



Celamin Holdings N.L

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CHAKETMA - Pilot Metallurgy Preliminary Results

Board of Directors

Andrew Thomson
(Non-executive
Chairman)

David Regan
(Executive Director)

Martin Broome
(Non-executive
Director)

Melanie Leydin
(Non-executive
Director)

Company Secretary

Melanie Leydin

Securities on Issue:

CNL: 151,746,177
ordinary shares

CNLO: 25,367,001
options expiring 31
March 2014

CNLCA: 15,471,296
partly paid shares

Highlights:

- Initial metallurgical test work demonstrates that phosphate concentrate grading 32% P₂O₅ can be produced from Chaketma ore
- 32% P₂O₅ is equivalent to Moroccan premium
- The process outlined uses simple flotation technology and flow sheets

Details

Celamin and Tunisian Mining Services (TMS) have commenced metallurgical test work on the Chaketma ores for the Chaketma scoping study. The objective of this initial study is to determine the mineralogy of the ore and confirm that Chaketma concentrate, meeting the target of 30-32% P₂O₅, can be produced by simple flotation technology. A further aim is to determine the distribution of phosphate and gangue mineral characteristics, ahead of detailed grind optimisation studies. The Chaketma Exploration Permit in Northern Tunisia is held by Celamin and TMS.

This preliminary study has confirmed that Chaketma ore can be upgraded using existing flotation technology. Concentrate grading 32% P₂O₅ equivalent to Moroccan premium can be produced.

Sample Preparation and Flow Sheets

Three 30 Kg composite samples were prepared from each of Gasaa El Kebira, Sidi Ali Ben Oum Ezzine drill core, and Kef El Louz trench material. The flow sheet for the test work is shown in Figure 1 and the preliminary results are given in Table 1 below. These preliminary results show head grades of 18-22% P₂O₅, with potential to be upgraded to concentrate grades of 31-33% P₂O₅, from recoveries of 80-81%.

Table 1 – Concentrate Grade and Recoveries

Prospect	Head Grade P ₂ O ₅ %	Wt%	Recovery P ₂ O ₅	Concentrate Grade P ₂ O ₅ %
Gasaa El Kebira	20.50	80.59	80.56	32.92
Sidi Ali Ben Oum Ezzine	18.07	74.3	80.62	31.49
Kef El Louz	22.22	73.8	80.45	30.95

Table 2 - Head Grade of Samples

Prospect	P ₂ O ₅ %	SiO ₂ %	MgO%	CaO%
Gasaa El Kebira	20.50	8.80	4.10	43.30
Sidi Ali Ben Oum Ezzine	18.07	8.43	5.05	41.29
Kef El Louz	22.22	8.48	4.00	41.90

Petrography

Microscopy studies to determine the mineralogy of the Chaketma ore were done prior to the flotation tests (Table 3). The main mineral phases were as follows:

- **Phosphatic minerals:** Apatite
- **Exogangue:** consists primarily of dolomite, calcite, quartz, clay and glauconite
- **Cement matrix:** carbonate (calcite & dolomite)

Table 3. - Mineralogy of Chaketma Ore

Prospect	Apatite	Calcite	Dolomite	Silica
Gasaa El Kebira	60.29	7.02	18.23	7.57
Sidi Ali Ben Oum Ezzine	53.15	7.29	22.69	7.35
Kef El Louz	65.35	3.19	17.71	7.15

Size Liberation and Flotation Tests

Tests were carried out as a prelude to advanced grind optimisation studies. The results indicate the phosphate is distributed across all size fractions with peaks in the plus 1mm and 80 to 250 µm ranges (Table 4).

Table 4: Size Distribution

Size µm	Gasaa El Kebira			Sidi Ali Ben Oum Ezzine			Kef El Louz		
	%Wt	P ₂ O ₅ %	Rec P2O5	%Wt	P ₂ O ₅ %	Rec P2O5	%Wt	P ₂ O ₅ %	Rec P2O5
>1000	37.4	21.63	34.82	19.26	22.33	18.95	44.43	24.89	48.73
1000<>800	2.71	24.50	2.86	3.49	22.21	3.41	1.40	22.70	1.40
800<>500	3.30	22.84	3.25	3.30	23.58	3.43	1.69	23.36	1.74
500<>250	4.29	24.28	4.50	4.61	25.94	5.28	4.18	21.44	3.95
250<>140	10.25	28.44	12.60	8.34	25.06	9.22	16.21	20.76	14.82
140<>80	14.35	27.42	17.01	22.36	27.13	26.75	11.18	24.78	12.20
80<>63	4.04	27.22	4.75	6.03	24.76	6.58	4.67	23.27	4.79
63<>40	3.99	23.14	3.99	4.84	22.82	4.87	2.85	21.,31	2.67
<40	19.85	18.91	16.22	27.75	17.58	21.51	13.39	16.45	9.70
Calc head	100.00	23.13	100.00	100.00	22.68	100.00	100.00	22.69	100.00

Further Work

More test work is required to optimize parameters; including grind size, flotation reagents and to determine the bond and work index of the Chaketma ores.

Full details of major and trace element chemistry and distribution will be released when they are available.



Chaketma has the potential to support a large long life mining project. The current focus is on identifying the area with the best geological, mining and metallurgical characteristics, in order to minimise the project risks and to start mining in the least risk area of the deposit.

About Celamin Holdings NL

Celamin Holdings NL (ASX Code CNL) is an ASX listed company focused on the exploration and development of resource projects in North Africa initially in Tunisia and Algeria.

Celamin holds the Chaketma Phosphate exploration permit in Tunisia with TMS. This project is Celamin's current focus as it has larger target potential than Celamin's other Phosphate project Bir El Afou. The first results from channel sampling, drilling program and historic data at Chaketma have been announced. The Chaketma project would use the same rail and port infrastructure as identified in the Bir El Afou pre-feasibility studies.

Celamin continues to step up work to carry out a due diligence drilling program for its farm-in to an Exploitation Permit at the Oued El Kebir precious and base metal project in Algeria.

Celamin has also acquired rights to several base metal tailings Projects in Tunisia with TMS and is the holder of three Exploration Permits with base metal (Pb/Zn) targets on a 50/50 basis with TMS.

Compliance Statement

The information in this report that relates to Exploration Results at Chaketma has been compiled by Mr Donald Thomson using information provided by Dr Ammar Henchiri. Dr Henchiri is a renowned expert on flotation and mineral processing. The test work was undertaken on behalf of Celamin and TMS by Dr. Ammar Henchiri at the facilities of the University of Tunis in Tunisia. Mr Donald Thomson is a member of the Australasian Institute of Mining and Metallurgy and is a consultant geologist engaged by Celamin Holdings NL. Mr Thomson has sufficient experience relevant to the style of mineralisation and types of deposit under consideration and to the activities reported on to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Mineral Resources and Ore Reserves. Mr Thomson and Dr Henchiri consent to the inclusion in this report of the matters based on this information in the format and context in which it appears.

Figure 1 - Preliminary test work program

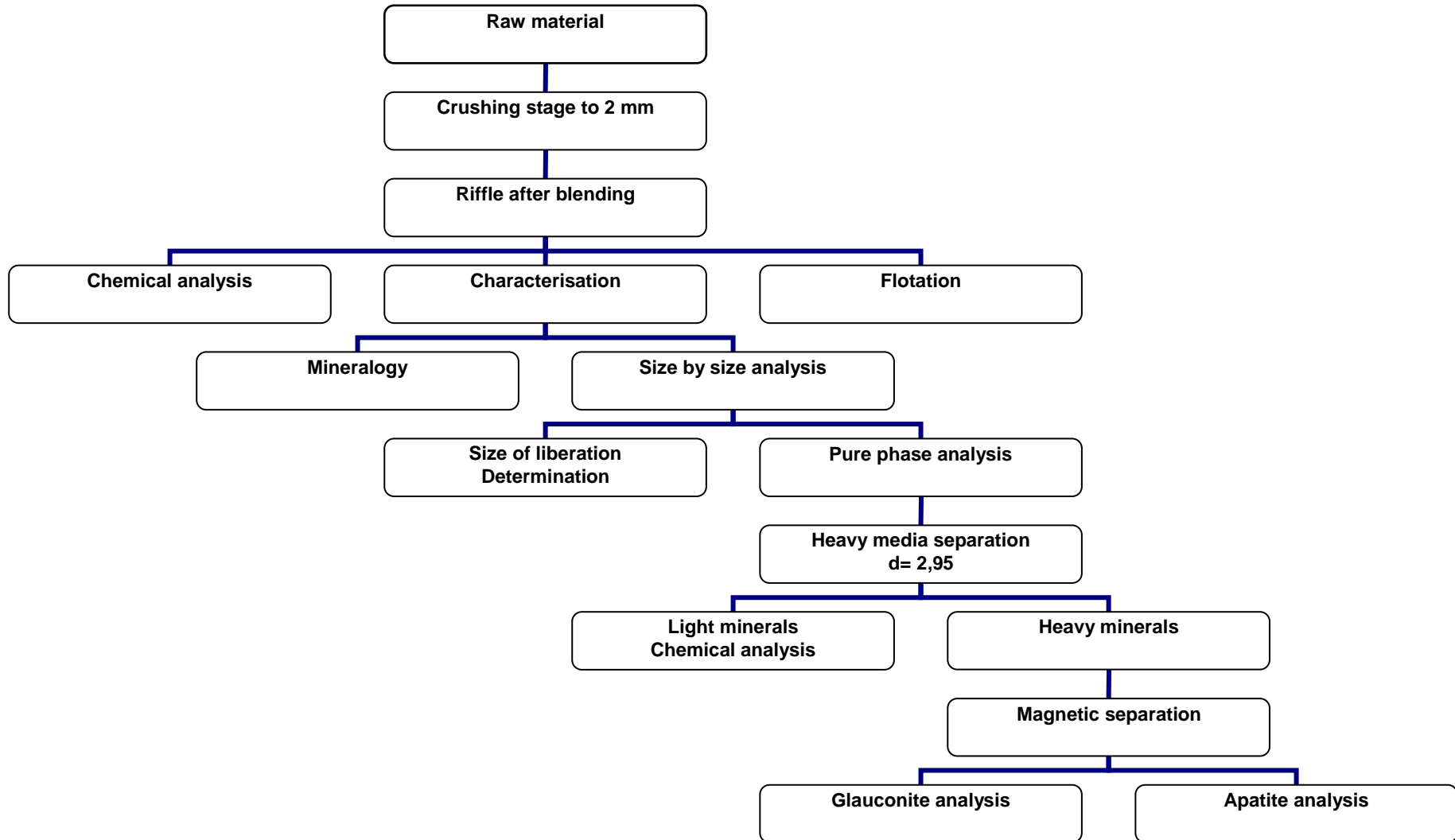


Figure 2 – Preliminary Process Flowsheet

