TECHNICAL REPORT

ACIRS-S1C-2011

Reference Material for Sulfur in Coal

Date of Certification:	December, 2011
Valid to:	December, 2019
Report Number:	ACIRS-S1C-TR-rev04

1. Introduction

This report describes the preparation and analysis of ACIRS–S1C-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.

ACIRS–S1C-2011 is traceable to SI units through NIST SRM 2693 and NIST SRM 1632d.

2. Certified Values

Table1 Certified values

	Units	Total Sulfur	Standard Deviation
ACIRS-S1C-2011	%, dry basis	1.46	0.020

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.acirs.com.au/products

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–S1C-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	1.48	7	1.48
2	1.45	8	1.44
3	1.46	9	1.43
4	1.45	10	1.47
5	1.43	11	1.45
6	1.49	12	1.48
Minimum		**1.43**	
Maximum		**1.49**	
Mean		**1.46**	
Standard Deviation		**0.020**	

Revision History

Document Number	Summary	Date
AD-S1C-2011	Original	01/12/2011
AD-S1C-2011 rev.1	Updated format	13/09/2013
AD-S1C-2011 rev.2	Traceability statement added	02/12/2015
ACIRS-S1C-TR-rev03	Revision history and minor editorial change	27/03/2017
ACIRS-S1C-TR-rev04	Updated period of validity	22/02/2018

Authorisation

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