

Ni

DIGESTION OF NICKEL LATERITE ORES USING COLDBLOCK[™] DIGESTION CB12L TECHNOLOGY

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Introduction

This application note will focus on the digestion of Nickel Laterite Ores using *ColdBlock[™] Digestion CB12L Technology*.

Method

- OREAS-184 & 187 Nickel Laterite Ores CRM (Certified Reference Materials) were used in this investigation.
- Triplicate samples of 0.25g were weighed and placed in ColdBlock[™] Digestion vessels with 8mL H₂SO₄ & 5.5mL H₃PO₄ and digested at 85% power for 20 minutes. Chiller temperature was set to -5° Celsius.
- After digestion and subsequent cooling, samples were normalized to 50mL using 1% HNO₃, centrifuged and analyzed on the Agilent 5100 ICP-OES.

Table 1: OREAS-184 Certified Values of Major Elements (Borate/Peroxide Fusion Method)

Mg %	1.81
Al %	2.42
Ca %	0.165
Cr %	1.1949
Mn %	0.525
Fe %	27.57
Co %	0.0899
Ni %	1.02

Results

Table 2: ColdBlock[™] Digestion CB12L Recoveries (%)
OREAS-184

ColdBlock CB12L	Average %	Standard Deviation	% Recovery
Mg (*280.270)	1.79	0.009	99
Al (*396.152)	2.35	0.006	97
Ca (*396.847)	0.16	0.003	99
Cr (*267.716)	1.21	0.002	101
Mn (*257.610)	0.52	0.003	100
Fe (*238.204)	27.18	0.104	99
Co (*230.786)	0.09	0.0004	100
Ni (*231.604)	1.01	0.008	99

*OES Wavelengths