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# Reguibat Uranium Project-Positive outcome from Scoping Study

**Dr Bob Beeson: Managing Director** 

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#### **Reguibat Project**



- Shallow easily mined 49 Mlb calcrete uranium resource
- Inferred Resource 66 Mt @ 334ppm U<sub>3</sub>O<sub>8</sub>
- Beneficiation results in;
  - 700% uranium upgrade uses simple well-tried technology
  - Rejects 89% of the mass, while retaining 86% of the uranium
  - Transforms to approximately 12Mt @ ~2500ppm plus
  - Significant reduction in process plant footprint
  - Capital and operating costs greatly reduced
- Scoping Study completed;
  - US\$45million capex
  - \$30/lb opex
  - Strong cashflow

# Mauritania - a mining country attracting substantial investment





#### **Shallow Trenching Reveals Mineralisation**

Free dig truck and shovel mining

High grade areas identified for starter pits

Uranium Mineralisation - Carnotite

# Uranium mineralisation occurs within gravels and weathered granite within a few metres of the surface







**au** 

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#### Resources

### Indicated and Inferred Resources for the Reguibat Project at a 100ppm $U_3O_8$ cut-off grade

	Cut-off grade	Tonnes	(ppm)	Mlbs. U <sub>3</sub> O <sub>8</sub>
Total Indicated & Inferred	100	66	334	49
Indicated	100	2	300	2
Inferred	100	64	335	47

Grade

### Indicated and Inferred Resources for the Reguibat Project at a 300ppm $U_3O_8$ cut-off grade

	Cut-off grade	Tonnes	Grade (ppm)	Mlbs. U <sub>3</sub> O <sub>8</sub>
Total Indicated & Inferred	300	35	423	32
Indicated	300	1	389	1
Inferred	300	34	424	31







# Simple beneficiation increases the grade of the mineralisation by up to nine times



- Simple scrubbing and screening tests to remove coarse fractions of samples
- Exceptionally successful because of the very fine grain size of the uranium mineral carnotite and the coarse nature of the host rock
- 89% of the mass could be rejected, while retaining 86% of the uranium
- The average concentration of the product was 2,476ppm U<sub>3</sub>O<sub>8</sub>.
  This represents an upgrade factor of 7
- Detailed mineralogy demonstrates that the carnotite occurs as extremely fine, liberated grains.





#### The beneficiation process Reducing costs by discarding much of the material before leaching



#### Rapid leaching of uranium concentrate



The beneficiated Reguibat material was leached independently at ANSTO Minerals using atmospheric alkaline leaching typical of industry conditions.

The first leach tests provided excellent results as follows;

- 94% uranium extraction within 4 hours
- Moderate reagent consumption given high feed grade of material
- Finer size fractions may see improved leach results



#### Water supply

- Water source study completed by Golder Associates
- First target for water is a large, shallow depression on the Reguibat Shield surrounding the Project
  - Lowest point a few kilometres from the Project
- Second target is the northern edge of the Taoudeni Basin (in pale blue on the map) - the same source as the iron ore mines at Zouerate (Glencore, SNIM)





### **Key operating characteristics**



- High volume shallow mining
- Approx. 120 tph (1.0 Mtpa)
- Grades of >420ppm U308
- Small relocatable beneficiation plant
- Small central leach facility ~ 25 tph
- Leach feed grade of 2500ppm U308
- Produce 0.7-1.1 Mlbs U3O8 per year
- Maintain smallest possible project footprint
- Minimise water use with dry sizing if possible
- Explore processing beneficiated material elsewhere
- Expand project from cashflow







#### Consultants and advisors

- Tenova Mining & Minerals (Australia) Pty Ltd:
- ANSTO Minerals:
- <u>Metcon Ltd</u>:
- Coffey Mining Ltd:
- Golder Associates:
- lan Wark Institute:
- Pontifex and Associates:

Process flow sheet, capital cost, operating cost validation

- Leach testwork
- Beneficiation
- Mineral resources
- Water supply
- Mineralogy
- Mineralogy

#### Simple mine plan Rejects back in the pit





#### **Detailed flow sheet**





### Proposed processing and leach plant



- Simple and well tested technologies
- No grinding
- Small leach plant
- Capex US\$45 million for the first stage
- Comparable capital cost to In Situ Leach operations of a similar scale



# Reguibat: a Project with robust financial characteristics



- Cash flow generated over the 15 year mine life to enable project expansion
- Favourable internal rate of return
- Breakeven price for the Project is US\$37/Lb U<sub>3</sub>O<sub>8</sub>
- This would make it among the lowest-cost uranium projects currently being developed.



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### **Next Steps - Feasibility Studies**

#### Initial work in the Feasibility Studies

- Environmental baseline studies
- Social impact studies
- Upgrading first years of production to Measured and Indicated Resource status
- Confirming the beneficiation and leaching results
- Defining water sources
- Assessment of infrastructure requirements
- Mining and engineering
- Application for an Exploitation Permit





# Aura Energy Ltd - Reguibat Project Commencing Feasibility Studies



