### **ASX** Announcement

17 February 2016



#### **COMPANY PRESENTATION**

Cauldron Energy Limited (ASX: CXU) ("Cauldron" or "the Company") is pleased to attach a copy of a presentation which will be presented by the Company to brokers in Perth.

End.

**Tony Sage Executive Chairman** 

#### ABN 22 102 912 783

32 Harrogate Street, West Leederville WA 6007

PO Box 1385, West Leederville WA 6901

#### ASX code: CXU

271,053,444 shares 24,000,000 unlisted options

#### **Board of Directors**

Tony Sage Executive Chairman

Qiu Derong Non-executive Director

Judy Li Non-executive Director

Mark Gwynne Non-executive Director

Catherine Grant **Company Secretary** 



### **Exploration Success Update** FEBRUARY, 2016



### DEFINE DEVELOP DELIVER



### 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 Jess Oram who is a Member of the Australasian Institute of Geoscientists. Mr. Oram 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. Oram 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. Stephen Hyland who is a Member of the Australian Institute of Mining and Metallurgy. Mr. Hyland is full time employee of Ravensgate, an independent consultancy group specialising in mineral resource estimation, evaluation and exploration. Mr. Hyland 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 2012 Edition of the 'Australasian Code for Report of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Hyland 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.



### URANIUM MARKET & CXU'S PLACE

#### **CURRENT MARKET DYNAMICS - POST COP21**

- **SUPPLY** currently over supply due to slow Japanese start ups; cross over approx. 2020
- DEMAND current Chinese stockpiling, increase China start-ups, India, Middle East, Africa
- RISKS faster pace Chinese commissioning; SMR demand; no incentive new Ur production

#### **CAULDRON ENERGY DIFFERENTIATORS**

- ISR Project start-up in low commodity price environment
- Bennet Well WA Govt support and significant resource
- Uranium price ISR high margin forecast to double by 2023
- Land holding extensive with BW IP as path finder
- Low Emission Power COP21 outlined nuclear growth
- Yanrey potential world class ISR uranium region
  - Bennet Well IP pathway for regional value multiplier
  - BW realistic production timeframes, production by 2020
  - Tools for establishing uranium camp in Yanrey region

#### BENNET WELL EXPLORATION INTELLECTUAL PROPERTY (IP) HAS POTENTIAL TO DELIVER SIGNIFICANT VALUE





## CORPORATE OVERVIEW

#### STOCK VALUE UPSIDE: PROJECT POISED FOR STEP CHANGE IN VALUE

- Australia: Bennet Well poised for leach trials for in-situ recovery (ISR) project development; government support and independent study views ISR production possible by 2020
- Argentina: Government change towards mining heralds long-awaited opportunity for CXU

24M

A\$27.0M

A\$2.2M

#### **CAPITAL STRUCTURE**

#### Ordinary shares<sup>1</sup> 271M

- Unlisted options<sup>1</sup>
- Market cap. (AUD\$0.085)<sup>1</sup>
- Cash @ 31/12/15

#### **MAJOR SHAREHOLDERS<sup>2</sup>**

- Cape Lambert Resources 15.8%
- Mr Derong Qiu 17.5%
- Starry World Investment Ltd. 12.5%
- Guangzhou City<sup>3,4</sup>
  12.5%
- Joseph Investment Int. Ltd.<sup>4</sup>
  8.9%

#### **BOARD & MANAGEMENT**

- Tony Sage Chairman
- Mark Gwynne
  - Qiu Derong
- Judy Li

- Simon Youds
- Non-Exec. Director Head of Operations

Non-Exec. Director

Non-Exec. Director

- Jess Oram Exploration Manager
- Catherine Grant CFO & Company Secretary

- <sup>2</sup> Major Shareholders: all figures as at 15/02/16
- <sup>3</sup> Guangzhou City Guangrong Investment Management Co Ltd
- <sup>4</sup> Shares are subject to a holding lock by court order and relate to legal proceedings recently won by CXU (ASX announcement 29 January 2016)

### WELL FUNDED + SUPPORTED THROUGH CHINA

<sup>&</sup>lt;sup>1</sup> As at 16/02/16



### CXU KEY ASSETS

#### **AUSTRALIA**

- Yanrey Project, W.A. "the new uranium camp"
- Marree JV Project, S.A. (Cu, Au, U)
- Boolaloo Project, W.A. (Cu, Au)
- Beadell Project, W.A. (Cu, Au (20% free carry)



#### ARGENTINA

- Rio Colorado Project, (Cu, Ag)
- Los Colorados Project (U)
- Las Marias Project (U)
- Bellavista Project (U, Au, Ag)



UNDERVALUED COMPANY WITH GLOBALLY SIGNIFICANT RESOURCE ASSETS



### CXU EXPLORATION NEWS

Dept WA Mines Dept invites Bennet Well Project for preferred project status	Jan. 2016
DMP assigns personnel for interdepartmental liaison & assist Bennet Well through approvals proc	cess
Bennet Well exceeds target of 30.9 Mlb eU <sub>3</sub> O <sub>8</sub> in JORC Resource	Dec. 2015
ASX Announcement 17 December 2015 outlines this 33% increase in metal from both tonnes and	d grade
Cauldron moves to 51% in Rio Colorado JV in Argentina	Dec. 2015
The large potential copper silver mineralisation awaits drilling & positive government changes aug	ger well
Manyingee South channel identified in regional Yanrey Drilling adjacent to Paladin	Nov. 2015
Potential for further growth in Resources notably different to Bennet Well	
New Bennet Well channel extends 11km	Nov. 2015
Mineralisation model and Geophysical predictions proved in drilling to prove extensive channel	
High Grade Intersection nearly 0.5% Uranium Oxide	Nov. 2015
3 mineralised zones intersected in single hole, BW0098, signalling significant potential for extract	ion
Cauldron Pegs new Tenement on extendsion of Bennet Well Channel	Oct. 2015
Excellent geology allows vacant prospective ground to be acquired with high potential for minera	lisation
New Exploration Target Bennet Well Extended - ASX Announcement 22 September	Sep. 2015
19-54 Mt eU <sub>3</sub> O <sub>8</sub> @ 300-420ppm for contained 18-53 Mlb eU <sub>3</sub> O <sub>8</sub> at cutt-off 150ppm excl Resource	
Metallurgical testwork confirms Bennet Well Recovery potential	Feb. 2014
96% average extraction at Bennet Well establishes In-situ Recovery (ISR) credentials.	6



# YANREY URANIUM PROJECT, WA

#### **"THE NEW URANIUM CAMP"**

- 11 major palaeochannels identified by CXU
- Bennet Well channel: high grades and shallow horizon indicate ISR potential
  - > High cash margins at low commodity prices
  - Realistic 2020 production timeframes
  - > DMP invites BW for preferred project framework
- Total Bennet Well Resource upgrade\*:
  - 38.9 Mt @ 360 ppm eU<sub>3</sub>O<sub>8</sub> for 30.9 Mlb uranium oxide, using 150 ppm cut-off
  - Confidence up: 90% increase in Indicated Resource to 18.1 Mlb uranium oxide

\*Upgrade completed by Ravensgate Mining Industry Consultants

#### YANREY DISTRICT'S KNOWN DEPOSITS

- Paladin Energy: Manyingee: 25.8 Mlb @ 850 ppm U<sub>3</sub>O<sub>8</sub>
- Paldin/Energia: Carley Bore: 15.6 Mlb @ 310 ppm U<sub>3</sub>O<sub>8</sub>

### REGIONAL POTENTIAL WITH INTELLECTUAL PROPERTY (IP) FROM BENNET WELL





# BENNET WELL PROJECT SCHEDULE



- Predicted ISR operations production price: US\$13/lb
- economic at current uranium price (US\$40/lb)
- realistic production timeframe
- ISR style mining is:
  - > quick to establish,
  - cheap to run





# BENNET WELL MINERAL RESOURCE

#### **2015 DRILLING PROGRAM**

Highly successful drilling program:

- high-grade U mineralisation suitable for FLT
- delineation of new mineralisation at BW Channel
- discovery of new mineralisation at Manyingee South
- acquisition of new tenement adjacent to BW
- Mineral Resource increase to 38.9 Mt @ 360 ppm eU<sub>3</sub>O<sub>8</sub> for 30.9 Mlb using 150 ppm cut-off
- drillhole BW0098 intersected 3 zones of high grade:
  - 1.25 m @ 293 ppm  $eU_3O_8$ , from 82.5 m
  - 1.80 m @ 2900 ppm eU<sub>3</sub>O<sub>8</sub>, from 86.0 m inc 1.10 @ 4520 ppm eU<sub>3</sub>O<sub>8</sub>, from 86.4 m
  - 0.90 m @ 268 ppm eU<sub>3</sub>O<sub>8</sub>, from 88.6 m

Resource Category (150 cutoff)	Deposit Mass (Mt)	Deposit Grade (ppm eU <sub>3</sub> O <sub>8</sub> )	Contained Metal Oxide (t)	Contained Metal Oxide (MIb )
Indicated	21.9	375	8,230	18.1
Inferred	16.9	335	5,670	12.5
TOTAL	38.9	360	13,990	30.9





## HYDRO-GEOLOGICAL FRAMEWORK

#### **BENNET WELL HYDRO-GEOLOGY**

Physical parameter testing on core - BW0073

- sub-horizontal deposit geometry
- permeable host unit
- impermeable confining layers
  - hangingwall is adjacent to mineralisation
  - footwall is crystalline basement
- saturated conditions mineralistion below water table

 FLT will characterise leaching efficiency of ore zone



### ISR FAVOURABLE GEOLOGICAL FRAMEWORK



# BENNET WELL FIELD LEACH TEST

#### **KEY MILESTONE: BENNET WELL FIELD LEACH TEST (FLT)**

- Bennet Well uranium is amenable to both acid and alkali-carbonate leachate solutions (in the lab):
  - Acid Leachate 98% recovery,
  - Alkali-Carbonate Leachate 94% recovery.
- FLT will characterise hydrological and geophysical properties of the ore zone and confirm lab acid leach results.
- DMP evaluating whether existing Exploration Lease or a Mining Lease is required.
- Radiation Management Plan, Radiation Waste Management Plan and Program of Work are well advanced.



#### **IN-SITU RECOVERY PROCESS**

#### FIRST STAGE FLT AT BENNET WELL PLANNED FOR COMMENCEMENT IN 2016



### YANREY PRELIM. FINANCIAL MODEL

#### **BENNET WELL - EFFECT OF CUTOFF ON RESOURCE ECONOMICS**



- Financially positive at US\$40/lb (150 ppm  $U_3O_8$  cut-off)
- Predicted total operating cost of US\$26/lb
- Predicted Internal Rate of Return 21%
- Low CAPEX and OPEX costs





# MARREE JV PROJECT, SA

#### **CXU 60% OWNERSHIP**

- JV with Korean consortium: CXU retains 60% of project, Consortium diluting from 40% base
- Numerous historical working identified
- Historical mining for Pb, Zn, Au, Ag, Cu (e.g. Ooloo)

#### **URANIUM OPPORTUNITIES**

- Potential for ISR with Heathgate's ISR nearby
- Fresh view with key personnel with experience at Beverley and Four Mile uranium projects

#### **BASE METAL OPPORTUNITIES**

 Geophysical and IP anomalies undercover with same signature as high grade Ag, Pb + Zn mineralisation in historical mines





### RIO COLORADO CU, AG PROJECT, ARGENTINA

#### **POSITIVE POLITICAL SHIFT IN SENTIMENT TOWARDS MINING**

- CXU at pivot point after change in government sentiment coupled with significantly diminished social resistance to all mining in face of economic reality
  - Positive progress at Rio Colorado Cu, Ag project in Catamarca (NW Argentina)
  - Very exciting geology; project development previously hindered by politics
  - CXU working with provincial government and engaged in environmental work with university
  - CXU ready to reap the rewards of its +7 year apprenticeship in Argentina

#### HISTORICAL EXPLORATION OF HIGHLY PROSPECTIVE 16KM OUTCROP

- Rio Colorado JV: CXU to attain 92.5% of possible world class project in pro-mining Catamarca province.
- Historical exploration results display significant anomalism along a 16km strike.





POLITICAL SUPPORT AND SOCIAL LICENSE FOR FIELD GROUNDWORK AT RIO COLORADO



Conglomerates/Arenites

Redhed Sandstone

Carbonaceous shale

noxic conditions)

ached Siltstone/Shale

Basement

Meteoric water

Direction of movement

of Formation water

### RIO COLORADO 16KM CU, AG OUTCROP

#### **RIO COLORADO: THE SLEEPING GIANT**

- Outcrop of prospective geology along 16km with 6km Cu/Ag mineralisation identified
- Application of Sedimentary Copper mineralisation model has generated significant upside to the project area.
- Micromine remodelling work completed
- Ground fieldwork scheduled in Q3/Q4 2015
- Exploration approval anticipated in Q3 2015

RIO COLORADO EXPLORATION MODEL

Cu2++

Mineralogical zoning

py : Pyrite

hem · hematite

on + sp : galena + sphalerite

cp ± Ag : chalcopyrite ± Silver

cn : bornite + chalconvrite





### CXU 2015-2016

### ASSET DEVELOPMENT, POTENTIAL FOR SIGNIFICANT ROI

- Initiate FLT Bennet Well Q2 2016
  - Milestone achieved = step change in value per resource lb
  - FLT establishes low cost high margin uranium as feasible
  - Significant uranium demand driven price correction prior to 2020
- PFS & Approvals initiated economic evaluation work Q3 2016
- Argentina government change pro mining
  - Rio Colorado now at 51% with exploration imminent in 2016
- Geophysics Marree Project 2016

#### ISR PROJECTS CAN PRODUCE AT CURRENT PRICE; HIGH MARGIN BY 2020

- Commodity prices expected to more than double to meet world demand = potential for significant returns on investment
- Yanrey's high grades & shallow horizon indicate lowest ISR production cost = outstanding cash margin at low commodity prices
- CXU's Argentina projects' huge potential currently not reflected in share price

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



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# APPENDIX





# YANREY REGIONAL GEOLOGY

#### **REGIONAL GEOLOGY**

- Located in the northern end of the Capricorn Orogen
- Cretaceous-aged palaeochannels have created depressions along Proterozoic basement lithologies
- The palaeochannels have been overlain by Cretaceous-aged sediments

#### **EXPLORATION MODELS**

- Two possible Exploration Models:
  - Complex channel morphology allows for accumulation of organic-rich reductants required to fix uranium; OR
  - 2. Intersection of basement faults allows for inter-mixing of uraniferous groundwater with gaseous reductants (such as methane).

### 11 MAJOR CHANNEL SYSTEMS SIMILAR TO BENNET WELL IDENTIFIED BY CXU





### BENNET WELL GEOLOGY

#### **BENNET WELL GEOLOGY**

- The Bennet Well channel is a deep scour through resistant Proterozoic granite.
- Channel is generally linear with a maximum channel depth of ~150m.
- Structurally controlled channel erosion and flow direction
- Complex channel morphology has resulted in the accumulation of organic reductants.
- Palaeochannels correlate with gravity lows



CXU has two genetic models for uranium mineralisation at Bennet Well. Refer to "Yanrey Exploration Model" slide for more information



### Bennet Well – EM Image

