



TECHNICAL REPORT

ACIRS-S1D-2011

Reference Material for Sulfur in Coal

Date of Certification: December, 2011
Valid to: December, 2018
Report Number: AD-S1D-2011 rev. 1

1. Introduction

This report describes the preparation and analysis of ACIRS-S1D-2011, comprising a sealed jar containing a nominal mass of 250 g and top size of 212 μm .

This sample is intended to be used in association with the determination of sulfur in coal. It may be used to support the validity of measurements conducted at similar concentrations to this reference material, as a quality control tool and for calibration purposes.

2. Certified Values

Table1 Certified values

ACIRS-S1D-2011	Units	Total Sulfur	Standard Deviation
	%, dry basis	2.47	0.043

3. Instructions for Use

This reference material does not require further preparation prior to analysis but must be thoroughly mixed by end-over-end rotation before sub-sampling.

Sample bottles should be kept tightly sealed and stored in a cool, dark place.

Samples shall be handled in accordance with the Safety Data Sheet available from www.acps.com.au/acirs

4. Sample Source and Preparation

Approximately 100 kg of a New South Wales, Hunter Valley coal was obtained at -50 mm top size. The material was air-dried and crushed to a nominal top size of 4 mm, before being milled to 212 μm nominal top size. Rotary sample division was used for each stage of this process. Samples were packaged into plastic bags in plastic jars each containing approximately 250g.

5. Homogeneity testing

11% of jars were randomly selected and content tested for homogeneity by determining dry total sulfur content of each. Batch homogeneity was confirmed.

6. Certification

Certification of ACIRS-S1D-2011 was through a sub-contracted proficiency test program and involved 12 laboratories accredited to ISO 17025.

All analyses were conducted in accordance with AS 1038.3 (for moisture) and the AS 1038.6.3 series of methods (for sulfur). The outcome of statistical processing of proficiency test data is given in Table 2.

Table 2 Statistical analysis of results

Laboratory	Total Sulfur %, d	Laboratory	Total Sulfur %, d
1	2.43	7	2.44
2	2.46	8	2.51
3	2.54	9	2.43
4	2.42	10	2.44
5	2.52	11	2.43
6	2.45	12	2.53
Minimum		2.43	
Maximum		2.54	
Mean		2.47	
Standard Deviation		0.043	

Approved by: Mark Bennetts

Australian Coal Industry Reference Samples (ACIRS)

PO Box 2315, DANGAR NSW 2309, AUSTRALIA

Phone +61 (2) 4926 4870

Fax +61 (2) 4926 4902

Email acpsnational@acps.com.au

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