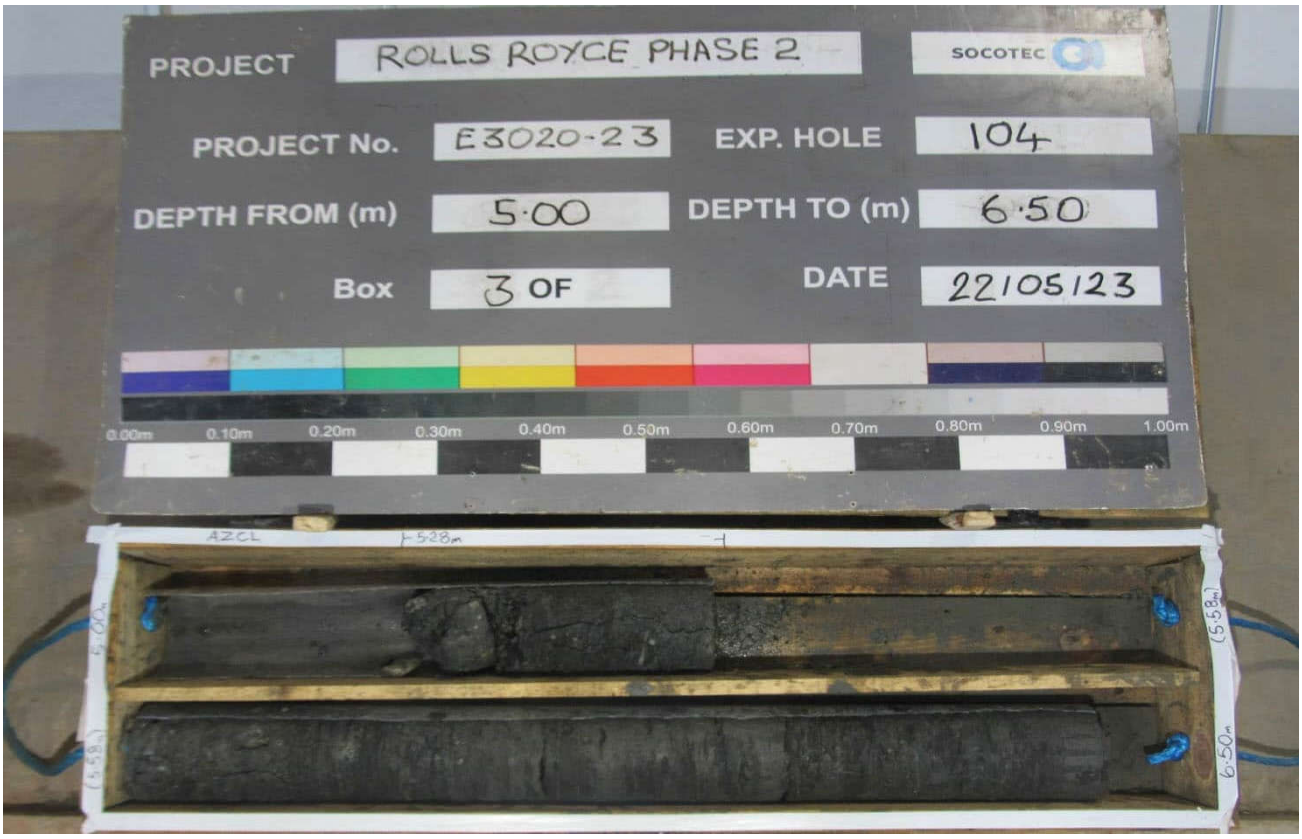
BH104 2.00m to 2.80m

BH104 3.00m to 4.00m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet 14
	Proiect No.	E3020-23	
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

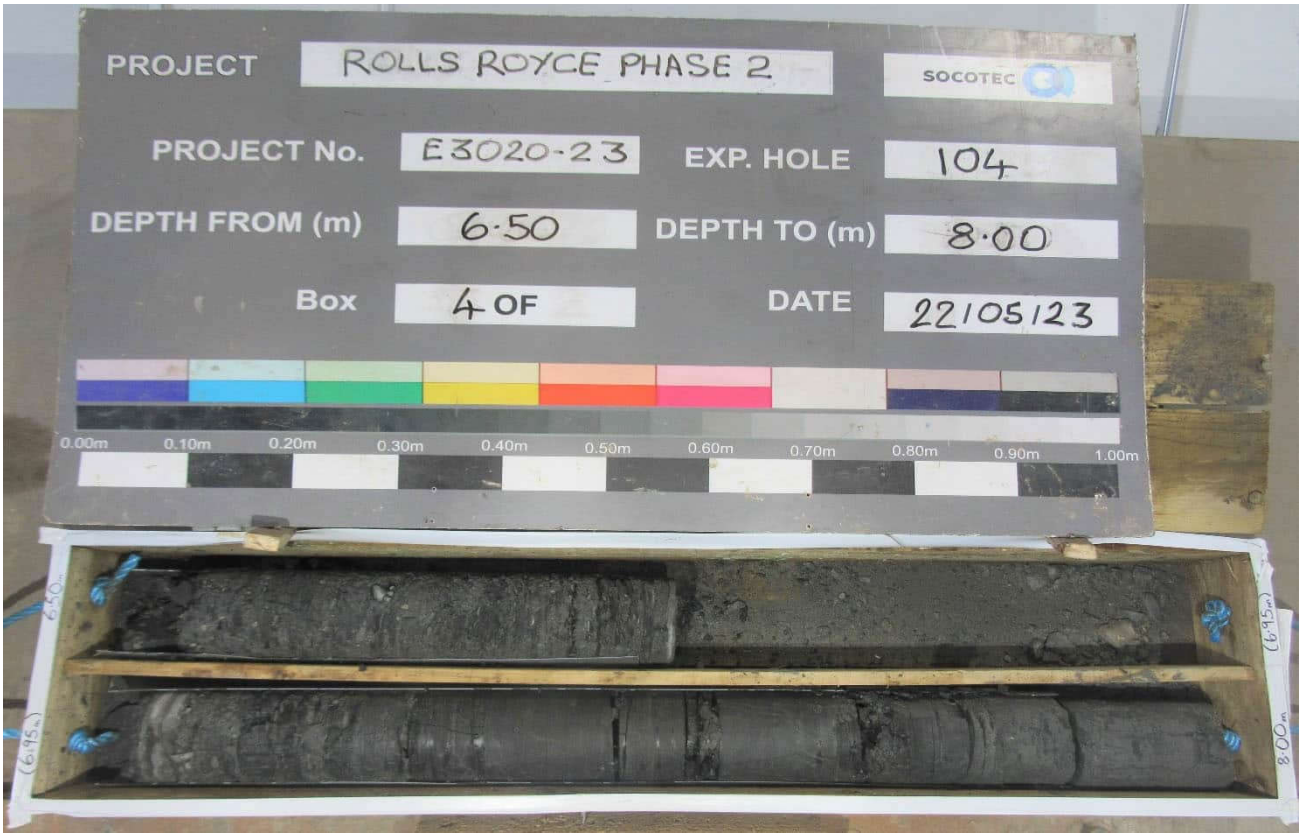
BH104 4.00m to 5.00m



BH104 5.00m to 6.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	15
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

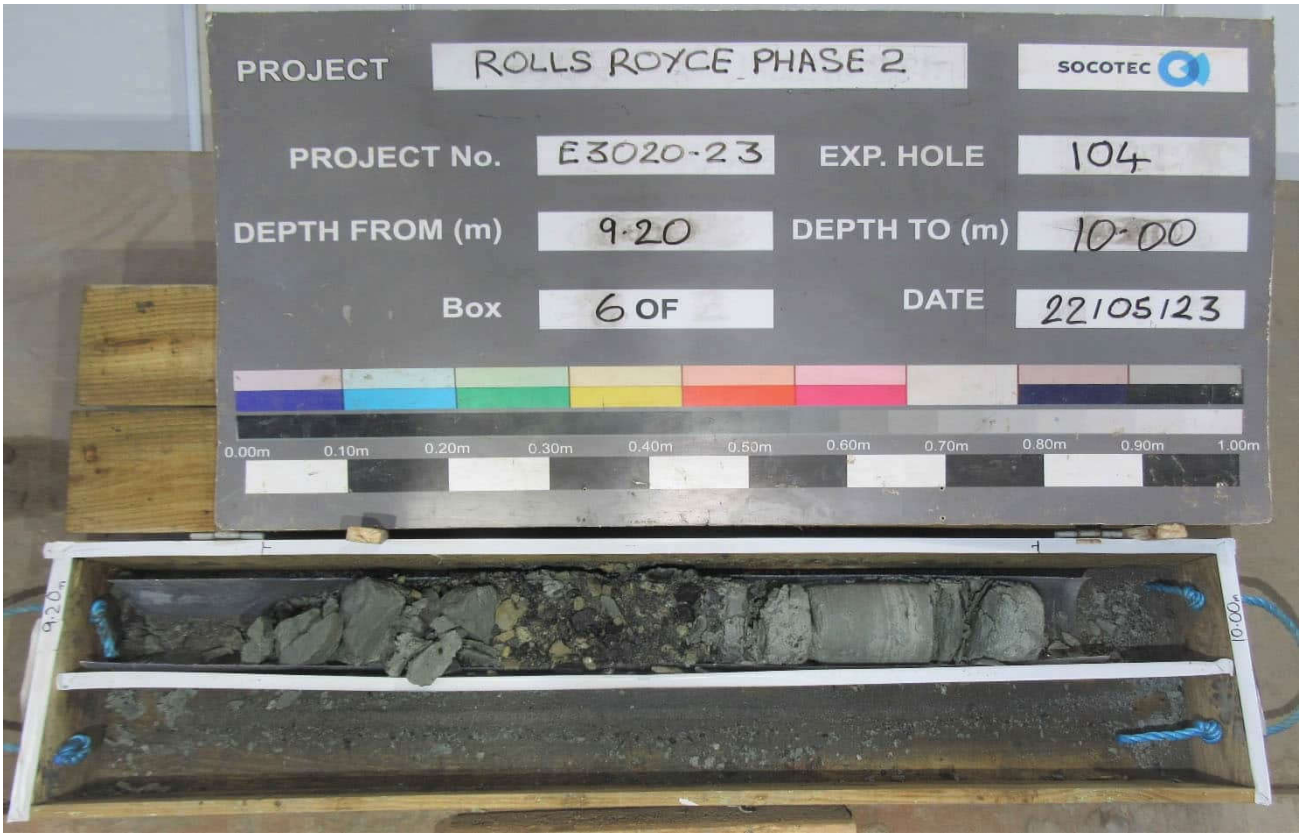


BH104 6.50m to 8.00m

BH104 8.00m to 9.20m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	16
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



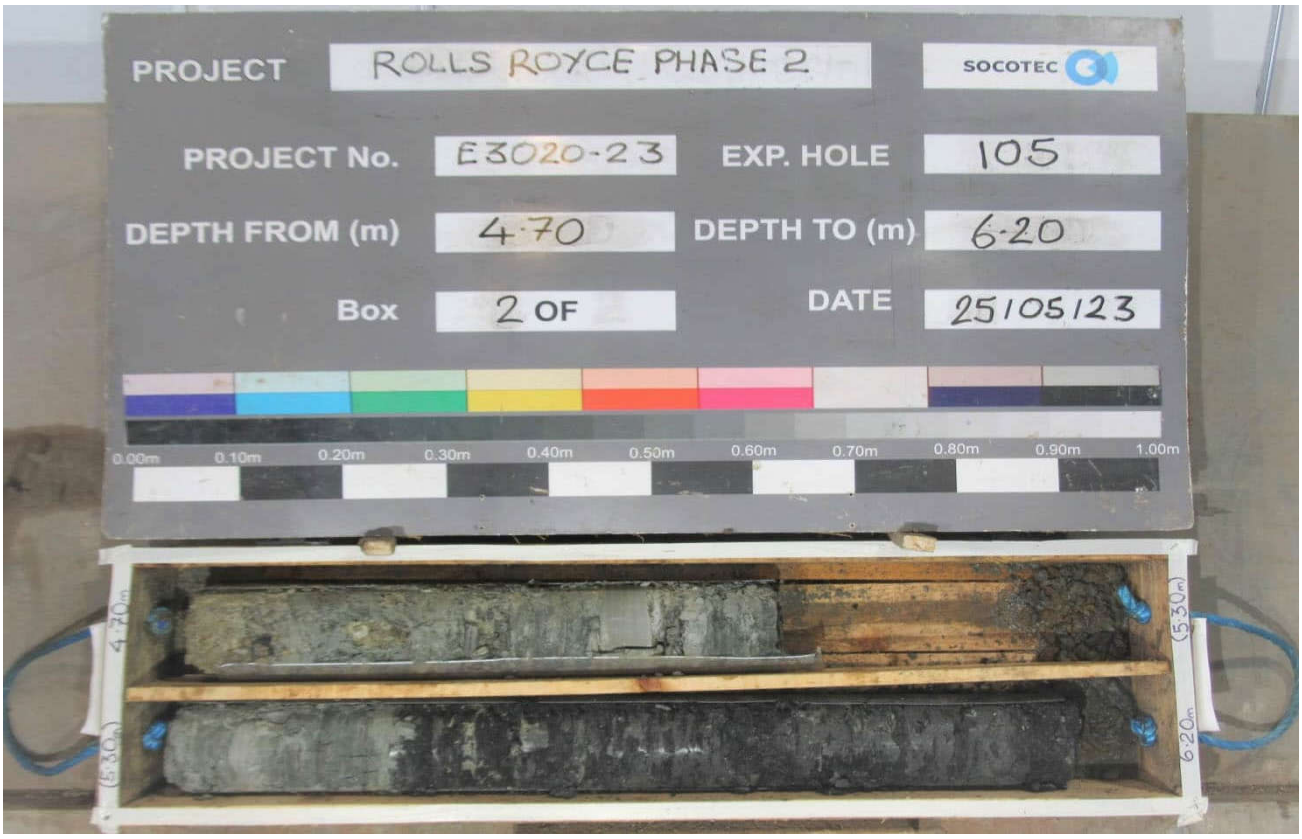
BH104 9.20m to 10.00m

BH105 1.20m to 3.20m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	17
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

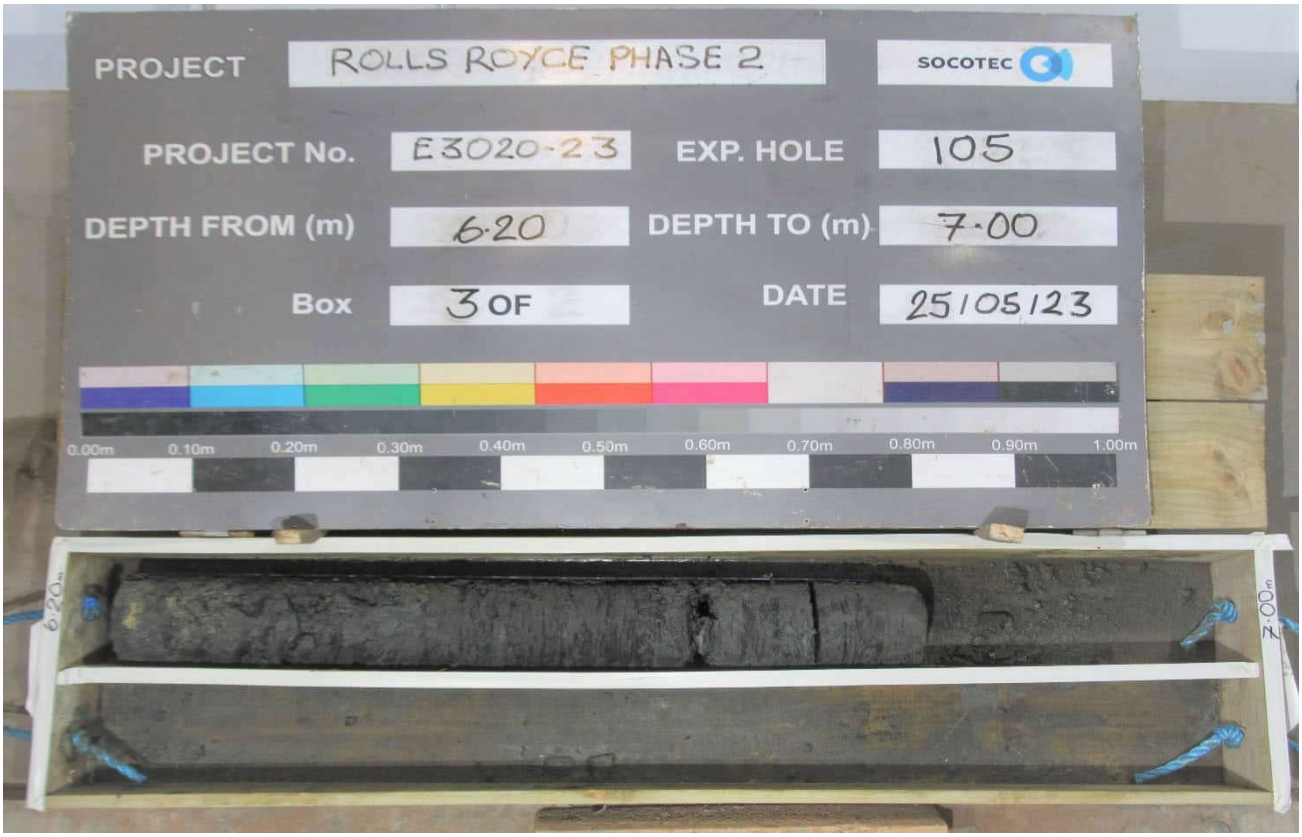
BH105 3.50m to 4.70m



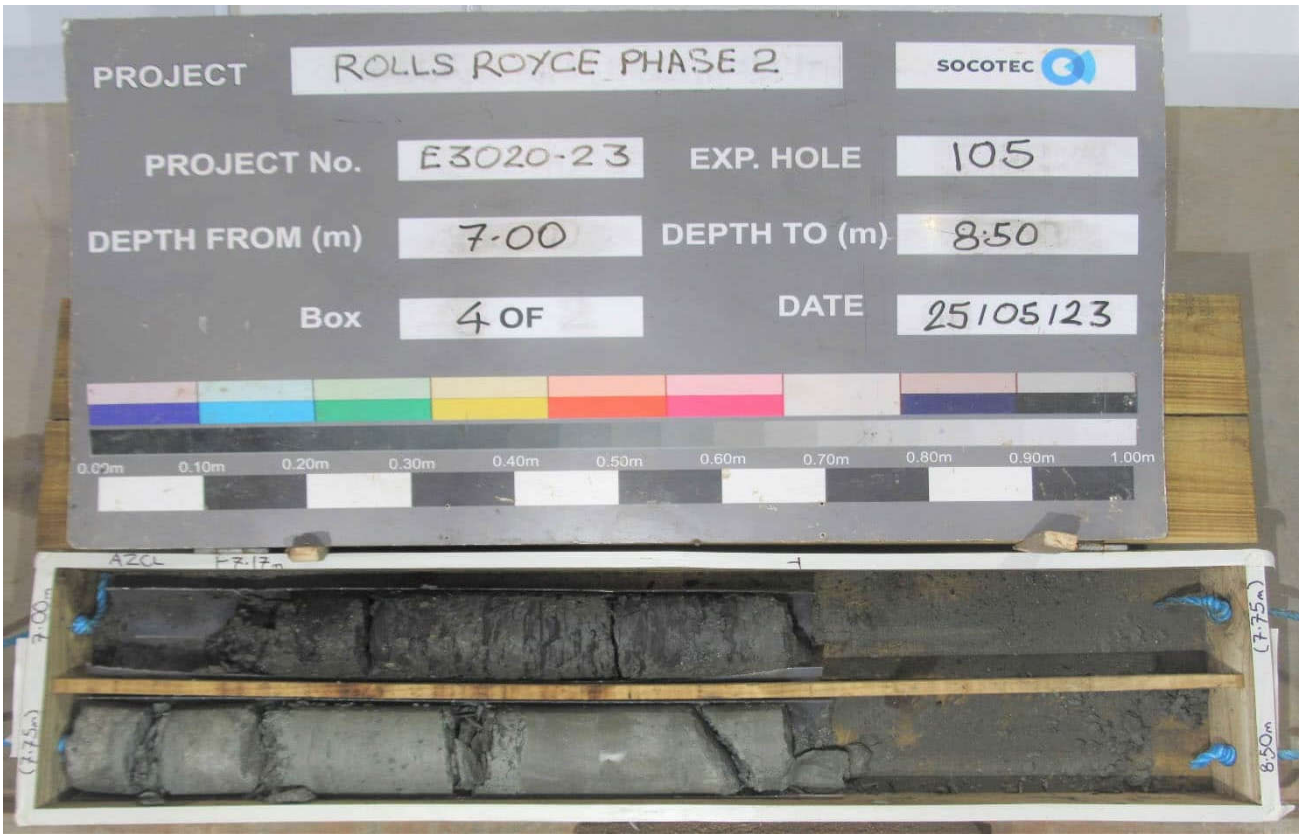
BH105 4.70m to 6.20m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	18
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



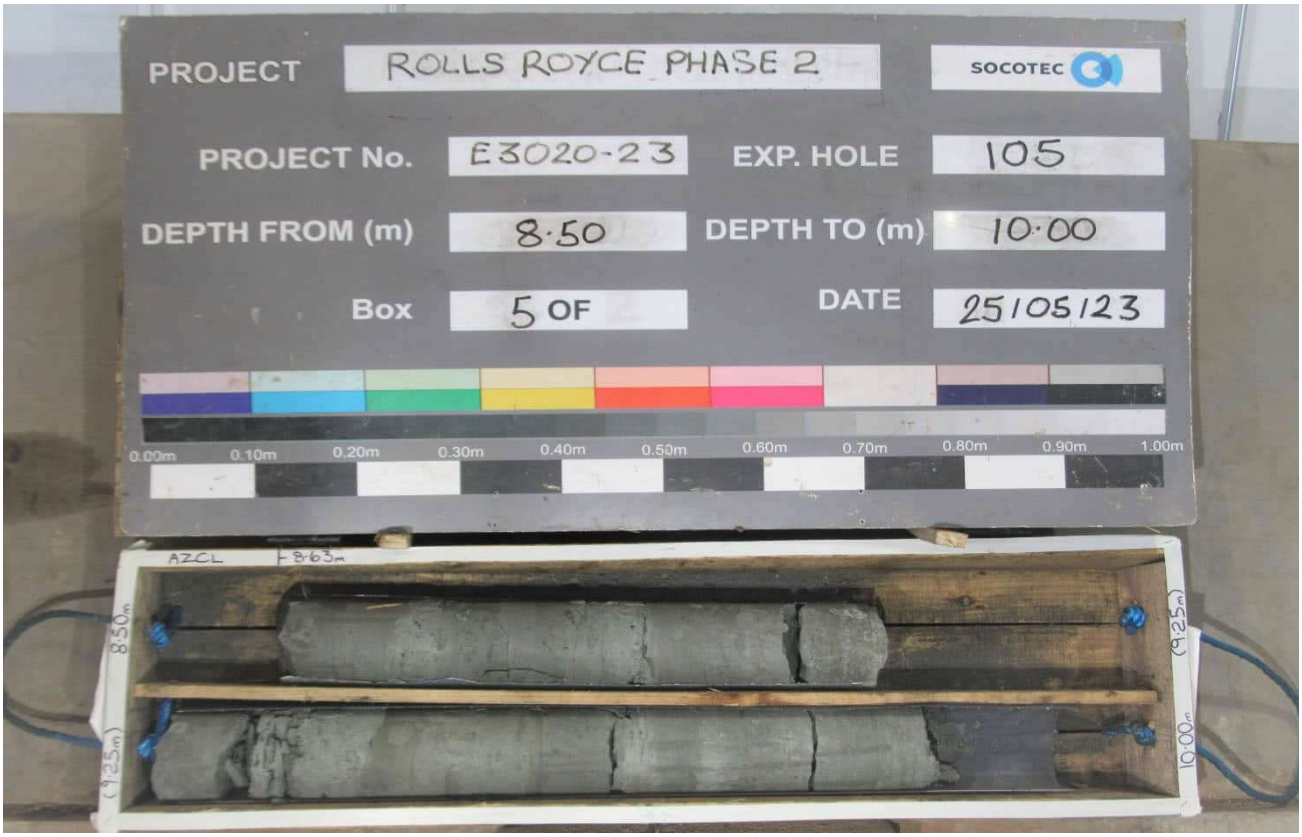
BH105 6.20m to 7.00m



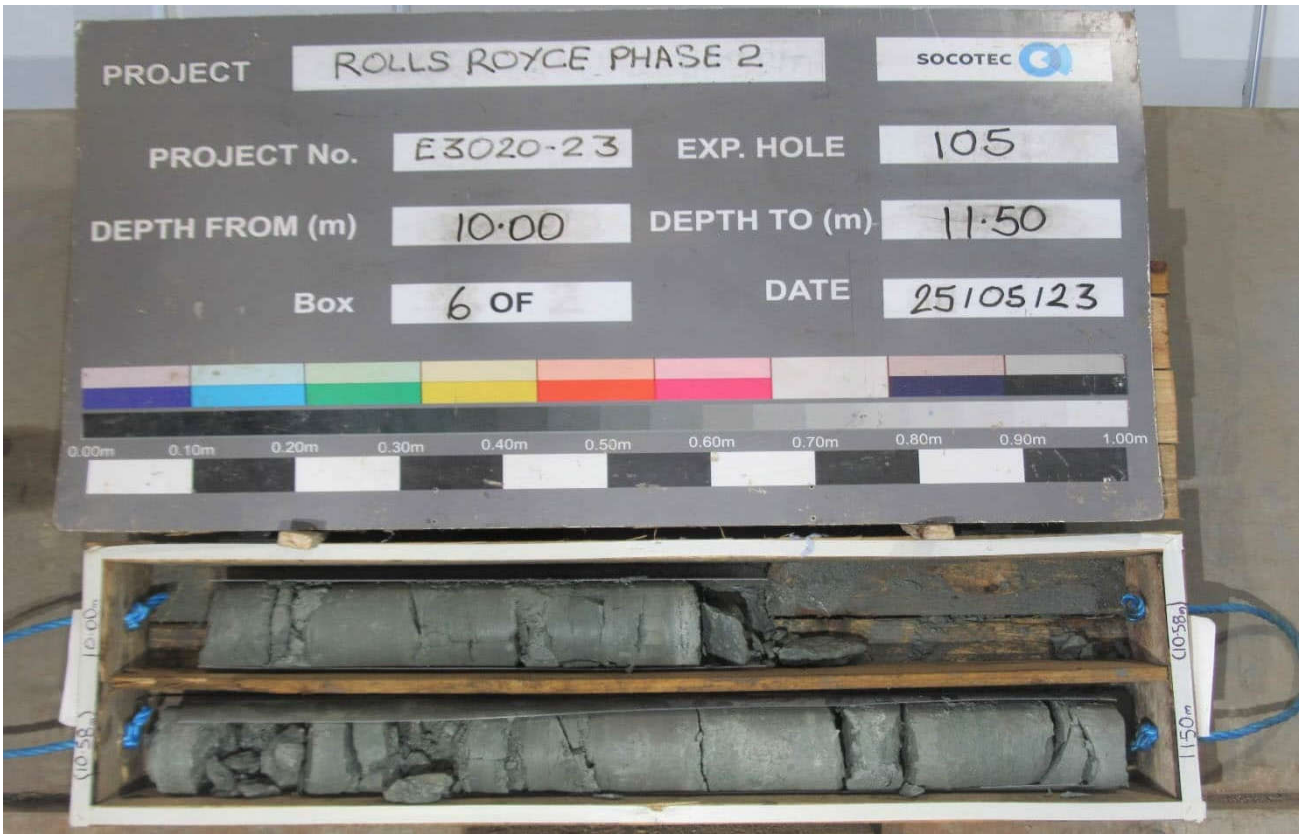
BH105 7.00m to 8.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	19
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



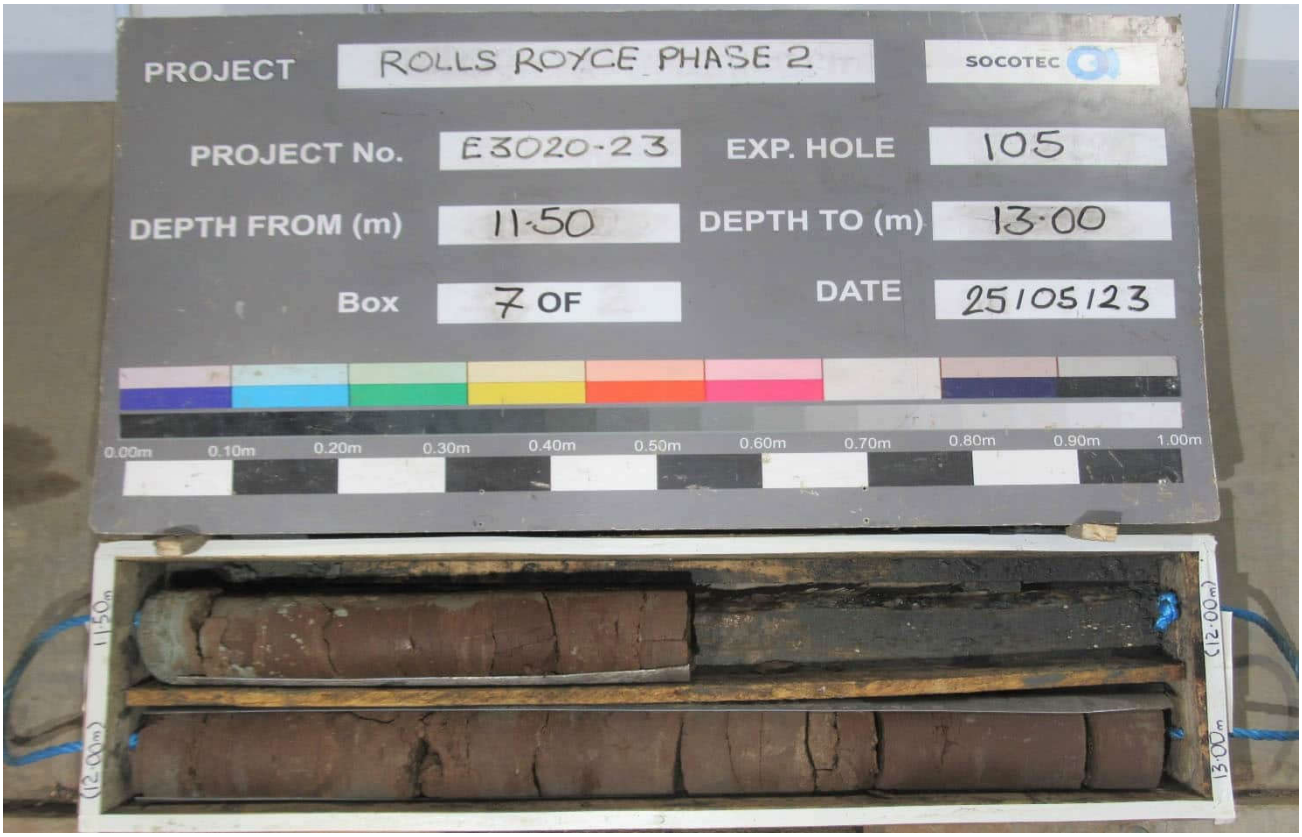
BH105 8.50m to 10.50m



BH105 10.00m to 11.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	20
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

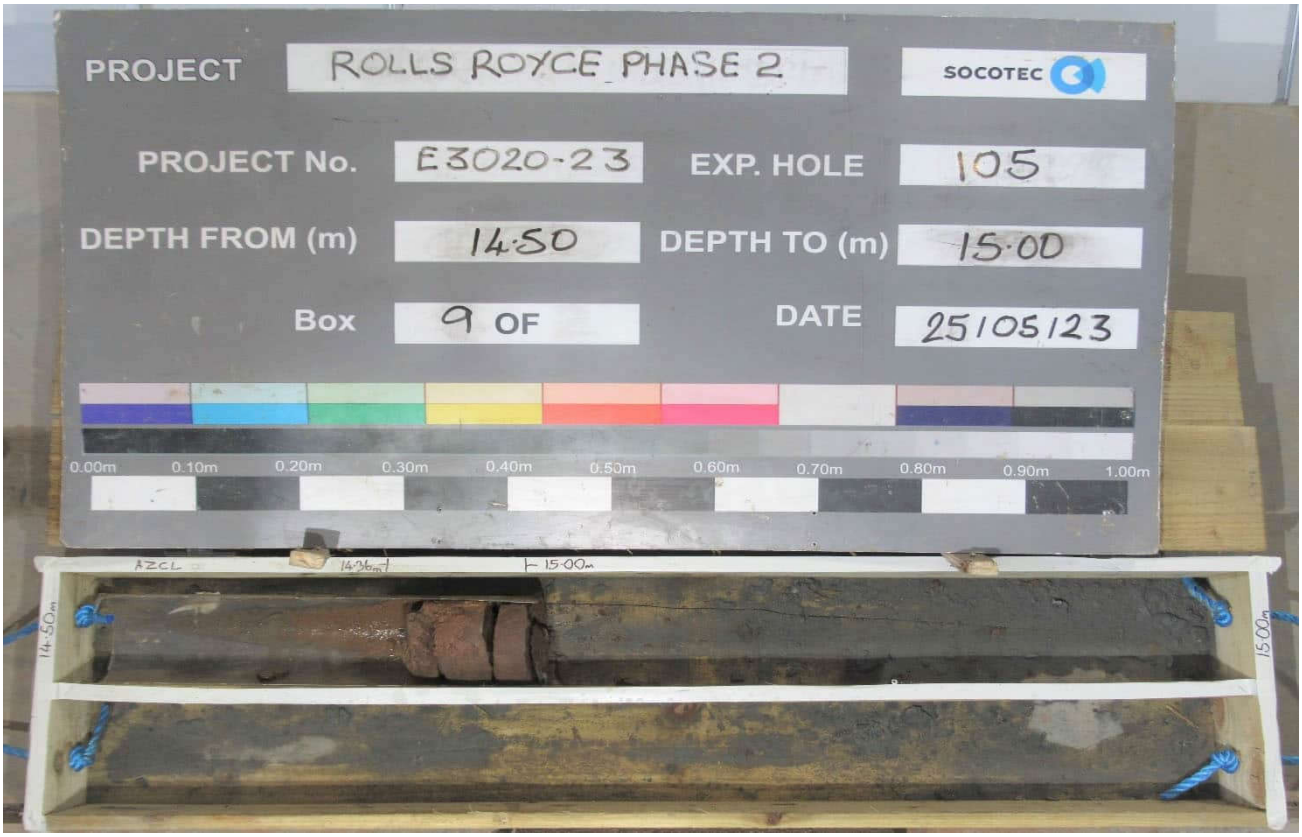


BH105 11.50m to 13.00m

BH105 13.00m to 14.50m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	21
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



BH105 14.50m to 15.00m

BH106 1.20m 2.80m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	22
	Carried out for	Buckingham Group Contracting Limited	

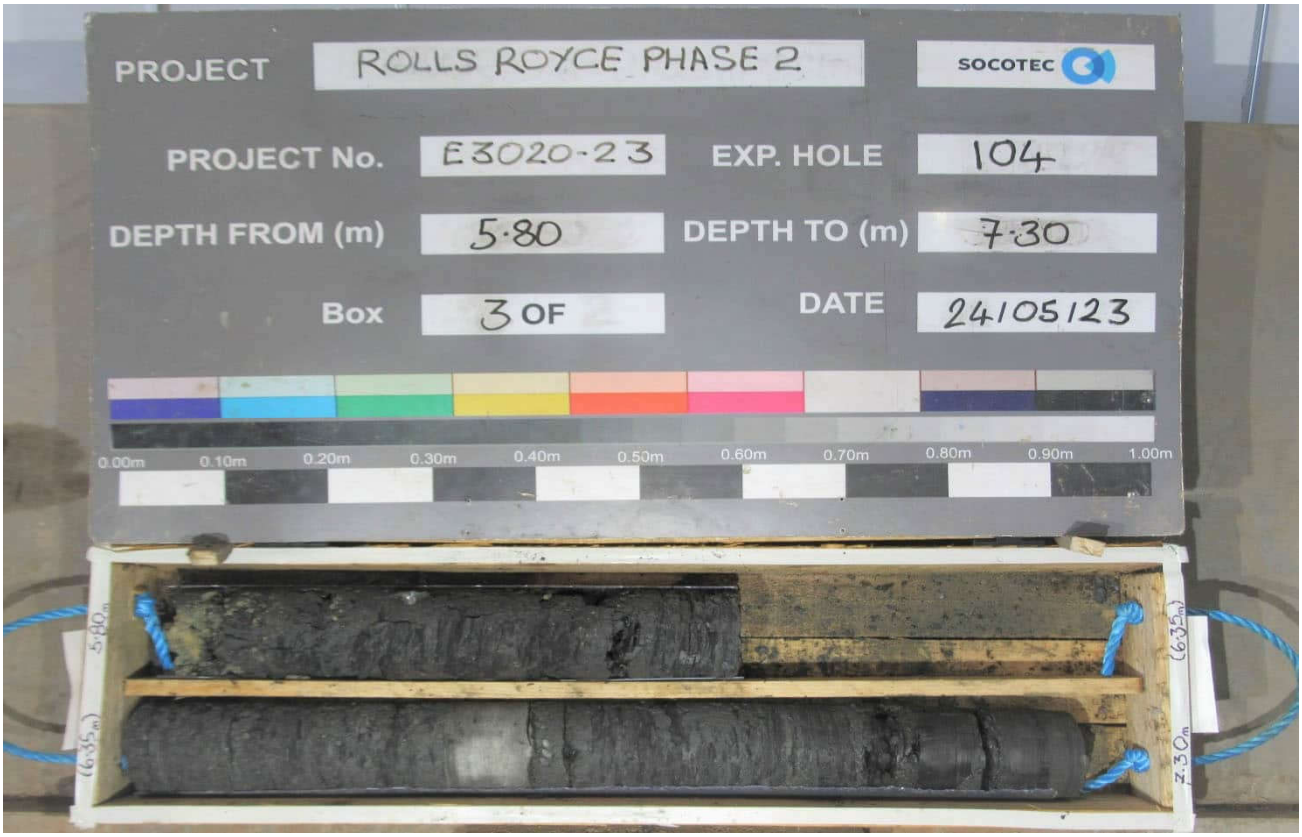
Dynamic Sample and Core Photographs

BH106 3.00m to 4.30m

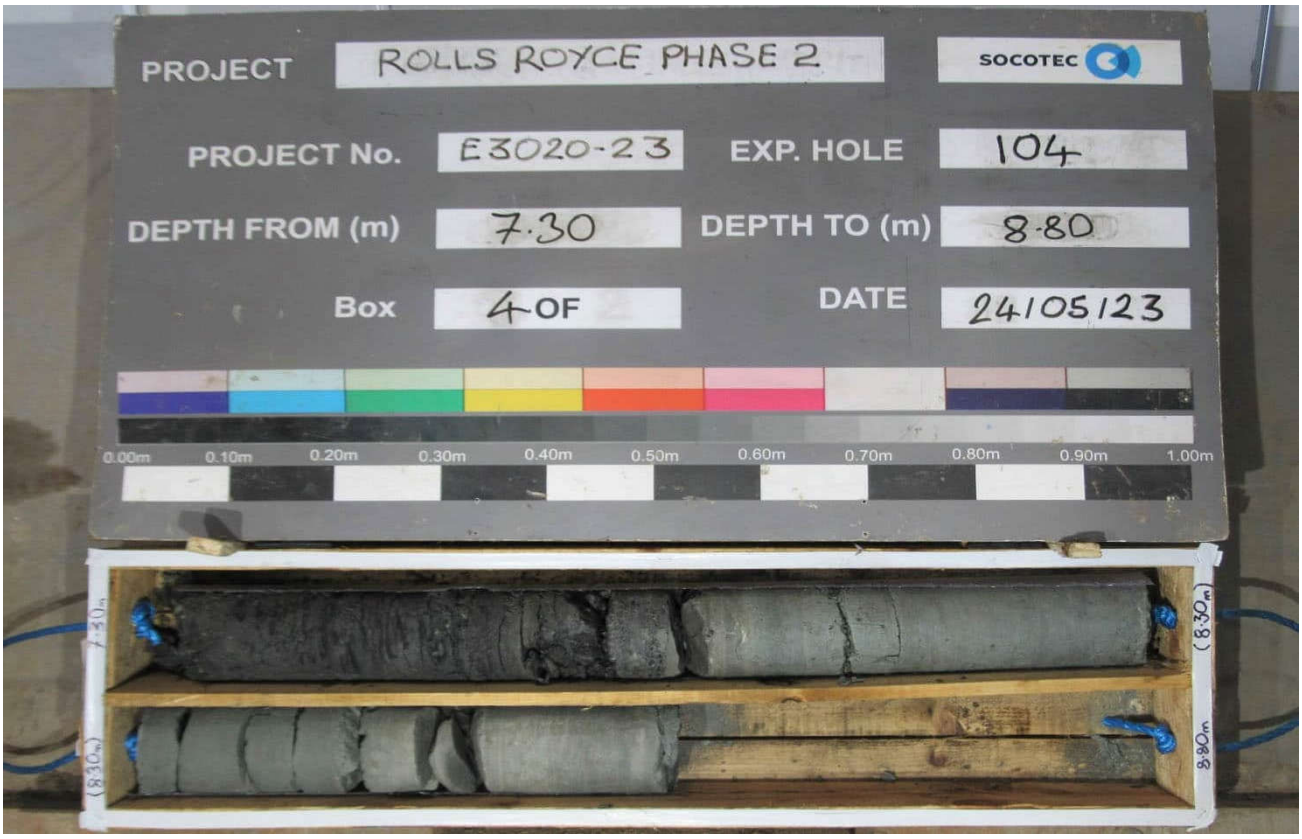
BH106 4.30m to 5.80m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	23
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



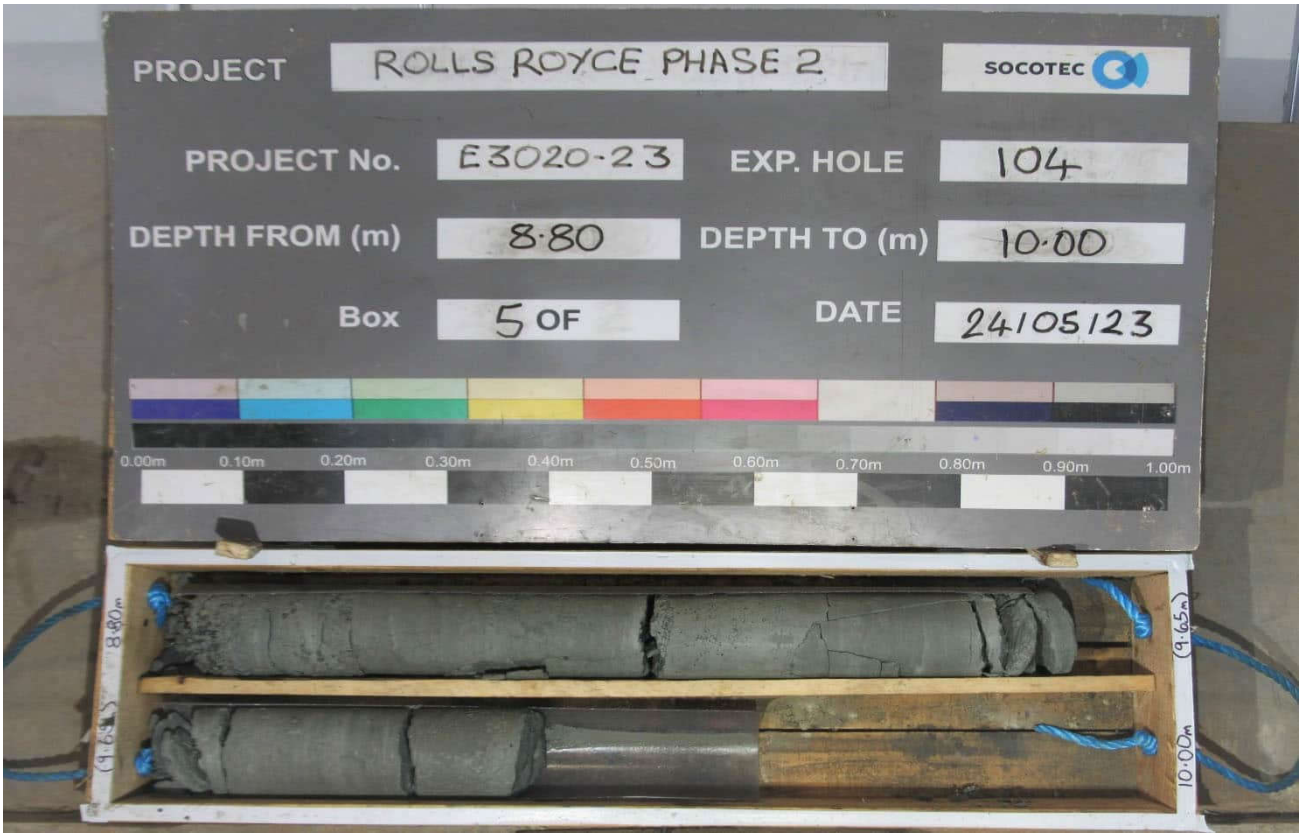
BH106 5.80m to 7.30m



BH106 7.30m to 8.80m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	24
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs



BH106 8.80m to 10.00m

BH107 1.00m to 2.00m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	25
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH107 2.20m to 2.80m

BH107 2.80 to 3.20m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	26
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH107 3.20 to 3.60m

BH107 3.60m to 4.30m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	27
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH107 4.30m to 4.60m

BH107 4.60m to 6.10m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	28
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH107 6.10m to 6.50m

BH107 6.50mto 7.60m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	29
	Carried out for	Buckingham Group Contracting Limited	

Dynamic Sample and Core Photographs

BH107 7.60m to 9.10m

BH107 9.10m to 10.60m

Notes:	Project	PROPOSED MANUFACTURING FACILITY AND INCOMING POWER SUPPLY	Sheet
	Proiect No.	E3020-23	30
	Carried out for	Buckingham Group Contracting Limited	