



Toro Energy Ltd

ASX:TOE

***Scoping Study Success
Based on Back to Basics
R&D***

***Global Uranium Conference,
Adelaide, Australia, 15th November
2023***

Powering a Clean Energy Future



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CORPORATE SNAPSHOT

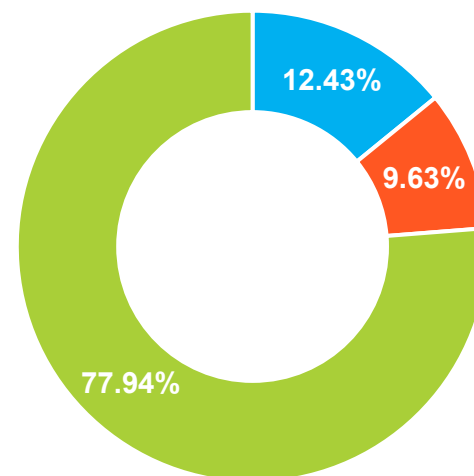
Capital Structure

ASX Code	TOE
Shares on issue	4,781,297,635
ASX Share price (14 Nov 2023)	\$0.01
Cash and Securities (30 September 2023)	\$5.65m
Market Cap	\$48m

Board of Directors

Richard Homsany	Executive Chairman
Michel Marier	Non-Executive Director
Richard Patricio	Non-Executive Director

Substantial Shareholders



■ Sentient Group Ltd ■ Mega Uranium Ltd ■ Other

WILUNA URANIUM PROJECT

Resources

- 96% of 62.7Mlb permitted resources is Measured & Indicated supporting long life operations (at 200ppm U_3O_8 cut-off).

Approvals

- State and Federal government environmental approvals obtained (require amendment).

Mining leases

- All granted.

Mining

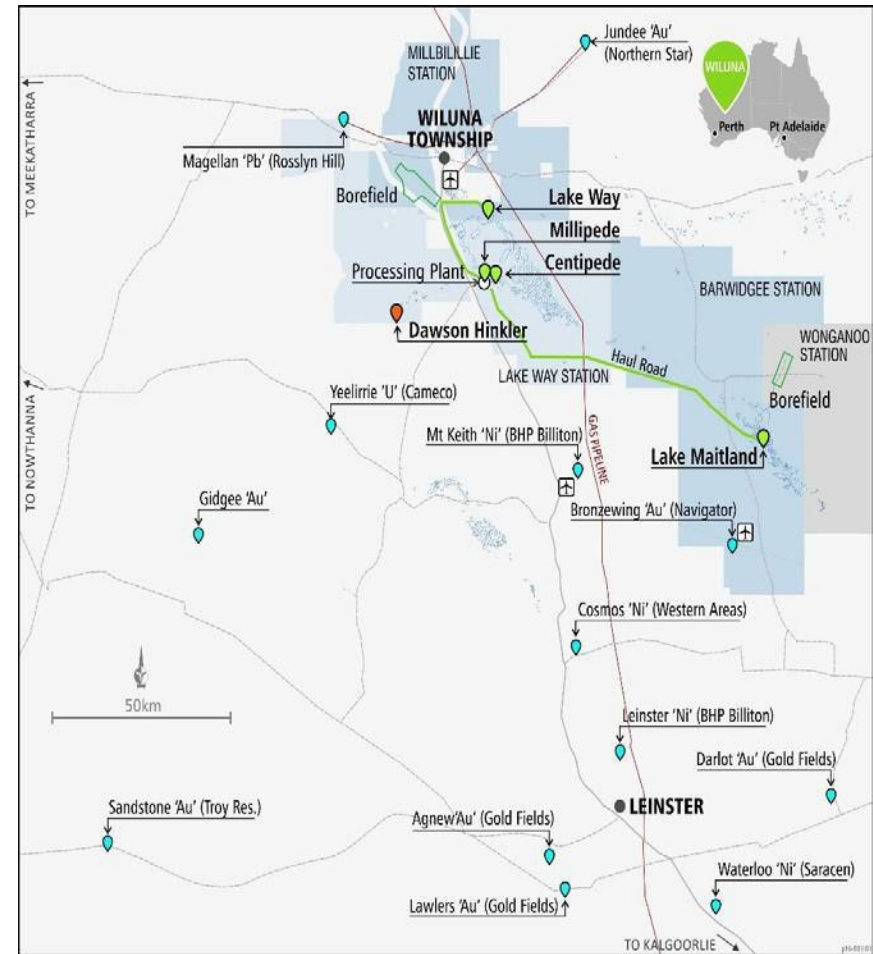
- Simple mining – mineralisation from surface to max of 15m.

Infrastructure

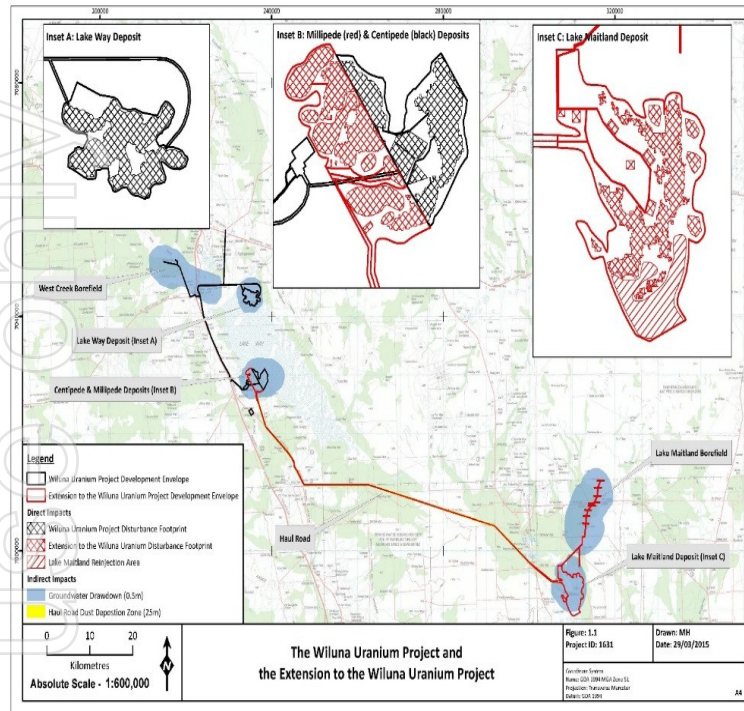
- Established mining centre – access to water, power and services.

Vanadium Potential

- Vanadium – potential valuable by-product with low marginal production cost - Maiden V_2O_5 JORC 2012 Resource of 68.3Mlbs.

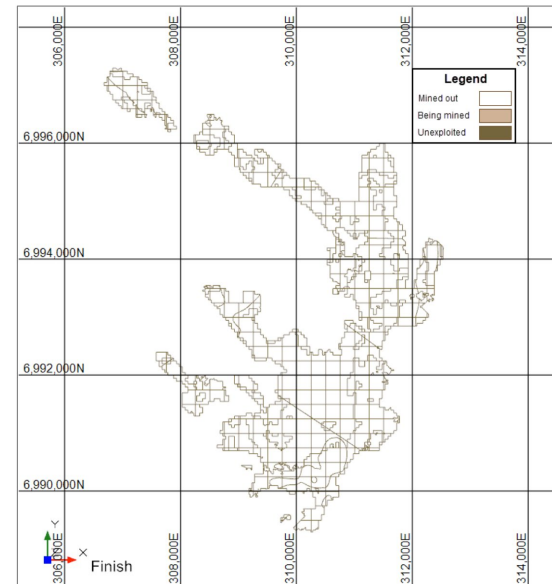


LAKE MAITLAND ONLY SCOPING STUDY RESULT



In 2014

- Three deposits – Lake Way, Centipede-Millipede and the newly incorporated Lake Maitland.
- 16 year mine life.
- 20.1Mt of potential ore mined.
- 10 years of high grade.
- 30.2 Mlbs of potential U_3O_8 production.



End of LOM Pit
2023 SCOPING LEVEL
ONLY

In 2023

- Single Deposit – Lake Maitland Only
- 17.5 year mine life.
- 35.2Mt of potential ore mined.
- 8 years of high grade.
- 22.8Mlbs of potential U_3O_8 production.
- 11.9Mlbs of potential V_2O_5 production.

LAKE MAITLAND ONLY SCOPING STUDY RESULT

PROJECT NPV

	U ₃ O ₈ US\$Price/lb	A\$:US\$	NPV (Pre-tax)
Scenario 1 (Base Case)	\$70	0.70	\$609.6M
Scenario 2	\$70	0.65	\$676.6M
Scenario 3	\$65	0.70	\$506.5M
Scenario 4	\$65	0.65	\$570.6M
Scenario 5	\$60	0.70	\$423.2M
Scenario 6	\$60	0.65	\$484.9M

U₃O₈ Price and exchange rate impacts on Lake Maitland Uranium Project NPV

LAKE MAITLAND ONLY SCOPING STUDY RESULT

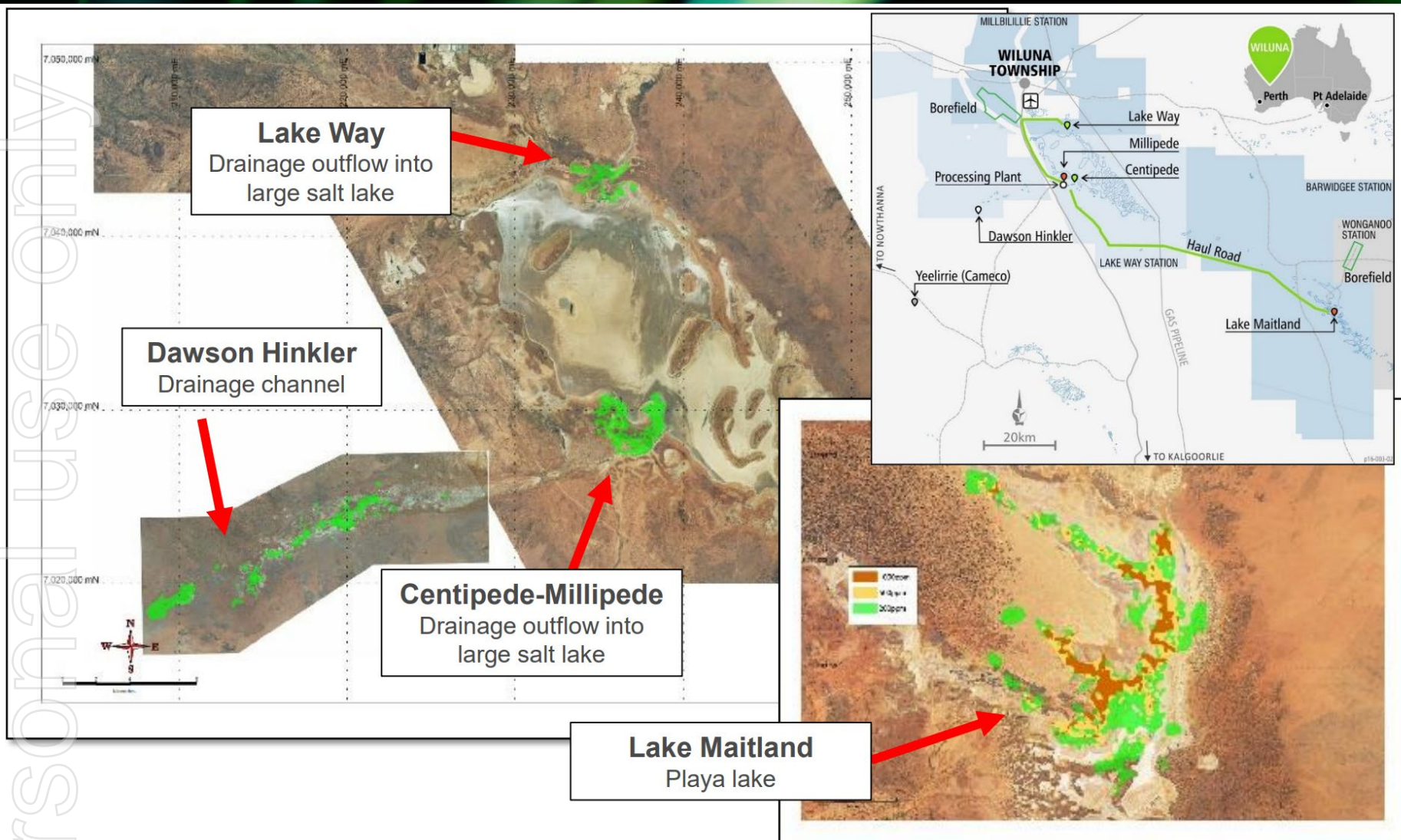
PROCESSING COST ESTIMATE

SCOPING STUDY COSTS

- Operating cost increases from 2018 to 2022 are largely attributed to inflation as well as associated operating costs for the vanadium recovery circuit

	PROCESSING COST (A\$ / lb U ₃ O ₈)		
Description	Historical	Updated Scoping Study (2018)	Updated Scoping Study (2022)
Reagents	14.4	3.45	3.53
Power & Steam	5.85	2.87	3.54
Process Plant Labour	5.42	4.50	5.49
Maintenance & Consumables	3.63	0.85	1.00
General & Administration	2.79	2.92	3.22
TOTAL	A\$32.13	A\$14.59	A\$16.78

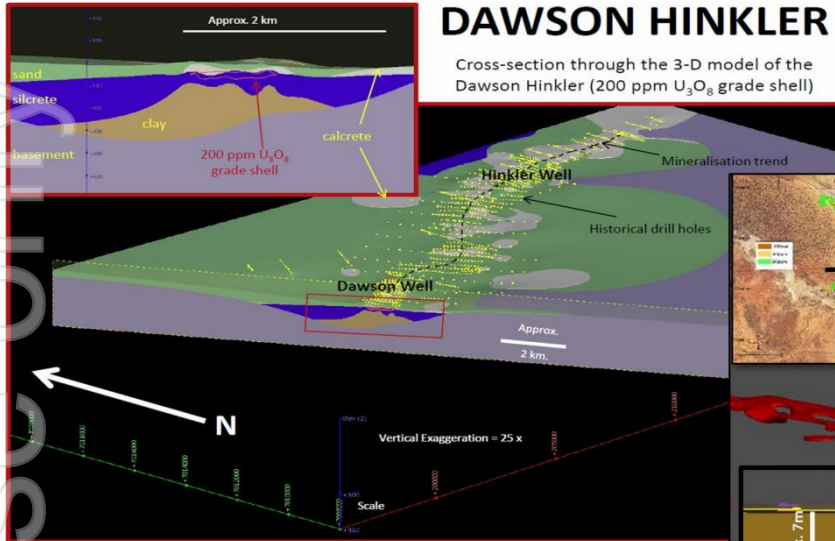
Substantial and continuous reduction in costs driven by development work



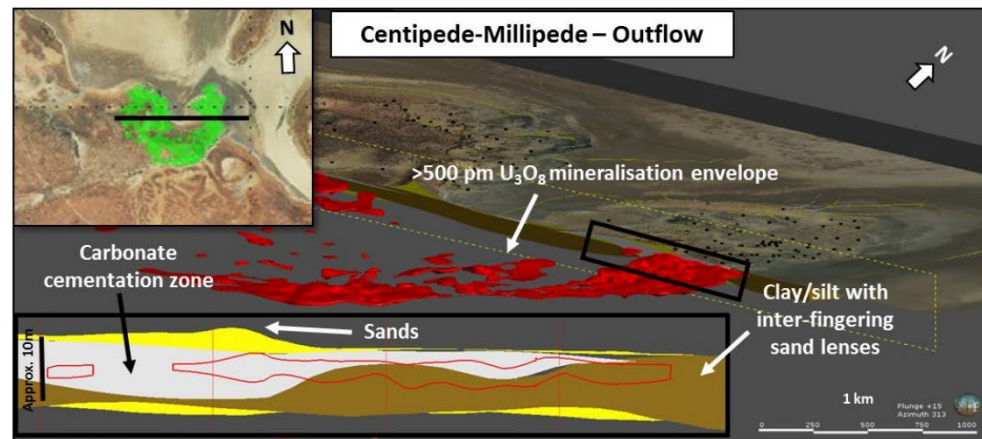
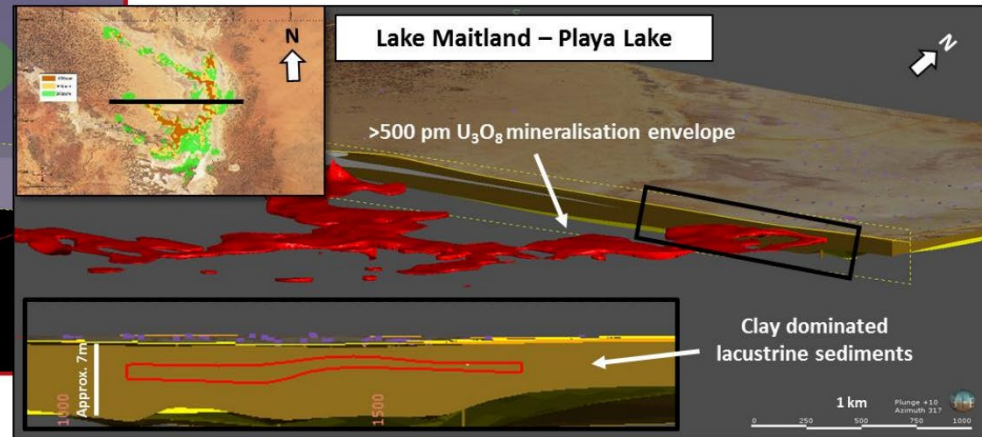
DETAILED GEOLOGICAL ANALYSIS OF WILUNA DEPOSITS

DAWSON HINKLER

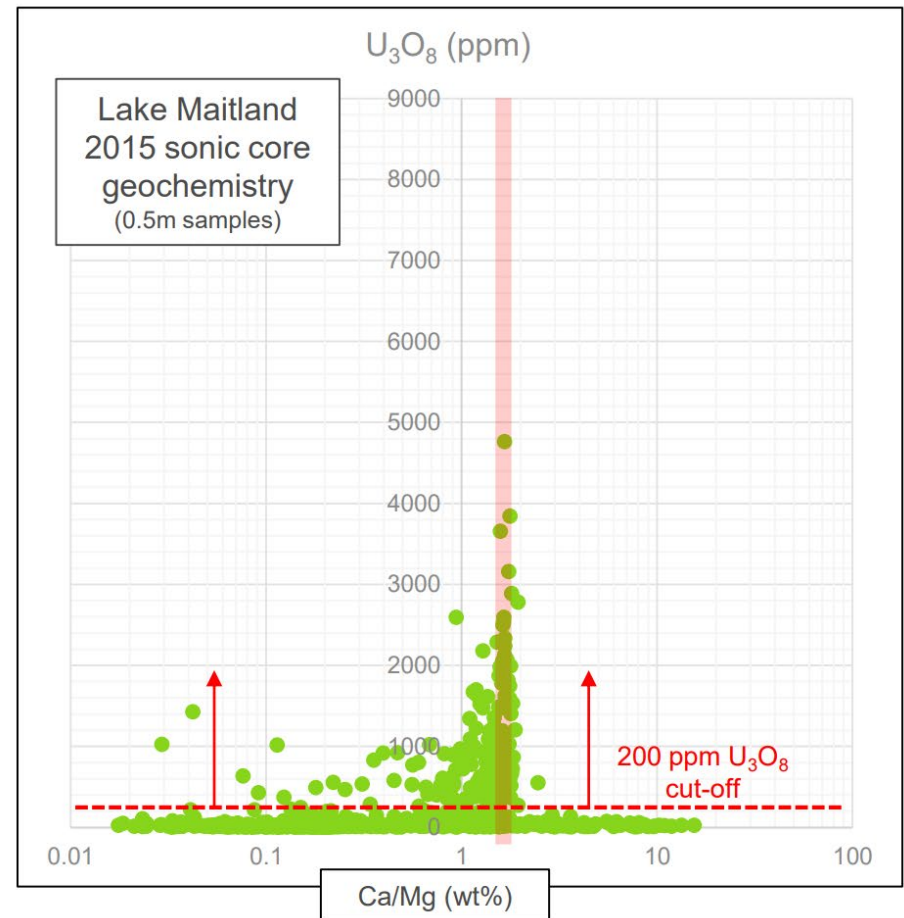
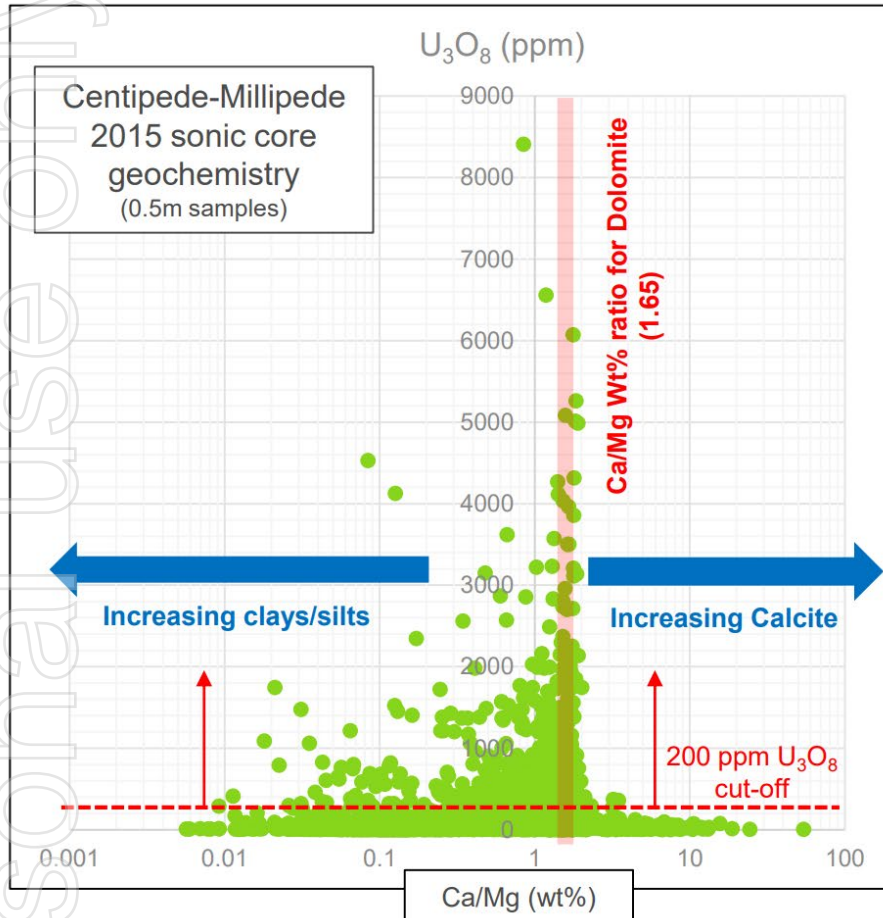
Cross-section through the 3-D model of the Dawson Hinkler (200 ppm U_3O_8 grade shell)



Geological models based on lithology logs (after the 2015/16 re-interpretation) show the differences between the deposits hosted in the three different geomorphic positions – silcrete dominant with dolomitic carbonate and clays at Dawson Hinkler – complex semi-consolidated nodular dolomitic carbonate dominant with clays/silts at Centipede-Millipede – clay dominant at Lake Maitland.



Dolomite Chemistry v Uranium Mineralisation Shows Significant Mg Enrichment in Many Potential Ore Zones (Mg Clays)



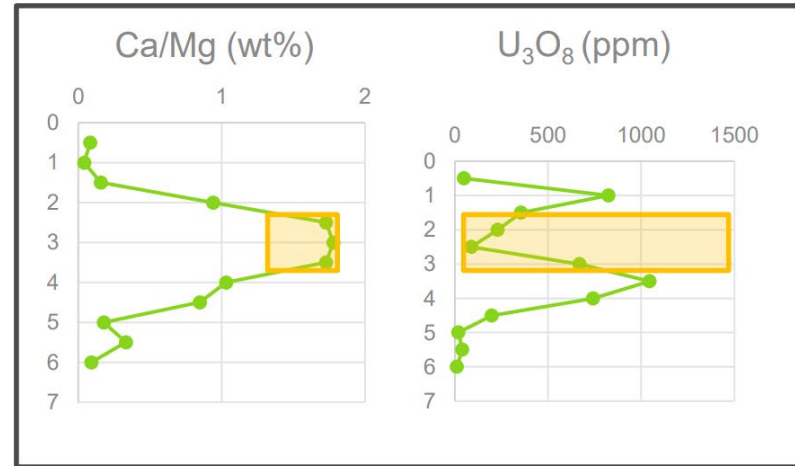
SONIC CORE GEOLOGICAL ANALYSIS CENTIPEDE-MILLIPEDE

WS188

Two lenses

An upper lens in clay

Lower thicker lens at base of and extending below a layer of semi-consolidated dolocrete nodules with clay



Product	Mass	U	
	%	ppm	%dist
+12.5mm	24.2	908	19.6
+2mm	17.8	1,289	20.5
+500 μ m	16.2	994	14.4
+125 μ m	10.4	920	8.54
+75 μ m	4.59	825	3.39
+38 μ m	4.06	994	3.61
-38 μ m	22.7	1,474	29.9
Calc. head	100	1,119	100

METS 32

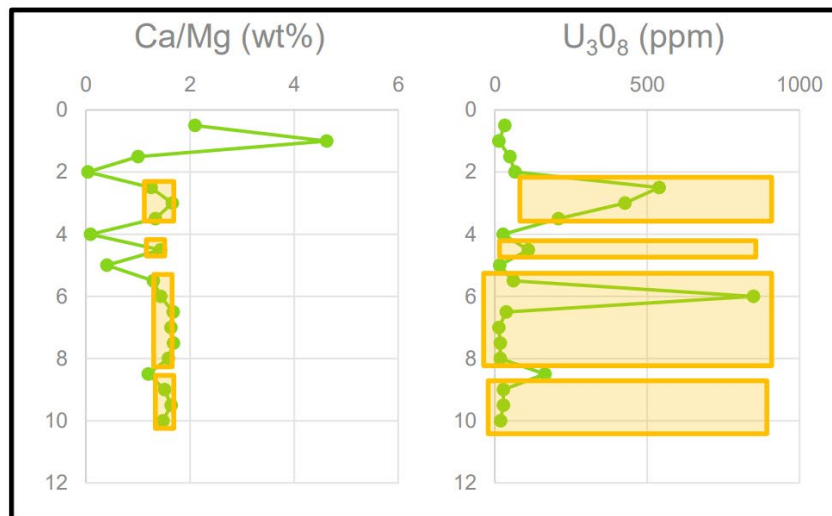
Size fraction analysis of mineralised sample in zone of nodular dolomite from twinned hole shows a relatively bi-modal distribution of U - 40% associated with >2mm size fraction and 30% in the <38 micron size fraction.

SONIC CORE GEOLOGICAL ANALYSIS LAKE MAITLAND

WS218

The chemistry shows the presence of pedogenic calcite dominated carbonate precipitation at the surface overlying a thick sequence of dolomite precipitation.

Although a whitish colour to the sediments probably reveals the presence of the carbonate, hand specimen identification techniques cannot identify any 'concretion', just clay and some silt.



Product	Mass	U	
	%	ppm	%dist
+500 μm	15.0	94.0	0.79
+125 μm	8.45	415	1.97
+75 μm	3.34	713	1.34
+38 μm	4.64	1,669	4.34
-38 μm	68.6	2,380	91.6
Calc. head	100	1,783	100

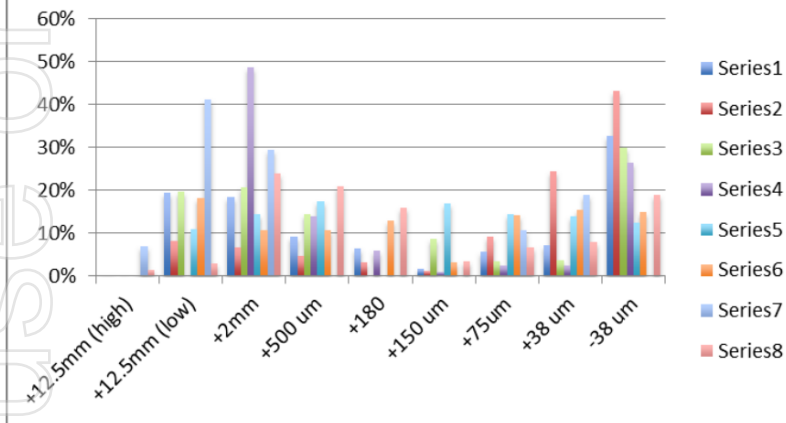
METS 61

Size fraction analysis of a sample from the ore zone shows that some 70% of the material by weight is <38 micron in size and that portion contains over 90% of the uranium.

SIZE FRACTION ANALYSIS OF URANIUM DISTRIBUTION

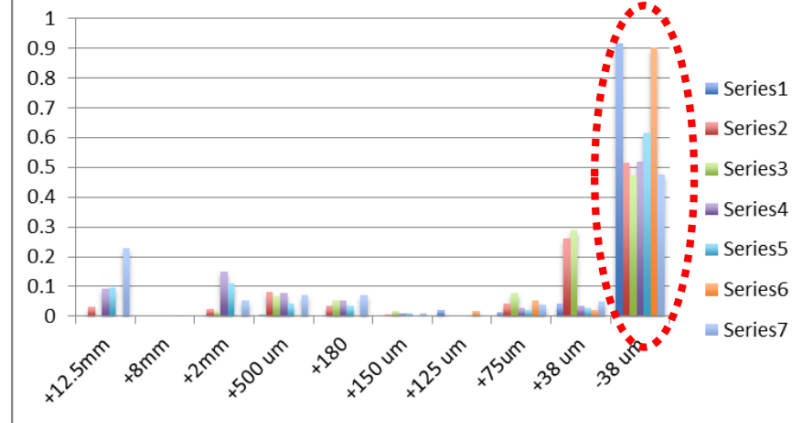
Semi-consolidated Nodular Carbonate (SCN) 'ore type' lithology common at **Centipede-Millipede**

SCN Uranium Distribution



Summary of size fraction analysis of samples from **Lake Maitland**

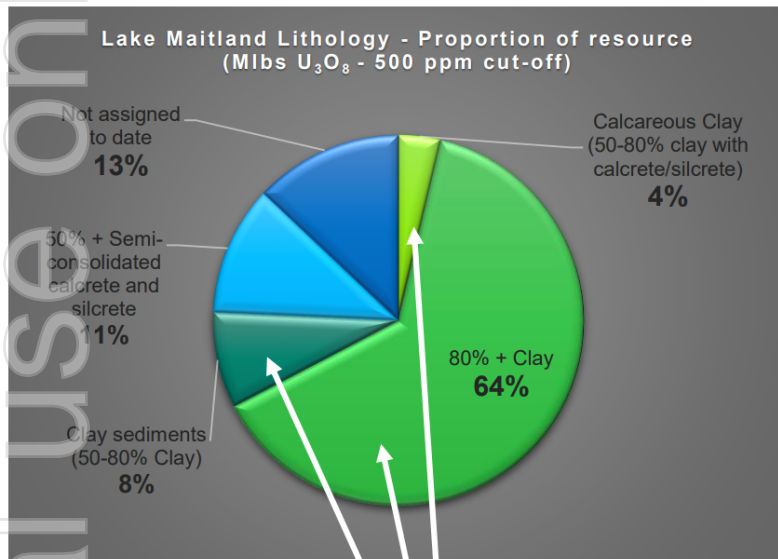
Uranium Distribution



Size fraction analysis of uranium distribution in samples from Lake Maitland and Centipede-Millipede highlights a major geological difference between the two deposits – the nature of the carbonate precipitation – cementing common at Centipede-Millipede - but not at Lake Maitland where clay dominates.

DOMINANCE OF CLAY AT LAKE MAITLAND

The dominance of clay in the Lake Maitland deposit has provided enough 'ore' of that particular lithology type to consider a processing opportunity that has the potential to deliver significant opportunities in cost reduction, both operationally and in the capital requirement for the build – all because of a better understanding of geology.



76% of the high grade resource (>500 ppm U_3O_8) is hosted in a lithology dominated by clay

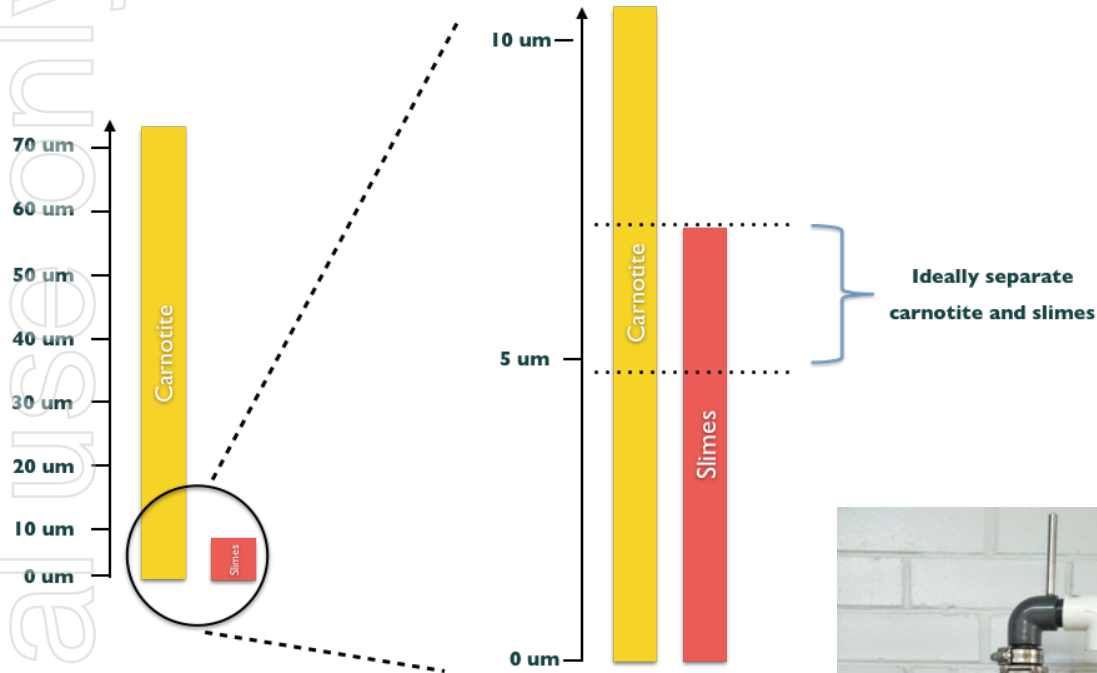


Plan view of all blocks in the Lake Maitland Resource Block Model with an average grade > 500 ppm U_3O_8 .

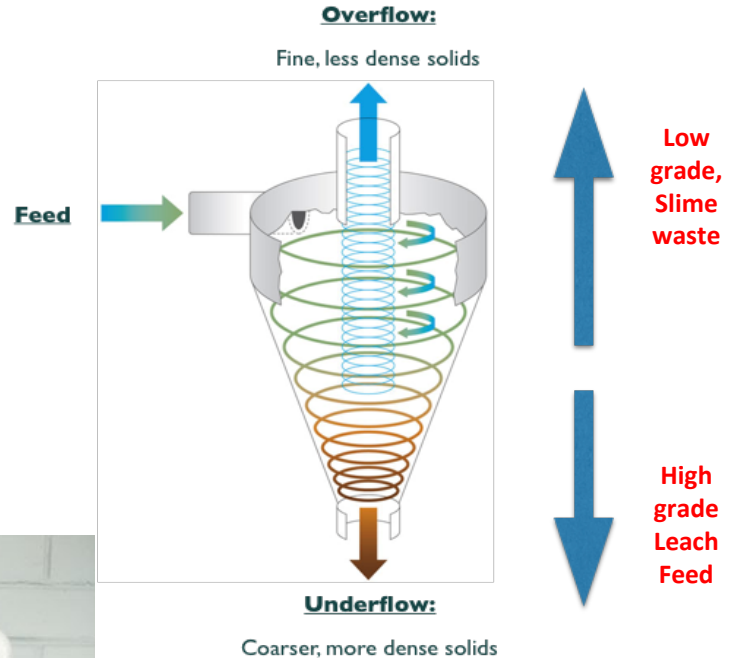
Blocks coloured red denote all high grade blocks (> 500 ppm U_3O_8) that have over 50% of their volume consisting of the 80% + clay lithology.

Each block is 10 x 10 m x 0.5m

ULTRA-FINE “SLIMES” CAN BE SEPARATED FROM COARSER CARNOTITE



DE-SLIME WITH CONVENTIONAL CYCLONES



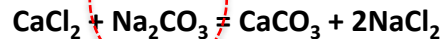
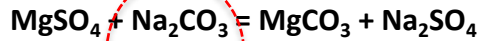
Conventional equipment

FILTRATION IS CRITICAL

WHY IS FILTRATION OF THE ORE SO CRITICAL?

Site water is highly saline and needs to be removed before the leach for two reasons:

1. Salts are major reagent consumers
- MgSO_4 , CaCl_2 in high concentrations

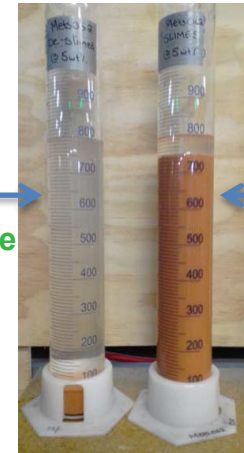


High cost
reagent

2. High chloride content makes ion exchange impossible
- Chloride ions compete with uranium in ion exchange

REMOVING THE “SLIMES” CHANGES THE DEWATERING CHARACTERISTICS AND ALLOWS FOR FILTRATION OF THE BENEFICIATION CONCENTRATE

De-slimes ore:
Settles well and can be filtered

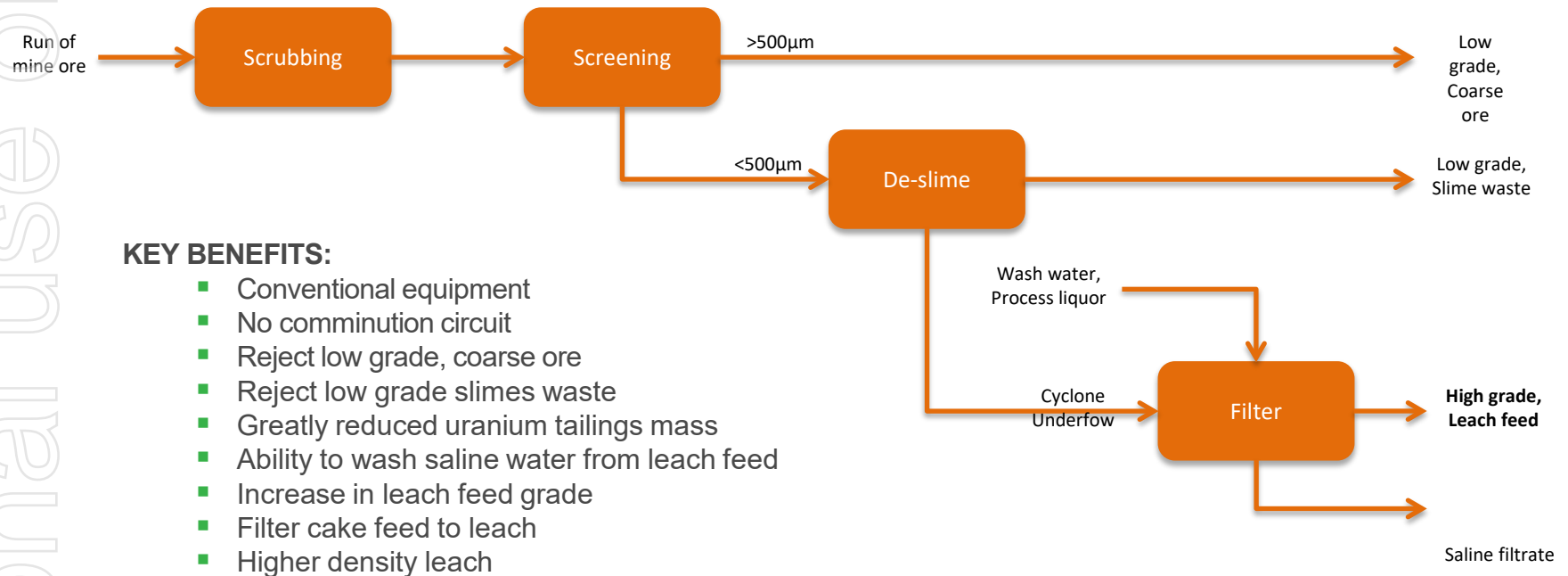


Run of mine ore:
Poor settling, cannot be filtered

Same mass of solids
used in both tests!

SCOPING STUDY BENEFICIATION CIRCUIT

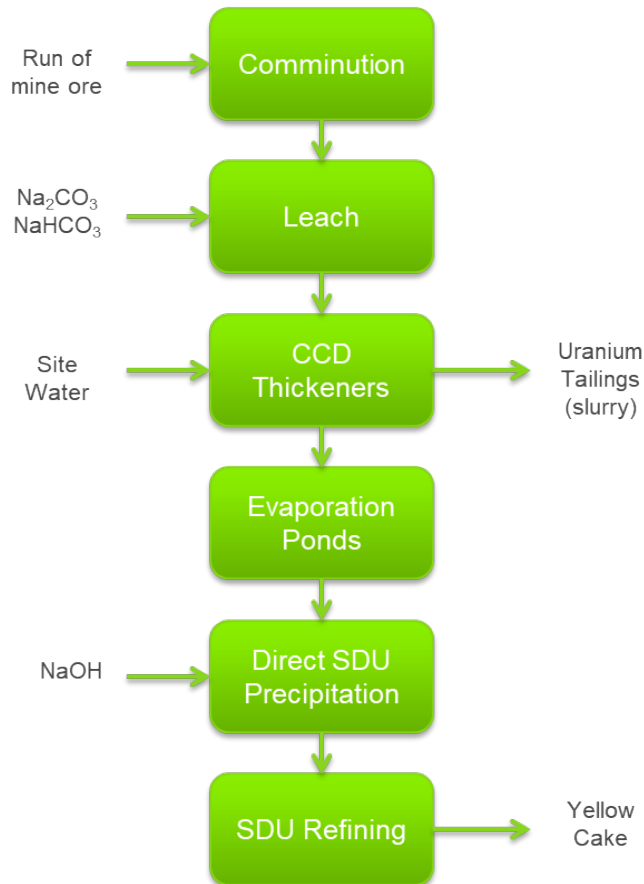
BENEFICIATION IS KEY TO NEW PROCESS FLOWSHEET – HIGHLY EFFICIENT ON CLAY ORES



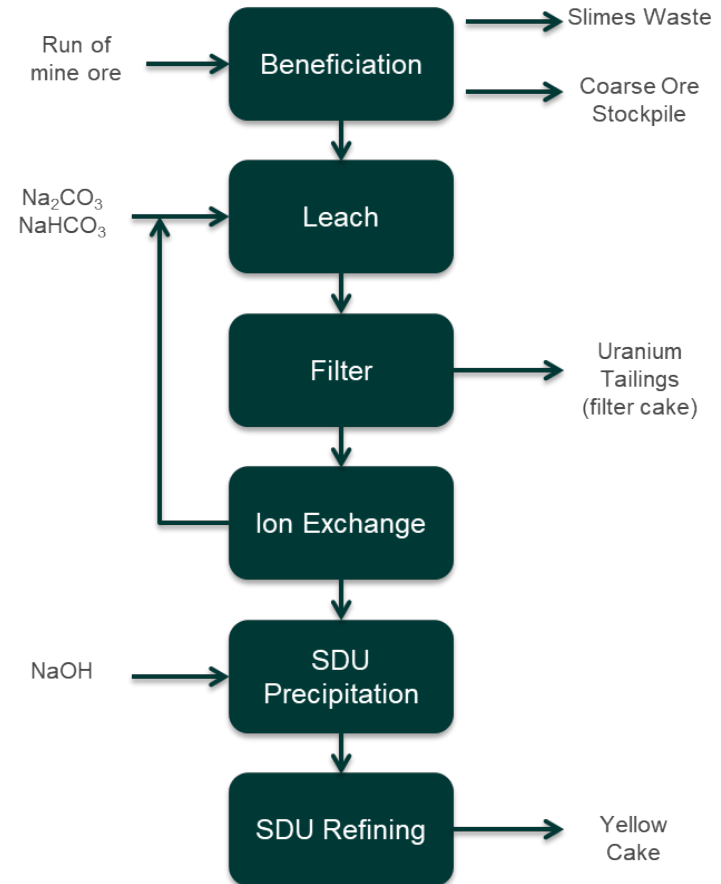
IMPROVED PROCESSING FLOWSHEET

NEW FLOWSHEET BENEFITS FROM BENEFICIATION, FILTRATION AND ION EXCHANGE

OLD FLOWSHEET



NEW FLOWSHEET



SUMMARY OF PROCESS IMPROVEMENTS

Significant and continuous improvements to the overall process as a result of:

Beneficiation

- Produces high grade concentrate
- Low grade coarse ore available for future processing
- De-slime works on all samples, allows for filtration

Filtration

- Efficient removal of salts by washing
- Drier leach feed cake

Leaching

- High uranium extraction in 8hrs
- High density in leach (58% solids)
- Vanadium leaching

Ion Exchange

- Proven efficient on actual liquors
- Allows for substantial concentration of uranium
- Potential to separate vanadium and uranium

NET RESULT: Lower OpEx and CapEx

**Less uranium tailings
No grinding
Smaller processing
plant**

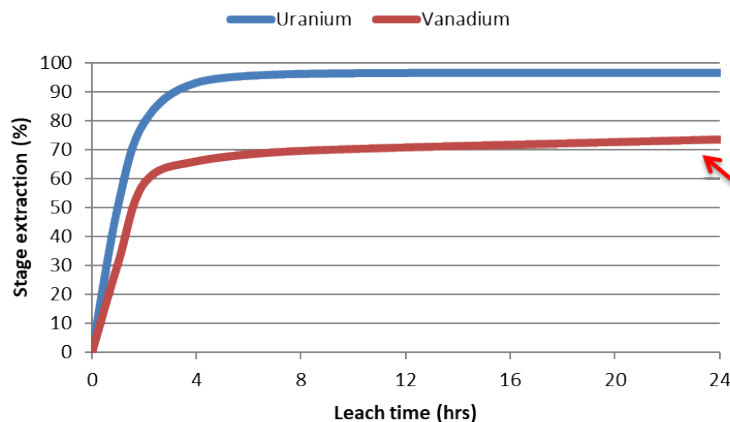
**No CCD circuit
No evaporation ponds
Easier residue storage
Re-use of leach reagents**

**Smaller leach circuit
Lower power consumptions
Far less reagent consumed**

**Less sodium hydroxide consumed
Smaller SDU circuit**

VANADIUM A POTENTIAL VIABLE BY-PRODUCT

TESTWORK CONFIRMS THAT VANADIUM LEACHES WITH URANIUM

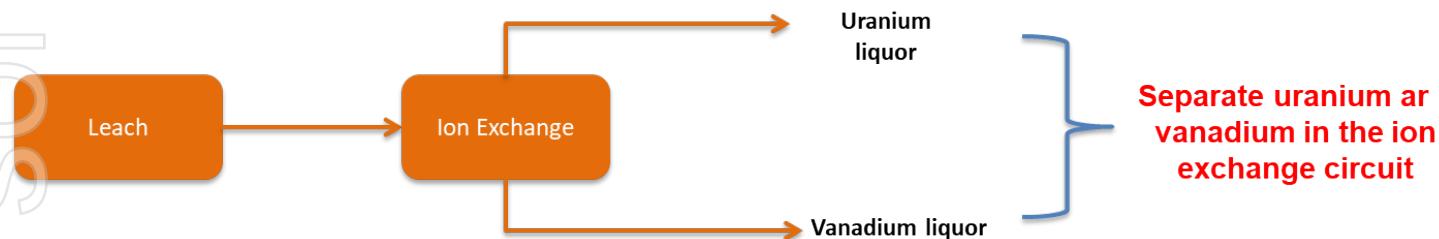


Conditions to be optimised to increase extraction

Figure 2: Typical uranium/vanadium stage extraction (METS062)



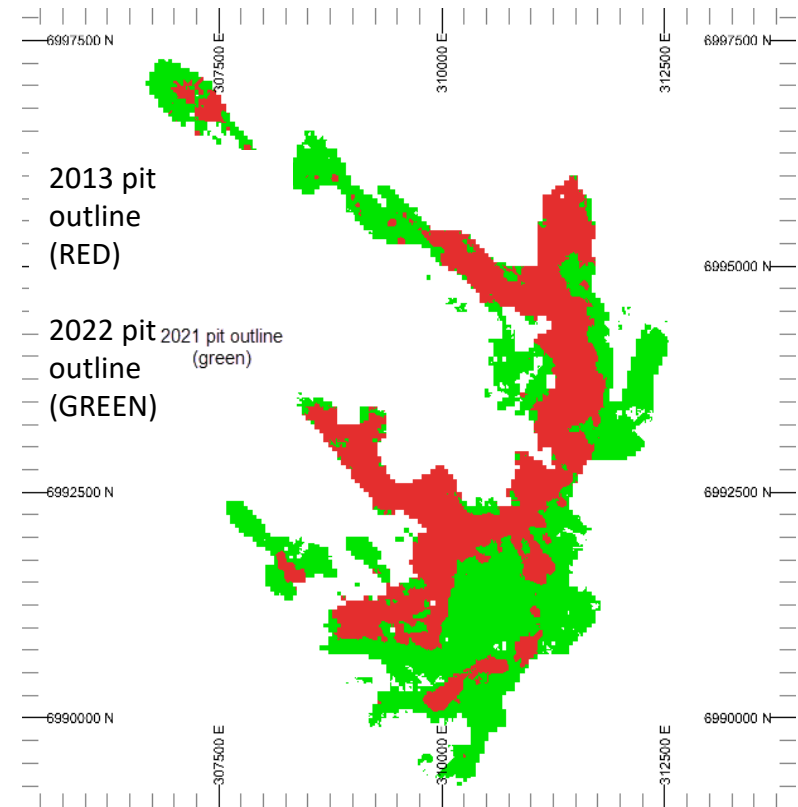
TESTWORK SHOWS ION EXCHANGE EFFECTIVE FOR VANADIUM RECOVERY



RESULTS OF 2022 LAKE MAITLAND PIT RE-OPTIMISATION

Huge expansion of the pit & increase in potential uranium ore from Lake Maitland - transformational for the value of Toro's Wiluna assets

- **New pit shell** (revised pit rim cut-off grade of 109ppm U_3O_8) stretching beyond bounds of current stated resource at a 200ppm U_3O_8 cut-off. A significant lowering of the U_3O_8 grade for the potential Lake Maitland ore (**631ppm to 380ppm U_3O_8**);
- **Potential ore** increasing from **13.2Mt to 35.2Mt** (**up 167%**);
- **Life of Mine** for Lake Maitland increasing from **10.1 to 17.5 years** (**up 74%**);
- Potential **U_3O_8 production** from Lake Maitland increasing from **15.8Mlbs to 22.8Mlbs** at assumed price of US\$70/lb U_3O_8 ;
- **11.9Mlbs of V_2O_5** by-product produced (at assumed price of US\$5.67/lb V_2O_5); and



Additional US\$560,000 in potential gross product value created

LAKE MAITLAND DEPOSIT SCOPING STUDY

– STRONG RESULTS



Scoping Study for a stand-alone Lake Maitland Uranium-Vanadium Operation completed in late October 2022 (SRK Consulting Australasia & Strategic Metallurgy)

Highlights of that study include:

Excellent financial outcomes

- NPV pre-tax of approximately **A\$610M** at a discount rate of 8%
- IRR of 41%
- Rapid payback period of **2.5 years**
- Total EBITDA of \$1,768.6M
- Total undiscounted cash flow of A\$1,423M pre-tax
- Average EBITDA of **A\$101M per annum over a 17.5 year mine life**
- Estimates assume a US\$70/lb U₃O₈, US\$5.67/lb V₂O₅ price and a US\$:A\$0.70 exchange rate

Modest CAPEX

- **US\$189M** (or A\$270M) capital cost estimate including contingency (20%) and EPCM (15%)
- Includes all infrastructure for the proposed stand-alone Lake Maitland operation, including:
 - entire processing facility with beneficiation plant and ability to produce both a uranium and vanadium product; and
 - all mining & administration related infrastructure, access roads, power plant, borefield and a reverse osmosis desalinisation plant for water supply
- A\$133M processing infrastructure build cost (A\$95.8M excluding contingency and EPCM)
- A\$137M non-processing infrastructure build cost (A\$99.2M excluding contingency and EPCM)
- Total EPCM and Contingencies A\$69.9M

LAKE MAITLAND DEPOSIT SCOPING STUDY – STRONG RESULTS



toro energy
AUSTRALIA'S URANIUM

Highlights (continued)

Low operating cost estimates

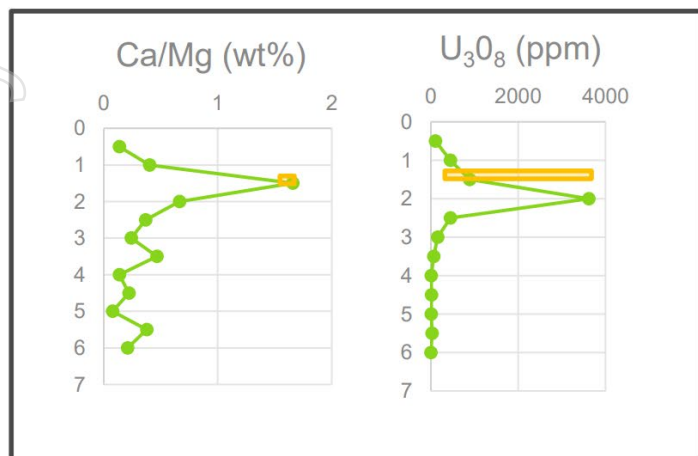
- C1 Cash operating cost of US\$15.84/lb U_3O_8 over the first 7 years
- **C1 Cash operating cost of US\$23.10/lb U_3O_8 over Life of Mine (LoM)**
- All In Sustaining Cost (**AISC**) of US\$20.32/lb U_3O_8 over the first 7 years
- **AISC of US\$28.02/lb U_3O_8 over LoM**
- Robust estimate operating margins
- C1 (US\$15.84) and AISC (US\$20.32) for the first 7 years provides Toro with very strong margins during the initial payback period

Mining and Production

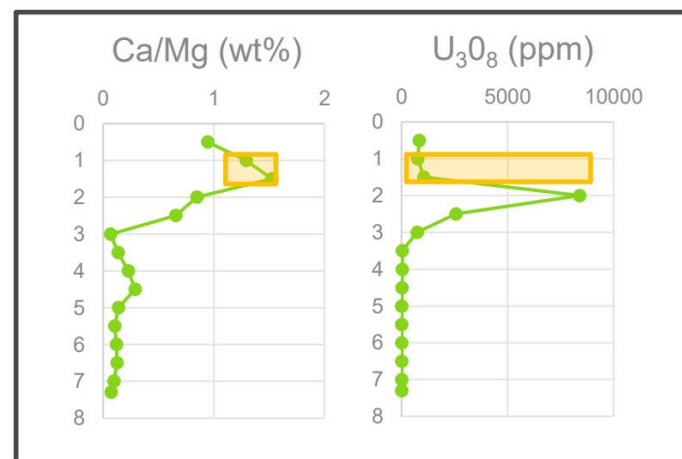
- Mine life of approximately 17.5 years
- Low average strip ratio of 1.17
- Process approximately 1.94Mt of ore per annum (front of beneficiation plant)
- Annual average production approximately 1.3Mlbs U_3O_8 (100% Indicated Resource) and 0.7Mlbs V_2O_5 (100% Inferred Resource)
- Total production approximately 22.8Mlbs of U_3O_8 and 11.9Mlbs of V_2O_5
- Uranium Metallurgical Recovery - 79.5%
- Vanadium Metallurgical Recovery - 60%

NEXT STEPS – ADDING THE OTHER TWO WULUNA DEPOSITS

WS179



WS172



Some of the highest grades of uranium mineralisation in single 1-2 m lens around a large clay pan within the dunes that sit at the back of the lunette shaped Millipede orebody.

A thin lens of semi-consolidated dolomitic carbonate is present at the top of the mineralised sequence but the main ore lens sits just beneath this carbonate lens.



Wiluna Uranium Project Resources Table (JORC 2012)

At 200ppm cut-offs inside U_3O_8 resource envelopes for each deposit - Proposed Mine Only

		Measured		Indicated		Inferred		Total	
		U_3O_8	V_2O_5	U_3O_8	V_2O_5	U_3O_8	V_2O_5	U_3O_8	V_2O_5
Centipede / Millipede	Ore Mt	4.9	-	12.1	-	2.7	53.6	19.7	53.6
	Grade ppm	579	-	582	-	382	327	553	327
	Oxide MIb	6.2	-	15.5	-	2.3	38.6	24	38.6
Lake Maitland	Ore Mt	-	-	22	-	-	27	22	27
	Grade ppm	-	-	545	-	-	303	545	303
	Oxide MIb	-	-	26.4	-	-	18	26.4	18
Lake Way	Ore Mt	-	-	10.3	-	-	15.7	10.3	15.7
	Grade ppm	-	-	545	-	-	335	545	335
	Oxide MIb	-	-	12.3	-	-	11.6	12.3	11.6
Total	Ore Mt	4.9	-	44.3	-	2.7	96.3	52	96.3
	Grade ppm	579	-	555	-	382	322	548	322
	MIb	6.2	-	54.2	-	2.3	68.3	62.7	68.3

Competent Persons Statement – Geology and Exploration

The information in this document that relates to geology and exploration was authorised by Dr Greg Shirtliff, who is a full-time employee of Toro Energy Limited. Dr Shirtliff is a Member of the Australian Institute of Mining and Metallurgy and has sufficient experience of relevance to the tasks with which he was employed to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Shirtliff consents to the inclusion in the report of matters based on information in the form and context in which it appears.

Competent Persons' Statement

Wiluna Project Mineral Resources – 2012 JORC Code Compliant Resource Estimates – U_3O_8 and V_2O_5 for Centipede-Millipede, Lake Way and Lake Maitland.

The information presented here that relates to U_3O_8 and V_2O_5 Mineral Resources of the Centipede-Millipede, Lake Way and Lake Maitland deposits is based on information compiled by Dr Greg Shirtliff of Toro Energy Limited and Mr Daniel Guibal of Condor Geostats Services Pty Ltd. Mr Guibal takes overall responsibility for the Resource Estimate, and Dr Shirtliff takes responsibility for the integrity of the data supplied for the estimation. Dr Shirtliff is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and Mr Guibal is a Fellow of the AusIMM and they have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012)'. The Competent Persons consent to the inclusion in this release of the matters based on the information in the form and context in which it appears.



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AUSTRALIA'S URANIUM

**CLEAN ENERGY FOR
A GROWING WORLD**

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