



# Rare Earth Element and Whole Rock Analysis

## Rare Earth Element Analysis Ore Grade – Package REE1

*Rare Earth Element Analysis Ore Grade by Lithium Metaborate Fusion and ICP-OES*

This package offers 21 analytes and is designed for the analysis of refractory REE ores.

### Method Summary

An aliquot of sample is fused with lithium metaborate in a graphite crucible. The bead is then dissolved in dilute HNO<sub>3</sub> for analysis by ICP-OES.

Quality control measures applied include the preparation and analysis of three standards, a replicate and a blank.

### Detection Limits

Element	Symbol	Detection Limit	Element	Symbol	Detection Limit
Cerium	Ce	0.002%	Neodymium	Nd	0.002%
Dysprosium	Dy	0.002%	Praseodymium	Pr	0.002%
Erbium	Er	0.002%	Samarium	Sm	0.002%
Europium	Eu	0.002%	Scandium	Sc	0.002%
Gadolinium	Gd	0.002%	Terbium	Tb	0.002%
Gallium	Ga	0.002%	Thorium	Th	0.002%
Hafnium	Hf	0.002%	Thulium	Tm	0.002%
Holmium	Ho	0.002%	Uranium	U	0.002%
Lanthanum	La	0.002%	Yttrium	Y	0.002%
Lutetium	Lu	0.002%	Ytterbium	Yb	0.002%
Niobium	Nb	0.002%			

REE \$42.00 per sample\*



## CONTACT

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### Method Summary

Ta and Nb ores require a special HF digestion. An aliquot of ore is digested in HF acid and analyzed by ICP-OES.

### Detection Limits

Element	Symbol	Detection Limit	Element	Symbol	Detection Limit
Tantalum	Ta	0.002%	Niobium	Nb	0.002%

Ta/Nb \$20.05 per sample\*

### Whole Rock Analysis – Package WR1

*Lithium Metaborate Fusion and ICP-OES*

This package offers a total rock analysis for 17 analytes.

### Method Summary

An aliquot of sample is fused with lithium metaborate in a graphite crucible. The bead is then dissolved in dilute HNO<sub>3</sub> for analysis by ICP-OES.

Quality control measures applied include the preparation and analysis of three standards, a replicate and a blank.

### Detection Limits

Element	Symbol	Detection Limit	Element	Symbol	Detection Limit
Aluminium	Al <sub>2</sub> O <sub>3</sub>	0.01%	Potassium	K <sub>2</sub> O	0.01%
Barium	Ba	2 ppm	Scandium	Sc	2 ppm
Calcium	CaO	0.01%	Silica	SiO <sub>2</sub>	0.1%
Chromium	Cr	2 ppm	Sodium	Na <sub>2</sub> O	0.01%
Iron	Fe <sub>2</sub> O <sub>3</sub>	0.01%	Strontium	Sr	2 ppm
Magnesium	MgO	0.01%	Titanium	Ti	0.01%
Manganese	MnO	0.01%	Yttrium	Y	2 ppm
Phosphorous	P <sub>2</sub> O <sub>5</sub>	0.01%	Zirconium	Zr	2 ppm

Loss on Ignition (LOI)

An aliquot of pulp is heated to 1000°C and the weight loss calculated.

### Detection Limits

Element	Symbol	Detection Limit
Loss on Ignition	LOI	0.10%

WR1 \$42.75 per sample\*

**REE1 and WR1 combined**  
(Excluding Ta/Nb)

**REE/WR com \$64.05 per sample\***  
\*Sample prep extra



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