



Certified Reference Material Certificate of Analysis



WORLD RECOGNISED
ACCREDITATION

Accredited for compliance
with ISO 17034

Accreditation No. 20331

Manufacturers Details

KLEN International (74) Pty Ltd
36 Hemisphere Street
Neerabup, Western Australia, 6031

PO Box 529
Wanneroo WA 6946

Concentration of Certified Analyte/s

Au	0.414 g
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Notes related to information contained in the Analyte Data Table

Certified Value – (CV) is the mean of means from accepted values of all participating round robin laboratories.

Measurement Uncertainty - (MU) is a statistical measure of the variability associated with multiple procedures used, between unit and within unit inhomogeneity, and changes during storage and transport (unless the certification notes differences in method). MU *does not take into account* individual laboratory bias and also excludes results from laboratories who were considered to be outliers.



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Metrological Compliance

The measurand for this reference material is grams per tonne and is directly traceable to the SI unit kilogram, as all testing including for the characterisation of the CRM is undertaken by ISO/IEC 17025 accredited laboratories.

Additional Statistical Data

Standard Deviation g/t	Relative Standard Deviation %	95% Measurement Confidence
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Round Robin Laboratories

Samples of batch 86003 were taken in accordance with the sampling plan and placed in heat sealed foil sachets. Each sachet contained sufficient sample to allow duplicate assays to be performed. The samples were distributed to fourteen ISO/IEC 17025 accredited laboratories for round robin analysis. One laboratory failed to provide results with the required turnaround time. After analysis of the results, two laboratories were removed as technical outliers. Laboratories were requested to perform fire assay analysis using 50 gram sample weights. Final analysis was achieved via each laboratory's routine finish.



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General Product Description

KLEN CRM's are manufactured from blended raw materials to provide a suitable substrate for the analytes of interest. Substrates will vary to provide a background matrix as may be required or suited for particular applications. Starting materials are milled and screened to ensure no oversize particles or product agglomerations are present. Required analytes are treated in a similar fashion to ensure they match the particle size of the substrate and can be uniformly distributed throughout the batch.



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Product Certification

Batch 86003 was packed into pails and samples were taken in accordance with a random sampling plan as developed by external statisticians. Six samples were then sent to each of the participating laboratories for analysis in duplicate. Samples were analysed using fire assay with the instrument finish being left to each laboratory.

Use of Certified Data

The certified value/s provided within this document are entirely reliant on the data returned from the participating testing laboratories. Analysis of the data is conducted



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SUPPORTING PRODUCT INFORMATION

NB: Information provided from this point forward is given as supporting data/information and is not intended to provide metrological traceability or compliance with ISO 17034 reporting requirements.

Particle Size

Particle size analysis was performed on 5 samples of SKU 28001031, batch number 86003, using a Shimadzu SALD-2300 laser diffraction particle



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Product Description

SKU 28001031 batch number 86003 is a dry and uniform powder with a light grey colour.
Typical chemical composition determined by XRF analysis is as follows;

Content	
SiO ₂	62
Al ₂ O	



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Typical Geological Analysis

X-Ray diffraction analysis provided the following crystalline and amorphous content information.

Formula	wt%
Amorphous Content	20
e.g. (Na,Ca,Li) ₂ (Fe,Mg,Al)<	