

Certificate of Analysis

Client: SMART RESOURCES RECYCLING LIMITED

Project: 25101864

Quote: EGY250942547 V1.1

Project Ref: SRR001

Site: Smart Resources Recycling Limited

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No. Samples Received: 1

Date Received: 13/10/2025

Analysis Completed: 05/11/2025

Date Issued: 05/11/2025

Report Type: Version 02

This report supersedes any versions previously issued by the laboratory



Reported by Reporting Officer
Sophie Hudson

sophie.hudson@socotec.co.uk

**Sample ID: 25101864-001**

Project Name: SRR001 - Smart Resources Recycling Limited
Sample ID: SRF
Fuel Grade: SRF
Sample Matrix: SRF
Received Date: 13-Oct-2025
Sampling Date(s): 06-Oct-2025 0:00
Sampled By: Customer
Sampling Location:
Prep Location: Renewable Energy - Canal Street - Burton-on-Trent

**General Analysis**

Analysis	Method Code	Units	A^	As Received	Dry	Dry (Ash Free)
Removed Ash Contributors (Inerts)	SP19	%	U	0.0	-	-
Total Moisture	SP19/CA2	%	U	3.6	-	-
Total Moisture (inc Ash Contributors)	SP19/CA2	%	U	3.6	-	-
Ash (550 °C)	CA3	%	U	23.8	24.7	-
Sulphur	CA31	%	U	0.36	0.38	0.50
Gross Calorific Value	CA11	kJ/kg	U	27680	28720	38130
Net Calorific Value	CA11	kJ/kg	U	25760	26810	-
Carbon	CA9	%	U	55.39	57.46	76.31
Hydrogen	CA9	%	U	8.63	8.95	11.89
Nitrogen	CA9	%	U	2.26	2.34	3.11
Biomass Content by Carbon	CA32	%	U	-	14.1	-
Biomass Content by Mass	CA32	%	U	-	18.6	-

A^ - Accreditation status, U - UKAS, I - Inspection, N - Not accredited

Elemental Metals

Analysis	Method Code	Units	A^	As Received	Dry	Dry (Ash Free)
Antimony as Sb	SUB010-ADG	mg/kg	N	1690	1750	2330
Arsenic as As	SUB010-ADG	mg/kg	N	7.4	7.7	10.2
Cadmium as Cd	SUB010-ADG	mg/kg	N	1.6	1.6	2.1
Chromium as Cr	SUB010-ADG	mg/kg	N	111	115	153
Cobalt as Co	SUB010-ADG	mg/kg	N	5.8	6.1	8.0
Copper as Cu	SUB010-ADG	mg/kg	N	56.6	58.7	77.9
Lead as Pb	SUB010-ADG	mg/kg	N	379	393	522
Manganese as Mn	SUB010-ADG	mg/kg	N	88.1	91.4	121
Mercury as Hg	SUB010-ADG	mg/kg	N	<0.1	<0.1	<0.1
Nickel as Ni	SUB010-ADG	mg/kg	N	39.9	41.4	55.0
Thallium as Tl	SUB010-ADG	mg/kg	N	<1.0	<1.0	<1.3
Tin as Sn	SUB010-ADG	mg/kg	N	62.2	64.5	85.7
Vanadium as V	SUB010-ADG	mg/kg	N	30.0	31.1	41.4

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Other Analysis

Analysis	Method Code	Units	A^	As Received	Dry	Dry (Ash Free)
Bromine	CA38	mg/kg	U	334	347	461
Chlorine	CA38	%	U	3.00	3.11	4.13
Fluorine	CA38	mg/kg	U	34	35	47
Iodine	CA38	mg/kg	N	<2	<2	<3

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Fuel Grade: SRF
Sample Matrix: SRF
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Sampled By: Customer
Sampling Location:
Prep Location: Renewable Energy - Canal Street - Burton-on-Trent

**Particle Size Analysis**

Analysis	Method Code	Units	A^	Sample Retained	Cumulative Retained (>)	Cumulative Passing (<=)
>50mm (R)	SP8	%	U	10.4	10.4	89.6
>40mm (R) to 50mm (R)	SP8	%	U	9.4	19.8	80.2
>30mm (R) to 40mm (R)	SP8	%	U	12.5	32.3	67.7
>16mm (R) to 30mm (R)	SP8	%	U	49.9	82.3	17.7
>3.15mm (R) to 16mm (R)	SP8	%	U	15.5	97.8	2.2
<=3.15mm (R)	SP8	%	U	2.2	100	0.0

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(R) - Round hole sieve, (S) - Square hole sieve, (HM) - Hand measured



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Deviating Sample Report

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

Analysis Method

Method Code

CA11	Net and Gross Calorific Value
CA3	Ash (550 °C)
CA3	Ash (Alt. Temperature 550 °C)
CA31	Sulphur
CA32	Biomass Content
CA38	Bromine by Combustion-Ion Chromatography
CA38	Chlorine by Combustion-Ion Chromatography
CA38	Fluorine by Combustion-Ion Chromatography
CA38	Iodine by Combustion-Ion Chromatography
CA9	Carbon
CA9	Carbon, Hydrogen and Nitrogen
SP19	Sample Preparation
SP19/CA2	Total Moisture with Removed Ash Contributors
SP8	Particle Size Distribution
SUB010-ADG	Antimony (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Arsenic (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Cadmium (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Chromium (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Cobalt (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Copper (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Lead (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Manganese (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Mercury (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Nickel (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Thallium (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Tin (HF Extract) in Solid Fuels by ICPMS
SUB010-ADG	Vanadium (HF Extract) in Solid Fuels by ICPMS

Analysis Method

BS EN ISO 21654:2021
BS EN ISO 21656:2021
BS EN ISO 21656:2021
BS EN ISO 21663:2020
BS EN ISO 21644:2021, Annex B
BS EN 15408:2011
BS EN 15408:2011
BS EN 15408:2011
DIHM
BS EN ISO 21663:2020
BS EN ISO 21663:2020
SP19 - BS EN ISO 21646:2022
SP19 - DD CEN/TS 15414-1:2010
BS EN 15415-1:2011
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
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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.



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Moisture Content

The term moisture content can be misleading since some solid fuels may contain varying amounts of volatile compounds which can evaporate when determining the moisture content of the sample by oven drying.

Biomass Content - Selective Dissolution Method (SDM)

The selective dissolution method is based on the property of biomass that it can be dissolved in a sulphuric acid / hydrogen peroxide mixture. This method has limitations that makes it less suitable if:

- The content of natural and/or synthetic rubber in the SRF is more than 10%
- If the sum of the content of coal, coke, lignite, degradable plastics of fossil origin, non-degradable plastic of biogenic origin, oil or fat present as a constituent of biomass, wool, viscose, nylon, polyamide, polyurethane and silicon rubber exceeds 5%.

Particle Size Distribution of Solid Biofuel, SRF and RDF

Unless agreed otherwise, particles were not unfolded, unravelled or straightened before being analysed. The customer should assure themselves that this is appropriate for intended purpose of the test results.

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

I = UKAS accredited inspection body No. 5104 (See inspection report for details)

N = Unaccredited analysis

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 samples marked with a tick in the deviation table are nonconforming for the specified 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 another SOCOTEC department or by an external subcontracted laboratory. Further information is available upon request.

Our deviating sample report does not include details of deviations for subcontracted analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis