

**Certificate of Analysis  
Part No. B2717  
Ore Standard**

Certificate Number 119B  
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**% Carbon  
Mean = 4.35  
Expanded Uncertainty =  $\pm 0.18$   
( $k=2$ , 95% confidence) (n=37)**

**% Sulphur  
Mean = 4.01  
Expanded Uncertainty =  $\pm 0.17$   
( $k=2$ , 95% confidence) (n=39)**

The intended use is for Carbon and Sulphur determination in ore or other similar materials using induction and resistance type combustion furnaces with infrared detection. Accelerants like Tungsten Tri-oxide (WO<sub>3</sub>) were used in the resistance furnace. Tungsten metal and iron chip were used in the induction analysis ASTM E1915-13 and ARI-033

	Standards Employed for traceability
NCS	DC73326, DC73508
High purity Calcium Carbonate.	
ALPHA	AR4006-121702, AR4007-418B, AR4013-51999, AR4005-514A

The mean analytical values were derived by data sets showing traceability to the above mentioned NMI and ALPHA standards and reported in mass fraction. Refer to your test method or instrument manufacturer for the expanded method derived uncertainty if needed. When necessary, professional judgement is applied toward consideration of data and statistical information.

There were limited primary standards of this type of matrix available at the time of certification. Sample size and minimum sample size for this data was 150-300mg nominal. Refer to your instrument manufacturer for typical sample analysis size. This bottle contains 30g of fine powder to be used directly from the bottle without preparation. Keep sealed and store under normal laboratory conditions. While unable to determine a definite shelf life this reference should be reviewed 20 years from certification.

The material used in production of this standard was sampled in accordance with ARI 032. The samples for round robin testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this standard.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event, shall Elemental Microanalysis Ltd be liable for incidental or consequential damages.

This reference material is traceable to the above standards. For good laboratory practice, it is recommended that all standards be verified as fit for purpose prior to use.

Elemental Microanalysis Limited

Certified 2<sup>nd</sup> of May , 2019