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ASX Release

21st July 2022

New development program to revitalise Letlhakane Uranium Project in Botswana.

A-Cap Energy Limited (ASX:ACB) has begun a comprehensive program of development activities led by a new country manager to advance its flagship Letlhakane Uranium Project in Botswana, host to one of the world's largest undeveloped uranium deposits.

Highlights

- An experienced mining executive has been appointed as A-Cap's new Botswana country manager to drive the project's revitalisation and manage government and stakeholder relations.
- Drilling for metallurgical samples to start in September/October.
- A comprehensive beneficiation test work program, including ore sorting and gravity separation, designed to improve the mill feed grade to the mill and reduce operating costs, managed by Trinol Pty Ltd.
- A review of hydrometallurgy and potential redesign of the process circuit led by MinAssist Melbourne - experts in uranium extraction is underway.
- Planning and permitting for a series of test pits across the deposit to test the mining methods and obtain bulk samples for pilot scale beneficiation and uranium extraction testing.

A-Cap's chief executive officer, Dr Andrew Tunks, commented "*The significant rise in the uranium price and nuclear energy's increasing role in decarbonising the world's power systems meant it was time to revitalise Letlhakane*".

"We have recruited top quality personnel and technical partners to dramatically ramp up activities at Letlhakane, which already has a Mining Licence, approved Environmental Impact Statement, and Provisional Surface Rights," Dr Tunks said.

“Our primary focus is to update the project’s 2016 Feasibility Study¹ to accommodate improved uranium pricing and a crucial radiometric ore sorting study from 2010 that was not ultimately included in the development plans for the project.

“Notably, the study showed an average upgrade of 1.5 times and a significant reduction of material to the leaching plant of greater than 45%.

“Sorting technology since 2010 has advanced considerably. We’re confident that if previous results can be repeated or improved upon, project economics will significantly improve and form the cornerstone of the first phase of test work,” he said.

The 2015 feasibility study which was completed as part of the Mining Licence application (ASX:ACB 11/09/2015) reported a forecast annual production of 3 million pounds of uranium per year for Letlhakane, which hosts a world-scale Mineral Resource of 822Mt @ 202ppm for **366Mlbs of U₃O₈**.² The project has a low strip ratio, flat lying, shallow orebody that is amenable to free dig mining due to the relatively soft host rocks.

2010 Radiometric Sorting Study

In 2010, the company committed to a first-pass series of test work on radiometric sorting utilising seven different samples from across Letlhakane. At the time the results were encouraging with an upgrade of around 1.7 to 2.0 times for the uranium grade and rejection of between 50 to 70% of the mass of the coarse fraction sorted. The overall mass reduction, when fines are added back, was around 45% at a grade increase of ~1.5.

Sample	Total Indicated		
	Initial grade U ₃ O ₈ ppm	Initial grade U ₃ O ₈ ppm	Upgrade ratio
A	265	590	2.2
B	106	181	1.7
C	128	226	1.8
D	138	222	1.6
E	249	511	2.1
F	403	589	1.5
2t Kraken Primary	200	376	1.9
1.7t Gorgon Primary	170	283	1.7

Table 1. Radiometric sorting results for Letlhakane Ores (ASX:ACB 18/08/2010)

New upgrade test work

¹ Refer to ASX release dated 11/09/2015)

² The above global mineral resource, completed by an independent expert and reported in compliance with the JORC 2012 code, was announced to the market on the 5 October 2015 and A-Cap’s annual reports since 2015. A-Cap confirms that it is not aware of any new information or data that materially affects the information included in the release and, in the case of estimates of mineral resources, that all material assumptions and technical parameters underpinning the estimates in the release continue to apply and have not materially changed.

A-Cap’s new strategic plan is to commence diamond drilling in September to generate sufficient fresh sample material to redo the sorting study, utilising advances in sorting technology. The company has engaged experienced multi-commodity process metallurgist, Mr Noel O’Brien, to supervise the test work. Mr O’Brien has significant uranium experience and was involved in the commissioning of one of the world’s first radiometric sorters in South Africa in the 1970’s. The testing, which will look at sorting techniques using radiometric, XRT and hyperspectral sensors, as well as beneficiation techniques by gravity separation using spirals and dense media separation, will be carried out at several international laboratories.

Ore sorting	Potential benefits
▲ Radiometric	▲ Feed grade
● Hyperspectral	▲ Throughput
■ DMS	▼ Acid consumption
✕ XRT	▼ Tailings
	▲ Production
	▼ Energy consumption

Re-evaluate process route

Work starts September 2022

New hydrometallurgy review

Running in parallel with the beneficiation work, A-Cap has engaged MinAssist, experts in uranium processing, to review and test historical work on the process route used in the 2016 Letlhakane feasibility study.

This work will incorporate the results from the ongoing beneficiation test work where appropriate and will look at strategies to mitigate acid consumption during leaching, which was one of the biggest contributors to OPEX in the 2016 feasibility study.

A-Cap Energy’s Board has authorised the release of this announcement to the market.

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[About A-Cap Energy](#)

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A-Cap Energy is an Australian resources company focused on the development of critical minerals serving the world’s path to carbon net zero. Amid renewed global focus on nuclear energy, the company’s flagship Letlhakane Uranium Project in Botswana hosts one of the world’s top 10 undeveloped uranium resources – 365.7 million pounds of contained U_3O_8 (100ppm U_3O_8 cut-off).

A-Cap’s Wilconi Project, which represents the company’s first nickel-cobalt laterite project interest, is being advanced in response to the significant growth expectation in the supply of battery materials to the OEM automotive and battery industries. The company aims to establish key strategic and commercial relationships to take advantage of material processing and refinery technologies according to the highest Environmental, Social and Governance (ESG) standards.

JORC Resources at Letlhakane

CUTOFF	Total Indicated			Total Inferred			Global Total		
	Mt	U_3O_8 ppm	U_3O_8 Mlbs	Mt	U_3O_8 ppm	U_3O_8 Mlbs	Mt	U_3O_8 ppm	U_3O_8 (Mlbs)
100	197.1	197	85.5	625	203	280.1	822.1	202	365.7
200	59.2	323	42.2	209.7	321	148.2	268.9	321	190.4
300	22.2	463	22.7	81.6	446	80.3	103.8	450	102.9

