

APPLICATION NOTE

OREAS 751 & 752 Pegmatite Lithium Ore

SUMMARY

The application note summarizes the digestion of OREAS 751 & 752, a Pegmatite Lithium Ore Certified Reference Material using ColdBlock™ Digestion CBM Technology.

Instrument: ColdBlock CBM sample digester, chiller, ICP-OES

Published: November 2022

Digestion Time: 30 Minutes

Acid Used: Aqua Regia, HF & HBF₄

Average ColdBlock Recovery vs. CRM:

- 104% Lithium
- 102% Calcium
- 103% Magnesium

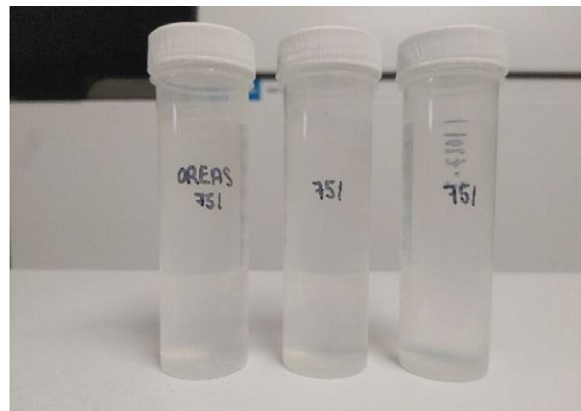
METHODOLOGY

1. Chiller temperature was set to -5 °C
2. 0.25g of each sample was weighed in triplicate and placed into ColdBlock™ Digestion HF compatible liners
3. 20 mL Aqua Regia + 3mL Hydrofluoric Acid was added
4. Sample was digested at 80% power for 20 minutes
5. 7mL HBF₄ was added, and sample was digested again at 80% power for 10 minutes
6. Sample was cooled and bulked to 50mL using 2% HNO₃ v/v

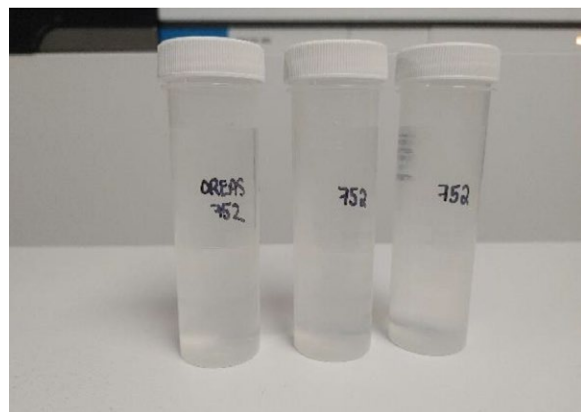
DISCUSSION

- The addition of HBF₄ will help re-solubilize any Fluoride precipitates that form such as Ca, Mg & Al
- Boric acid may be used in lieu of HBF₄ (as a general guideline add 1g H₃BO₃ per 1mL of HF)
- After 30 minutes the samples appear clear, and no visible material remains

OREAS 751 & 752 have been prepared from RC drill chip samples supplied from Core Lithium's Finnis Lithium Project located in the Northern Territory, Australia.



OREAS 751 after bulk-up



OREAS 752 after bulk-up

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Results

OREAS 751								
Element	Certified 4-Acid (ppm)	ColdBlock Result A	ColdBlock Result B	ColdBlock Result C	Average (ppm)	Stdev	% RSD	% Recovery
Al	80100	80043	80607	81586	80745	637.48	0.8%	101%
Ca	7420	8088	7670	7826	7861	172.61	2.2%	106%
Fe	16200	16801	17085	17354	17080	225.75	1.3%	105%
K	24100	23867	23842	24781	24163	437.01	1.8%	100%
Mg	2870	2930	2936	2985	2950	24.67	0.8%	103%
Na	24700	24221	24312	25674	24735	664.55	2.7%	100%
Li	4630	4909	4771	4850	4843	56.23	1.2%	105%

OREAS 752								
Element	Certified 4-Acid (ppm)	ColdBlock Result A	ColdBlock Result B	ColdBlock Result C	Average (ppm)	Stdev	% RSD	% Recovery
Al	79400	84642	83030	82300	83324	978.69	1.2%	105%
Ca	1991	2019	1930	1854	1934	67.08	3.5%	97%
Fe	8350	9045	8945	8792	8927	104.06	1.2%	107%
K	20800	20460	20222	20276	20319	101.99	0.5%	98%
Mg	440	455	480	426	454	22.37	4.9%	103%
Na	27000	28336	28269	30184	28930	887	64 3.1%	107%
Li	6950	7301	7164	7038	7168	107.38	1.5%	103%