

**Elemental Microanalysis Limited**

Okehampton Business Park  
Exeter Road  
Okehampton  
Devon EX20 1UB  
Telephone 01837 54446/7  
Fax 01837 54544

**Certificate of Analysis****Part No. B2718****Ore Standard**

Certificate Number 1212E  
Date 12 May 2015  
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**% Carbon****Mean = 7.27****One Sigma Standard Deviation = 0.18****Expanded Uncertainty = 0.36****(k=2, 95% confidence)****%Sulphur****Mean = 3.26****One Sigma Standard Deviation = 0.13****Expanded Uncertainty = 0.26****(k=2, 95% confidence)**

This data was reported using induction and resistance type combustion furnaces with infra-red detection. Accelerants like tungstic oxide (WO<sub>3</sub>) were used in the resistance furnace. Tungsten metal and iron chip were used in the induction analysis.

**Standards Employed for traceability**

CaCO<sub>2</sub>, BaSO<sub>4</sub>  
NCS DC70019, DC70010 (S)  
NIST 68c (C)  
CTIF 701-1 (C)

**Notes**

The mean analytical values were derived by 9 data sets (n=90), showing trace-ability to the above mentioned NMI and high purity standards, and reported in mass fraction. The precision values represent the estimated uncertainty derived from the data sets and may not represent your testing capabilities. Refer to your test method for the expanded method derived uncertainty if needed.

There were limited primary standards of this type of matrix available at the time of certification. Multiple types of reference materials were used in the certification process, ranging from steel to high purity inorganic for calibration and quality verifications. This bottle contains 30g of fine powder to be used directly from the bottle without preparation, and has an indefinite shelf life.

The material used in production of this standard was sampled in accordance with ARI 032. The samples used 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 is a Certified Reference Material (Working Standard)), and is traceable to the above-mentioned standard. For good laboratory practice it is recommended that all standards be verified prior to use.

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Certified February 8, 2013