### **ASX Announcement**

19 June 2014



### **Company Presentation**

Australian resources company, Cauldron Energy Limited (**ASX: CXU**) ("Cauldron" or "the Company") is pleased to attach a copy of the presentation which will be presented by Beijing Joseph Investment Co. Ltd / Joseph Investment International ("Joseph Investment") on behalf of the Company in a roadshow in Guangzhou this week. Joseph Investment is an existing significant shareholder in the Company and is a Chinese investor participating in the Company's recently announced A\$11 million funding via share placements (refer to ASX Announcement dated 10 June 2014 for more details).

End.

For further information, visit www.cauldronenergy.com.au or contact:

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#### ABN 22 102 912 783

32 Harrogate Street, West Leederville WA 6007

PO Box 1385, West Leederville WA 6901

ASX code: CXU

178,562,092 shares 11,800,000 unlisted options

#### **Board of Directors**

Tony Sage Executive Chairman

Brett Smith Executive Director

Qiu Derong Non-executive Director

Amy Wang Non-executive Director

Catherine Grant Company Secretary



### Guangzhou Joseph Roadshow June, 2014







### **Disclosure Statements**

#### Forward Looking Statements

This presentation may include forward-looking statements with respect to achieving corporate objectives, developing additional project opportunities, the Company's analysis of opportunities and the development of these and certain other matters. These statements involve risks and uncertainties which could cause actual results to differ from those contained herein. Given these uncertainties, reliance should not be placed on forward-looking statements.

#### Analytical Method

All holes were gamma logged by Borehole Wireline P/L with an Geovista 38mm total count gamma tool. The gamma tool was calibrated in Adelaide at the Department of Water, Land and Biodiversity Conservation in calibration pits constructed under the supervision of CSIRO. The gamma tool measures the total gamma ray flux in the drill hole. Readings are taken over 1 centimetre intervals and the reading and depth recorded on a portable computer. The gamma ray readings are converted to equivalent  $U_3O_8$ readings by using the calibration factors derived in the Adelaide calibration pits. These factors also take into account differences in hole size and water content. The grade and calibration was calculated by Duncan Cogswell BSc(hon) MSc MAusIMM from Borehole Wireline based in South Australia. Deconvolved uranium grade values and grade thickness intervals were calculated by David Wilson BSc MSc MAusIMM from 3D Exploration Ltd based in Western Australia.

The gamma radiation used to calculate the equivalent  $U_3O_8$  is predominately from the daughter products in the uranium decay chain. When a deposit is in equilibrium, the measurement of the gamma radiation from the daughter products is representative of the uranium present. It takes approximately 2.4M years for the uranium decay series to reach equilibrium. Thus, it is possible that these daughter products, such as radium, may have moved away from the uranium or not yet have achieved equilibrium if the deposit is younger than 2.4M years. In these cases the measured gamma radiation will over or under estimate the amount of uranium present. Sandstone hosted roll front mineralisation may not be in equilibrium due to one of the above factors.

#### **Competent Person Statement**

The information in this announcement to which this statement is attached that relates to Cauldron Energy Limited's exploration results is based on information compiled by Mr Mark Couzens who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Couzens is a full-time employee at Cauldron Energy Limited in the role of Exploration Manager and has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Couzens consents to the inclusion in the announcement of the matters based on their information in the form and context in which it appears.

The information in this resource memorandum that relates to mineral resources is based on information evaluated by Mr Craig Harvey who is a Member of the Geological Society of Southern Africa. Mr Harvey is full time employee of Ravensgate, an independent consultancy group specialising in mineral resource estimation, evaluation and exploration. Mr Harvey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2004 Edition of the 'Australasian Code for Report of Exploration Results, Mineral Resources and Ore Reserves'. Mr Harvey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The calculation of the uranium grades used in the resource estimate are based on information compiled by Mr David Wilson BSc MSc MAusIMM from 3D Exploration Ltd based in Western Australia. These uranium grades form the basis of the resource estimate and have been calculated from the gamma results and from the disequilibrium testing. Mr Wilson is a consultant to Cauldron and has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken 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". Mr Wilson consents to the inclusion in the announcement of the matters based on their information in the form and context in which it appears.



### **Corporate Overview**

### **UNDERVALUED COMPANY | PROJECTS POISED FOR GROWTH**

### **Capital Structure\***

Ordinary shares	178.56M	
Unlisted options	11.8M	
➢ Market cap. (AUD\$0.31)	A\$55.18M	
Cash @ 31/03/14**	A\$1.18M	
Convertible Note proceed	ls \$1M	
<ul> <li>Figures as at 31/03/2014</li> <li>** Inclusive of A\$1M convertible loan facilit</li> </ul>	ÿ	$\rightarrow$
Major Shareholders*		
Cape Lambert Resources	s Ltd	23.11%
➢ Mr D.Qiu		16.20%
Joseph Investments Int. L	_td	14.21%

\* As at 18/06//2014

#### **Board & Management**

Tony Sage	Chairman

- Brett Smith Exec. Director
- Qiu Derong Non-Exec. Director
- Amy Wang Non-Exec Director
- Simon Youds Head of Operations
- Mark Couzens Head of Exploration
- Catherine Grant CFO & Company Secretary







# CXU Key Uranium Assets

### **TOP-SHELF URANIUM AND BASE METAL ASSETS**

### Australia

- > Yanrey Project, WA (U)
  - Bennet Well: Potential growing ISR opportunity
  - Leach Testing paves path to ISR (96%)
- Marree Project, SA (Pb-Ag-Cu-Au)
  - Large target area with high grade mineralisation
  - Geophysical surveys have generated multiple drill targets

### Argentina

- > Rio Colorado (Cu, Ag)
  - Potential world-class base metals project
  - Uranium by-product in 16km strike can supply 100% of Argentina's domestic nuclear energy demands





Core from Yanrey Project's Bennet Well South: trays show the sedimentary contrasts and are coincident with the gamma spikes



# Recent CXU News

CXU Secures AU\$11 Million funding from China	Jun 2014
Funding and new director secured from supportive shareholders and new Chinese investors	
CXU congratulates RNI and FEL on discovery	May 2014
Cauldron major shareholder in FEL, a 20% free carry on RNI's new discovery	
Takeover Offer for Energia Minerals (EMX) Closes	May 2014
Unsuccessful attempt to amalgamate the uranium resources in WA's Yanrey region	
Bennet Well Surpasses Expectations	Jan. 2014
Outstanding uranium extraction at Bennet Well indicates high recovery at low operating cost	
Further testwork confirms Bennet Well's recovery potential	Mar 2014
96% average extraction establishes Bennet Well's ISR credentials	
Resource Improvement forecast at Bennet Well	Mar 2014
Core analysis indicates improved grade across whole Bennet Well resource	
Bennet Well Surpasses Expectations	Jan. 2014
Outstanding uranium extraction at Bennet Well indicates high recovery at low operating cost	
CXU funded and Bennet Well on ISR development path	Pg 5



# Bennet Well, Yanrey Region

### ISR SUITABILITY VALIDATED BY LEACH TESTS

- > Resource<sup>1</sup> upgrade required
  - Core testing indicates significant Bennet
     Well uranium grade increase 122%-147%
  - Change to JORC 2012
  - > Drilling from Sept 2013 to be included
- Leach tests have put Bennet Well on path towards potential production
  - Bottle Roll Test simulating ISR conditions give 94%-98% extraction
- Outstanding growth potential
- Identification of uranium minerals provides Redox-front road map to aid locating additional uranium Resources locally and regionally

**1.Bennet Well JORC 2004** Resource (E08/1493) of 15.7 million lb  $U_3O_8$  at 267ppm  $U_3O_8$  **inclusive Indicated Resource** 3.1 Mlb (1,400t) at 315ppm  $U_3O_8$  and Inferred resource:12.7 Mlbs (5,700t)  $U_3O_8$  @ 255ppm



The Target Prospects show the growth potential for the

BENNET WELL ON THE WAY TOWARDS ISR PROJECT DEVELOPMENT

Pg 6

Resource at Bennet Well



# Yanrey Regional Potential

### WIDESPREAD URANIUM ALONG PALAEO COASTLINE SIMILAR TO BENNET WELL

- Exploration Target<sup>(1)</sup> 30-115 Mlb @ 250-900 ppm eU<sub>3</sub>O<sub>8</sub> to be reviewed following resource upgrade
- Studies show grades above 250ppm eU<sub>3</sub>O<sub>8</sub> (over 1m) are potentially economic for a ISR mining operation
- 11 major channel systems similar to Bennet Well identified by CXU, most with evidence of uranium mineralisation
- Regional uranium competition: Paladin Energy Manyingee 25.9Mlb deposit; Energia Minerals Carley Bore 15.6 Mlb deposit
- Mineralogy from Bennet Well shows different uranium minerals from different deposition environments - gives a road map for the redox deposition

(1) Exploration Target: Under clause 18 of the JORC code, the exploration targets (excluding the portion already classified into JORC Inferred Resource outlined in this report are conceptual in nature as there has been insufficient exploration (namely drilling) to define a mineral resources and it is uncertain if further exploration will result in the determination of any additional mineral resource







### **Uranium Extraction Results**

### **BOTTLE ROLL TESTS CONFIRM HIGH URANIUM EXTRACTION**

#### High levels of Uranium extraction achieved and Low Cost extraction anticipated

- > Bottle roll tests in acidic media without oxidant
- Low acid consumption demonstrated
- Uranium appears to exist in soluble +6 oxidation state
- Low levels of impurities unlikely to impact leach solution processing
- Mineralogy showed variety of uranium minerals present including Sodium Zippeite



### **Leach Results**

SEM image from Hole YNDD018 at Bennet Well showing lighter uranium mineral and depicting accessible location of Uranium

Leach No.	Composite	рН	ORP (mV, Ag/ AgCl)	Temp (C)	Estimated Acid Consumption (kg/t)	Feed U <sub>3</sub> O <sub>8</sub> (ppm)	Residue U <sub>3</sub> O <sub>8</sub> (ppm)	U Extraction (%)
CAULD 7	YNDD018	2.0	450	30	ТВА	1,186	17	98.6
CAULD 8		1.8	450	21	0.4		47	96.0
CAULD 9	YNDD022	1.8	450	21	1.2	500	23	95.4

HIGH LEVEL OF URANIUM EXTRACTION ACHIEVED LOW COST ANTICIPATED


5.1m @ 1209 ppm U<sub>3</sub>O<sub>8</sub>

Permeability vs Assays vs Leach Results – YNDD018

#### URANIUM DISTRIBUTION WITH DEPTH HOLE YNDD018

- Image: mineralised zone in hole YNDD018 (red) and permeability data (yellow)
  - Highly permeable nature evident in the sands hosting uranium at Bennet Well South Prospect

#### Data supports leach testwork results:

98.6% U extraction acid leach
 95.3% U extraction alkaline leach





# Yanrey Uranium Suited to ISR

#### MINERALOGY PROVIDES REDOX ROADMAP

- QEMSCAN and manual SEM testing strongly indicate several provenance areas for uranium mineralisation, all soluble = amenable to ISR
- Uranium mineralisation forms in reducing environments
  - Reducing agents (zones of fossilised wood, abundant pyrites) found at Bennet Well
  - COFFINITE primary uranium silicate mineral not yet exposed to oxidising agents or environments.
  - URANIFEROUS ZIRCONS typically detrital in origin, having shed off a granitic source proximal to source
  - SODIUM-ZIPPEITE secondary uraniumbearing mineral – ie re-deposited in paleo river sands



Current geological interpretation of Bennet Well Resource Area

### MINERALS IDENTIFIED PROVIDE TOOLS FOR REGIONAL EXPLORATION



### QEMSCAN/SEM Results

### **START OF** ERALISED ZON 90.1-89.95m - 95.05m 5.1m @ 1209ppm U<sub>3</sub>C 47 Jan ca /4/1 D D Sample DD00418: 93.25m – 93.40m 4331ppm U<sub>3</sub>O<sub>8</sub> 94.2ml inely Intergrown Cla & U-Rich Phase

#### YNDD018 BENNET WELL SOUTH

- Dominant uraniumcontaining phase
   with a chemical
   composition
   corresponding to the
   mineral SODIUM ZIPPEITE
- High recovery rates
   suggest this uranium
   species is easily
   soluble and hence
   highly recoverable

db.Tm END



# Yanrey 5yr Production Plan

### LOW CAPEX ISR PROJECTS PROVIDE GROWTH PLATFORM

- Sandstone roll-front ISR operations production price : \$8/lb \$16/lb globally
- Revenue at \$50/lb is 4-5 times C1 cash cost
- > **Realistic production timeframe** following first WA uranium mine to receive final approvals
- > Core data shows majority of uranium located in permeable sand zones amenable to ISR
- > ISR style mining: quick to establish, cheap to run
  - > Fast track production to fill market demand shortfall





# Potential World Class Deposits

### MARREE, SOUTH AUSTRALIA

- Large poly-metallic alteration area, numerous historical mining sites
- Geophysical anomalies undercover and adjacent to old mine
- Potential for large poly-metallic system (multiple deposits)
- Currently 2 main deep drill targets

### **2014 ACTIONS**

- Structural geophysical survey required over whole area to achieve improved definition
- Resolve Traditional Owners dispute (currently being resolved)
- > Drill priority targets subject to funding

### **RIO COLORADO, ARGENTINA**

- > 16km outcrop, 11m wide, open at depth
  - >multiple samples taken average grades >150g/t Ag, 2-3% Cu and 300ppm Uranium
  - Access restrictions starting to ease
- Early metallurgical work completed
- Nuclear power identified by government as key for Argentina's energy mix

### **2014 ACTIONS**

- Map region to establish local presence & engage with local community
- Subject to access, conduct reconnaissance drill program to establish consistency at depth potential for inferred resource

Marree: Exciting potential for large deep mineralisation Rio Colorado: potential for high value subject to access



### World Uranium News

### GLOBAL PROBLEM: GROWING DEMAND AND INSUFFICIENT SUPPLY

China on Track to Beat 2020 Nuclear Power Targets	Mar. 2014
China on track to meet nuclear power targets with new plant construction expected to resume	shortly
Japan to Restart 48 Nuclear Reactors	Feb. 2014
After 2yrs offline, Japanese govt. has announced its intention to restart the country's 48 nuclea	ar reactors
Pakistan to Build 32 Nuclear Plants to Generate 40,000 MW Electricity	Feb. 2014
Pakistan in process of selecting 8 sites for 32 nuclear plants to combat domestic energy crisis	
US Uranium Concentration Production Rises, Russian Warhead Fuel Runs Out	Feb. 2014
US 2013 uranium concentrate production up 21% following end of Megatons to Megawatts pro	ogram
India, Japan Seek Early Deal on Nuclear Cooperation	Jan. 2014
India and Japan agree to fast-track negotiations for possible deal on nuclear energy	
Pakistan , China Discuss 3-Plant Nuclear Energy Deal	Jan. 2014
Pakistan and China in talks over a deal where China sells Pakistan 3 large nuclear plants for ~	<sup>•</sup> \$13B
Argentina Competitive Bidding Process for 4 Nuclear Power Plants	Jun. 2013
Govt. will tender before end of 2013 to build four new nuclear plants, worth US\$16M	
1 <sup>st</sup> Uranium Project to be Approved in WA	Apr. 2013



### World Nuclear Energy Market

Generation Costs & CO, Emission Volumes

### EMERGING ECONOMIES BANKING ON NUCLEAR POWER TO MEET ELECTRICITY DEMANDS

- IAEA forecasts that if policies remain unchanged, world energy demand is projected to increase by over 50% by 2030\*
- Nuclear power is the lowest social and economic cost power option for developing nations



> China's electricity demands are growing at an average annual rate of 10%

> Will surpass US as largest global uranium consumer within the next 10-15 years

### GLOBAL DEMAND FOR URANIUM & NUCLEAR ENERGY HIGHER NOW THAN PRE-FUKUSHIMA 2011

Graph source: METI, WNA \*www.naturaledgeproject.net, The Great Sustainability Debate Pg 15



# China's Energy Market

### **REFORMING ENERGY OUTPUT AND CONSUMPTION PATTERS**

#### **Electricity demands growing at average annual rate of 10%**

- In 2013, installed power capacity rose by 94M kw, including 2.21M kw from nuclear
- 6 new nuclear power facilities approved since end of 2012
  - Construction may commence on new facilities during 2014
  - Astonishing progress in nuclear technology in recent years
- Electricity demands growing at average annual rate of 10%

# China National Nuclear Corp. raising \$3B for expansion plans\*



- > Back on track with projects halted following 2011 Fukushima disaster
- > China could build 20 nuclear plants in the next 6 years

Graph source: oilprice.com China Moves Forward with Nuclear Reactors. \*Reuters: China to beat 202 Nuclear targets (Mar 2014) Pg 16

### CHINA TO BEAT 2020 NUCLEAR TARGETS



# Uranium Market Analysis

### UNDERSUPPLY TO FUEL URANIUM RESTART

#### +50% price growth by 2018\*

> 2018 spot price to reach US\$72/lb U<sub>3</sub>O<sub>8</sub>

#### Higher uranium prices essential

- > Non ISR incentive price +\$70/lb  $U_3O_8$
- Stagnated demand and low prices unsustainable for uranium industry
  - Paladin & Cameco announce significant output scale-backs

#### 2030 uranium demand estimated to be 100kt

- ~48% increase on current demand\*
- ≻~80kt to come from new mines and mine extensions (60% current global supply)

### Reactor growth is main price trigger

- > Japan: govt. has announces intention to restart 48 nuclear reactors
- > Pakistan: location scouting for 32 new nuclear power plants to produce 40,000 MW energy

### CHRONIC URANIUM SHORTAGE WITHOUT NEW FLOW IN NEXT 2-3YRS

\*Morgan Stanley: Metal Sparks, Feb 2014 \*\*Bell Potter: Uranium Powering Up, Feb 2013 Graph source: iaea.org "Under construction reactors" Pg 17

#### Total Reactors Under Construction Globally: 72 (~20% existing)





### **Demand Increase/Supply Decrease**

### **COMMODITY PRICE IS BIGGEST IMPEDIMENT TO SUPPLY GROWTH**

- Current uranium spot price \$34.85/lb
  - > production trigger price \$85/lb
- Secondary supply reducing
  - Less high enriched warheads
  - Tails retreatment not cost effective at current prices
- End users unconcerned on supply
  - Large inventories at low prices
  - Supply small cost component
  - > New supply time lag not understood
  - New demand growth recovery since 2011

#### Demand & Supply Dynamics (Kt U)



### LONG-TERM SUPPLY & DEMAND APPEARING TO INDICATE EXTENDED PERIOD OF UNDER SUPPLY

Graph source: Japanese Ministry of Economy, Trade & Industry; WNA; Pg 18 Bloomberg: Market Update



### Socially Responsible Power

### NUCLEAR ENERGY ESSENTIAL MAJOR POWER GENERATION SOURCE

By 2020, China & India will need additional >40Mlb uranium: equivalent to ~40% of 2011 global mine supply

Low emission power: nuclear is the only carbon-free baseload source of electricity

# Modern plants will combat smog issues experienced by

major cities inc. Beijing and Hong Kong

Renewable energies (wind, solar) as a baseload option are realistically 50-100 years away

### ISR: Most Cost Effective + Safe Uranium Mining Method



Power growth potential in Asia evident from Japan China India comparison

- Land reverts easily to its previous use after decommissioning
- > Water quality quickly reverts to original condition once leaching is discontinued
- > Only ISR uranium extraction method is economic at current prices

### **ISR: LOW COST, LOW ENVIRONMENTAL IMPACT**

Image source: Pg 19 www.sciencephoto.com



### **Climate Change**

### NUCLEAR POWER ESSENTIAL TO THE GLOBAL RESPONSE

- > Climate change requires +60% reduction in greenhouse gas emissions
  - China, Japan, India, Pakistan, Argentina embrace nuclear power as essential to new domestic and global energy mix

#### **Conservative estimates of the positive impacts of existing nuclear plants\***

~64 gigatons of CO<sub>2</sub> saved: 1.8 million premature deaths prevented by reducing toxic pollution from coal fired power plants

#### **Negative Impacts of the Anti-Nuclear Movement**

- Had the nuclear rollout continued in 1970s, 18 million premature fossil fuel related deaths and ~640 gigatons of CO<sub>2</sub> would have been saved\*
- Consequence of ~640 gigatons CO<sub>2</sub> is elevated risk of atmospheric temperature increase
- Responsibility for rise in gas-fracking and exploitation of tar sands and other oil technologies



### WITHOUT NUCLEAR ENERGY - INCREASED HEALTH RISKS FROM SMOG, RISING GLOBAL TEMPERATURE

\* www.businessspectator.com "Jim Green's distractions and James Hansen's analysis" Image Source: Pg 20 www.serc.carleton.edu



### Investment Highlights

### PREDICTED UPSURGE IN URANIUM PRICE POTENTIAL FOR SIGNIFICANT RETURNS ON INVESTMENT

- > Outstanding cash margin at low commodity prices
- Commodity prices expected to more than double to meet world demand
- > Undervaluation of quality uranium miners creates credible buying opportunity
- > New generation of nuclear energy essential to energy mix over next 30 years
- ➢ ISR C1 cost multiplies at low market price
- ISR low cost production and low environmental impact
- Yanrey the new uranium camp?
  - Exploration target size now indicates world class uranium region
  - High grades & shallow horizon indicate lowest ISR production cost
- > Argentina huge potential not reflected in share price
- Supportive shareholders and revitalised Board & Management Team

### CXU: ASSET RICH WITH PROJECTS POISED FOR GROWTH



### **CONTACT US**

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# APPENDIX



### PERMEABILITY VS ASSAYS VS LEACH RESULTS – YNDD022



The image shown on the left illustrates the mineralised zone in hole YNDD022 (red) and permeability data (yellow).



ALII DRON

Permeability data returned from the mineralised intervals in YNDD022 correspond to the zones of increased clay concentration, HOWEVER this has clearly had NEGLIGBLE impact on the extraction rates of the uranium, as shown by the results of the leach testwork by ANSTO: 98.4% U extraction by acid reagent and 93.5% U extraction by alkaline leach liquor.

> Uranium Distribution with Depth, Hole YNDD022



### QEMSCAN/SEM RESULTS: YNDD022 (BENNET WELL EAST)



EDITION - 60-53 m

1.1m @ 473ppm U<sub>2</sub>O<sub>4</sub>



clearly revealed coffinite as the most prolific uranium species.

**OEMSCAN** 

analysis

identified

**URANIFEROUS** 

**ZIRCONS** and

The high recovery rates returned from YNDD022 also suggest that these 2 uranium species are easily soluble and therefore extractable by leaching

The coffinite is typically present as tiny grains, finely intergrown with biotite, muscovite, kaolinite/clay, quartz and pyrite



 Definition
 Uraniferous Ziron

 Uraniferous Ziron
 Uraniferous Ziron

 Definition
 Ziron

 Diff.
 Experimentation

 Diff.
 Experimentation

 Diff.
 Experimentation

 Diff.
 Experimentation

 Diff.
 Experimentation

 All images from sample

 DD003227

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### MODAL MINERALOGY FOR SAMPLES DD00327 (YNDD022) AND DD00418 (YNDD018)

### **MODAL ABUNDANCES IDENTIFIED BY QEMSCAN**





### ICP-MS AND DNA ASSAYS VS DOWNHOLE GAMMA RESULTS

Hole ID	Easting	Northing	TD (m)	RL (m)	Resource Name	Assay Depth From (m)	Assay Depth To (m)	Assay Width (m)	ME-MS61 U308 (ppm)	DNA U308 (ppm)	Max Grade U308 (ppm)	Assay Grade Width (ppm.m)	Probe Grade Width (ppm.m)	Grade Width Change (%)
YNDD015	302878	7508657	52.5	47	Bennet Well East	41.45	43.60	2.15	612	NA	2641	1316	979	+35%
YNDD016	303305	7507544	68	47	Bennet Well East	62.90	63.5	0.6	443	NA	778	266	294	-9.5%
	202240	7507000	64.4	40	Bennet	58.35	59.25	0.9	538		1533	484	948	-49%
YNDDU17	303240	/50/886	64.1	48	Well East	60.6	61.2	0.6	496	NA	613	298	182	+64%
				<b>D</b> escription	87.85	88.30	0.45		887	2157	399	349	+14.3%	
YNDD018	299975	7506937	102.1	45	Well South	89.95	95.05	5.1	NA	1209	4331	6166	3901	+58%
					Weir South	95.35	96.25	0.9		219	309	197	155	+27%
	200271	7500001	00.0	10	Bennet	83.70	85.8	2.1	635	N1.0	1674	1335	1781	-25.1%
INDDOIG	300271	7506221	99.6	46	Well South	92.25	93	0.75	797	NA	2016	598	NA	NA
VNDD0000	200520	7505054	00.0	10	Bennet	73.35	73.95	0.6	1066	N1.0	2511	639	608	+5.1%
YNDD020	300538	7505854	90.6	46	Well South	82.20	83.70	1.5	1237	NA	5506	1855	1541	+20.4%
					Bennet	53.90	55.40			Core Los	S		602	NA
YNDD021	299124	7504044	68.7	45	Well Deep South	61.15	61.75	0.6	1453	NA	3278	872	689	+26.5%
YNDD022	302970	7508268	67.6	49	Bennet Well East	58.9	60	1.1	NA	473	1208	520	1349	-61%

Note: All U308 grades are calculated by multiplying the uranium assay grade by 1.179 Note: The U308 cut off used for reporting is 100ppm U308 over a depth of 0.5m Note: YNDD015 includes 0.5m core loss in the mineralised zone from 42.5m Note: YNDD021 has complete core loss of the 1.5m upper mineralised zone from 53.90m Note: The lower uranium zone in YNDD019 was not gamma probed due to hole blockage

Note: ME-MS61 assay testing was completed by ALS in WA. NA indicates not applicable

Note: DNA assay testing was completed by ANSTO in NSW. NA indicates not applicable

Note: Ore grade Ag assay was completed on 2 samples in YNDD017. 57.5 to 57.6m had 121 g/t silver and 58.12 to 58.20m had 135 g/t silver.

Note: The datum for all drillholes is GDA94\_Zone50

Note: All holes were drilled vertical with a dip of -90 and an Azimuth of 0.

Diamond core assays returned an overall 12.3% increase in the total amount of uranium when compared to down-hole gamma probe data for the equivalent intervals. Highlighted are holes YNDD018 (Bennet Well South) and YNDD022 (Bennet Well East) chosen for analysis at ANSTO, NSW.



### XRF ASSAYS VS ICP AND DOWNHOLE GAMMA RESULTS

Hole ID	Easting	Northing	TD (m)	RL (m)	Resource Name	Assay Depth From (m)	Assay Depth To (m)	Assay Width (m)	ICP U308 (ppm)	XRF U308 (ppm)	ICP Assay Grade Width (ppm.m)	XRF Assay Grade Width (ppm.m)	Gamma Probe Grade Width (ppm.m)	ICP to XRF Change (%)	XRF to Gamma Probe Change (%)												
YNDD015	302878	7508657	52.5	47	Bennet Well East	41.45	43.60	2.15	612	658	1316	1415	917	+7.5%	+54.3%												
YNDD016	303305	7507544	68	47	Bennet Well East	62.90	63.5	0.6	443	442	266	265	275	-0.4%	-3.6%												
	202240	7507006	64.1	48	10	Bennet	58.35	59.25	0.9	538	538	484	485	887	+0.2%	-45.3%											
TNUDUL/	505240	/50/660	04.1		Well East	60.6	61.2	0.6	496	507	298	304	169	+2%	+80%												
	200271	7506221	99.6	10	Bennet	83.70	85.8	2.1	635	667	1335	1401	1654	+4.9%	-15.3%												
TNDD019	300271	/500221		99.6	99.6	99.6	99.6	99.6	99.6	99.6	40	40	40	46	40	46	6 46	Well South	92.25	93	0.75	797	837	598	628	NA	+5%
	200529	7505954	7505854 90.6	10	Bennet	73.35	73.95	0.6	1066	1144	639	686	569	+7.4%	+20.6%												
TNDD020	YNDD020 300538 750	/505854		90.6 46	Well South	82.20	83.70	1.5	1237	NA	1855	NA	1444	NA	NA												
					Bennet	53.90	55.40			Core Los	s		559	NA	NA												
YNDD021	299124	7504044	68.7	45	South	61.15	61.75	0.6	1453	1562	872	937	646	+7.5%	+45%												

Note: All U308 grades are calculated by multiplying the uranium assay grade by 1.179

Note: The U308 cut off used for reporting is 100ppm U308 over a depth of 0.5m

Note: YNDD015 includes 0.5m core loss in the mineralised zone from 42.5m

Note: YNDD021 has complete core loss of the 1.5m upper mineralised zone from 53.90m

Note: The lower uranium zone in YNDD019 was not gamma probed due to hole blockage

Note: ICP is ME-MS61 assay testing that was completed by ALS in WA. NA indicates not applicable

Note: XRF is ME-XRF15b assay testing that was completed by ALS in WA.

Note: In YNDD020 the lower zone has XRF values shown as NA since 4 of the 10 assay samples had non sufficient sample to complete testing. NA indicates not applicable Note: No XRF analysis was completed on YNDD018 and YNDD022. The XRF was used to check whether there has been a complete uranium digest in the ICP assays

Note: The datum for all drillholes is GDA94\_Zone50

Note: All holes were drilled vertical with a dip of -90 and an Azimuth of 0.

XRF results show an increase in core assay grade of approximately 6% from the original ICP assay results. Deconvolved gamma probe grade and assay grade differences have increased from 20% to approximately 25% with the latest XRF results suggesting an increase in the gamma results used to calculate the existing JORC resource.

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Looph Dooulto

### URANIUM EXTRACTION TESTWORK

### **FINAL LEACH TESTS UNDERTAKEN AT ANSTO, NSW**

Leac	h Resu	lts		Leach tes	sts underta	ken in Sydney ta	p water in sma	Il agitated vess	els to minimise n	natrix effects
Leach No.	Composite	Test Type	рН	ORP (mV, Ag/AgCl)	Temp (C)	Estimated Acid Consumption (kg/t)	Oxidant Addition Fe(III), g/L	Feed U <sub>3</sub> O <sub>8</sub> (ppm)	Residue U₃O <sub>8</sub> (ppm)	Uranium Extraction (%)
CAULD 3	YNDD018	Agitated	1.2	600	50	13.6	2.0	1,186	17	98.6
CAULD 7		Agitated	1.8	~450	30	tba	0.0	1,186	32	97.3
CAULD 1		Agitated	2.0	500	30	7.9	0.5	1,186	34	97.1
CAULD 8		Bottle roll	1.8	~450	21	0.4	0.0	1,186	47	96.0
CAULD 5		Agitated	Alkal	ine Leach	30	N/A	N/A	1,186	71	94.0
CAULD 4	YNDD022	Agitated	1.2	600	50	16.3	2.0	500	9	98.2
CAULD 2		Agitated	2.0	500	30	10.1	0.5	500	19	96.2
CAULD 9		Bottle roll	1.8	~450	21	1.4	0.0	500	23	95.4
CAULD 6		Agitated	Alkal	ine Leach	30	N/A	N/A	500	35	93.0

Low acid consumption at < 16 kg/t

#### Site Water Analysis (ppm)

Sample	Al	As	Ва	Са	Cl	Fe	К	Mg	Na	Р	S	Si	Sr
Average	1.4	1.3	14.6	134.2	2,144	6.8	63.1	175.9	1,524	1.7	330	25.6	2.6
Maximum	6	2	77	333	13,500	35	208	518	8,960	6	1,490	34	9
Minimum	1	1	1	48	209	3	15	26	148	1	20	8	1

Low levels of impurities are unlikely to impact leach solution processing

#### HIGH LEVEL OF URANIUM EXTRACTION ACHIEVED USING ACID OR ALKALINE LEACH SOLUTIONS

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