ASX Announcement

24 March 2014

FURTHER TESTS CONFIRM BENNET WELL'S EXCELLENT IN-SITU RECOVERY POTENTIAL

HIGHLIGHTS

- **Bottle Roll tests, better simulating in-situ leach conditions, returning excellent 96% uranium extraction**
- **Confirms uranium is easily extracted using acid media without the need for additional oxidant**
- **Low acid consumption demonstrated and no oxidant requirement means potentially low operating costs**

Australian resources company Cauldron Energy Limited (**ASX: CXU**) ("Cauldron" or "the Company") is pleased to announce that further more extensive bottle roll testing from the Bennett Well deposit in Western Australia (Figure 1) shows acid leaching without the need for additional oxidant has achieved high uranium extraction from the samples tested.

The results provide the Company with confirmation that the uranium mineralisation can be readily solubilised in readiness for further downstream solution purification processes and yellowcake production.

All leach testwork was undertaken at the ANSTO facility in NSW. Due to the high extraction rates for both acid and alkaline leach tests, Cauldron had the option to do an acid or an alkaline bottle roll test. At this stage the preferred option for Cauldron has been the acid pathway. A summary of the final leaching tests is presented in **Error! Reference source not found.**.

Cauldron's Head of Operations, Simon Youds welcomed the results and commented:

"The high uranium extraction at low acid consumption of less than 1.4 kg/t and without the need for an oxidant is further good news for the Company and confirms that the ISL method offers an effective and potentially cheap production method.

"The recent results have provided Cauldron with a suite of potential leaching processes that will be optimised during the next phase of project development. I am delighted that the Project seems to be spoiled for choice at this time," Mr Youds added.

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ASX code: CXU

178,062,092 shares
7,300,000 unlisted options

ANSTO have completed scanning electron microscopy (SEM) work of a selected high grade sample from the two diamond core samples submitted. This work has highlighted the fact that there are numerous uranium species present in the two samples and that most appear to be readily leachable based on the high extraction rates from the ANSTO testwork. Figure 2 shows an example of a SEM photo showing uranium mineralisation.

End.

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

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Disclosure Statements

None

Competent Person Statements

The information in this announcement to which this statement is attached that relates to Cauldron Energy Limited's testwork 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.

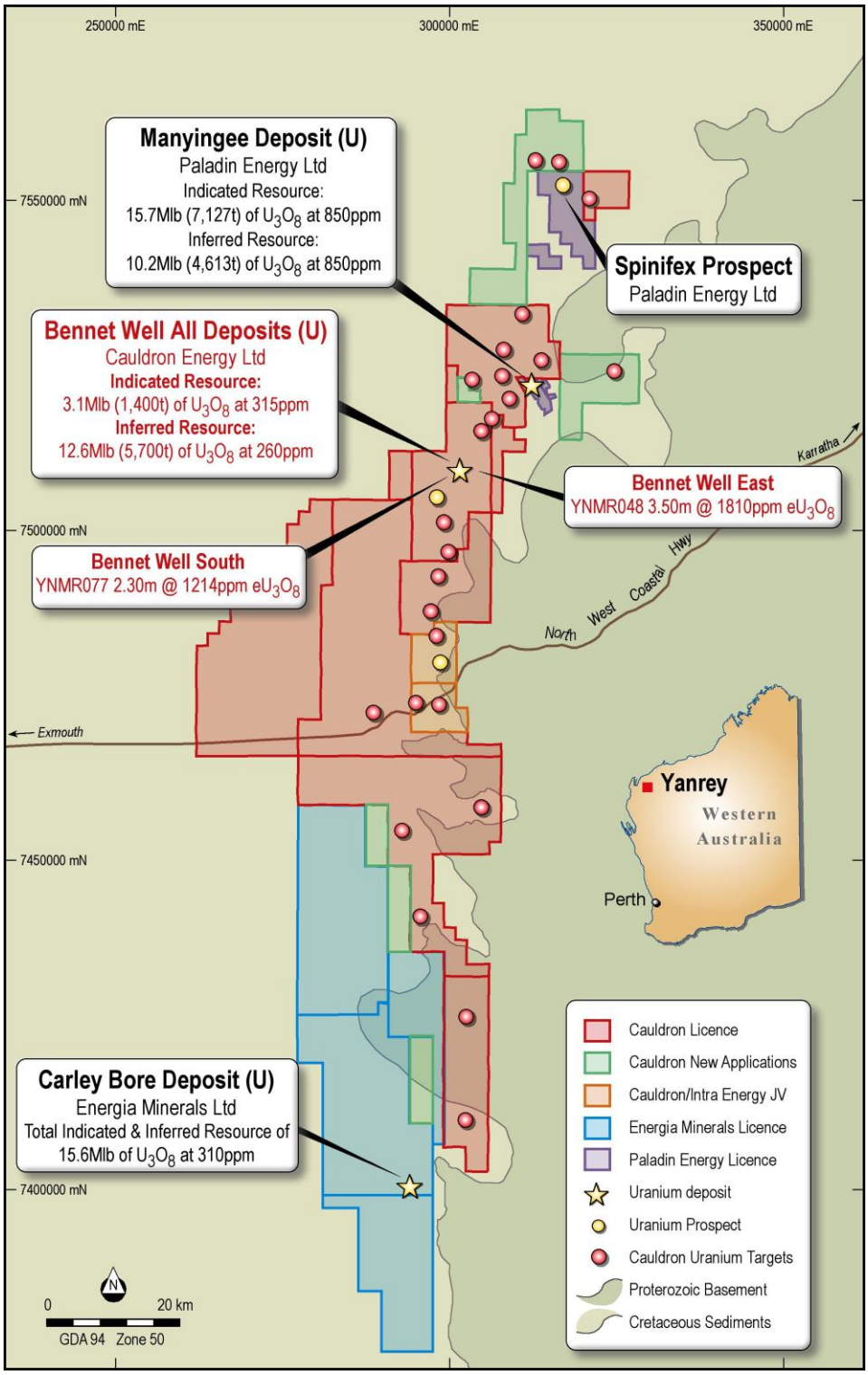

Figure 1 - *Yanrey Project and Prospect Location Plan*

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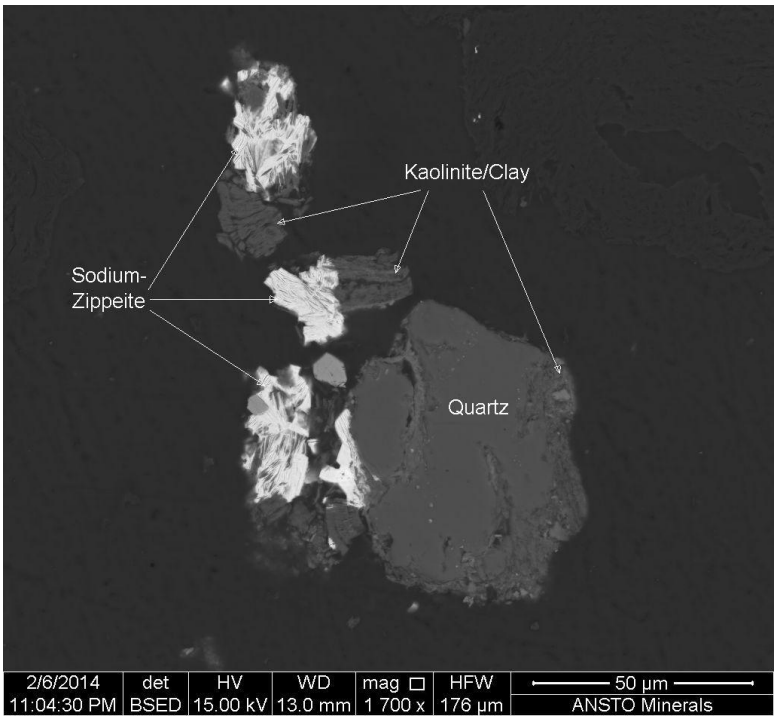

Figure 2: *Scanning Electron Microscopy (SEM) image showing clay clasts and a sand (quartz) grain from the mineralised zone of hole YNDD018. The mineral phase coating the clasts is identified as Sodium-Zippeite (hydrated uranyl sulphate)*

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Table 1: *Final ANSTO Leach Test Results:*

Leach No.	Composite	Test Type	pH	ORP (mV, Ag/AgCl)	Temp(C)	Estimated Acid Consumption (kg/t)	Oxidant Addition Fe(III), g/L	Feed U_3O_8 (ppm)	Residue U_3O_8 (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	Alkaline 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	Alkaline Leach		30	N/A	N/A	500	35	93.0

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JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples*	• The Bennet Well region 2013 Diamond Core drilling program utilised two sampling techniques, down-hole geophysical gamma logging and geochemical assaying. • All relevant "Nature and Quality of Sampling" information pertaining to the 2013 Bennet Well Diamond Core Drill Program, has already been reported in the ASX announcement released on 31 January 2014. • 8 x diamond drill hole core samples were submitted to Core Laboratories Australia, (of the global company Core Lab Reservoir Optimisation), based in Perth, Western Australia, for geotechnical analyses comprising profile permeability, porosity, and grain and bulk density testwork (a process known as, and referred to herein as, "PdpK" testing. • 30 samples were taken and trimmed from selected intervals within the mineralised zones of the 8 drill holes. Each sample was oven-dried in a convection oven for 24 hours at a temperature of 95°C. The samples were then cooled in a dessicator prior to analysis. • Core samples from drill holes YNDD018 and YNDD022 that were submitted to the Australian Nuclear Science and Testing Organisation (ANSTO) in Sydney for various geochemical and metallurgical testwork (see ASX Announcement released on 20 February 2014), were also subjected to bottle roll leach analyses. Using the same homogenous, riffled, pulverized sample prepared for the aforementioned analyses, the bottle roll tests were conducted in small agitator vessels, with no additional oxidant used, over a period of 4 days. The Leach Liquor Matrix comprised local Sydney tap water.

Criteria	JORC Code explanation	Commentary
	from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• 8 x vertical diamond core holes were drilled. Each hole had a mud rotary pre-collar and a HQ diameter diamond tail. • A total of 356 metres of mud rotary pre-collar was drilled with a total 257 metres of HQ diamond core tails. • The mud rotary pre-collar was drilled using a 120.6 millimetre pitch circle diameter drill bit. In instances where hard zones were encountered, the pre-collar was drilled using a PQ core barrel. • The target zone was cored using a 1.5 metre long HQ standard chrome core barrel.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• The core is checked every run for accuracy on drilling blocks and identifying where in a core run the core loss is likely to have come from. • By locating all zones of core loss, a total sample recovery for the entire hole can then be determined. • For this program the total core recovery was 93.6% with one hole returning 100% recovery. • The core run lengths varied depending on proximity to the target zone to maximize the core return. • Run lengths were 1.0 metre to 1.5 metre above and below the specified uranium target zone and 0.5 metre within the specified uranium target zone to assist in core recovery since the sediments were mostly unconsolidated. • To date, Cauldron has not identified any relationship between sample recovery and grade from the core drilling program.

Criteria	JORC Code explanation	Commentary
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All core and pre-collar chip samples were geologically logged on site. • Detailed information on all geological/geotechnical Logging is as per the ASX Announcement released on 31 January 2014.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• All core was cut in half on site using a handheld angle grinder and chisels since the core was mostly unconsolidated sediments. More consolidated core was cut at Core Labs in Perth using a diamond saw. • After sampling was conducted for the purpose of geochemical assaying, the surfaces of the remaining half-core intervals were cleaned and smoothened by the use of very small, thin razor blades and thin brushes (for the removal of the resulting dust and debris). This procedure is part of the “slabbing” procedure routinely conducted by Core Labs. Once the core was sufficiently cleaned, profile permeability measurements could be adequately taken. • None of the mud rotary chip samples were collected for geochemical assay. • Due to the flat-lying nature of the unconsolidated sediments no orientation lines were done on the core. • When the core was cut on site, the site geologist cut the core to ensure that nugget type

Criteria	JORC Code explanation	Commentary
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	features such as wood fragments and pyrite nodules were present in both the original and duplicate samples. • Individual sample intervals in the mineralised zone were generally 0.15 metre lengths but samples were made larger or smaller so that no lithology or reduction/oxidation (redox) zones were crossed.
	• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*	• When field duplicates were collected, half of the core was cut into quarters so that two separate samples could be generated from the same interval. There were occasions where features such as wood fragments and pyrite distribution coincident with areas of uranium concentration were not equally proportioned in the two quarter samples as evidenced by differences with the assay results.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The laboratories used by Cauldron for geochemical assessment of the core samples ensured that all crushing and pulverizing was suitable for the material being tested.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control*	• Assays were completed before and after leach testing by ANSTO using Delayed Neutron Activation (DNA) to determine the percentage of uranium that has been extracted during the leaching. The DNA method is considered to be a complete digest for uranium.

Criteria	JORC Code explanation	Commentary
	procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• All drill results are checked by senior Cauldron employees or consultants who have adequate experience with uranium deposits. ..
	• *The use of twinned holes.*	• The 8 x core holes completed in this drilling program were a mix of twinned holes and new exploration holes in geologically and mineralogically significant areas. The twinned holes ranged from 2 metre to 5 metre from existing holes due to access issues.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Primary assay data are stored as CSV and PDF files on the Cauldron server for future reference. Assay data is verified by senior personnel and then entered into an in-house SQL database by a designated database consultant who manages all data entry. All data is saved as electronic copies with server backups completed.
	• • *Discuss any adjustment to assay data.*	• The laboratory values for uranium assays in parts per million are adjusted by a factor of 1.179 to obtain the equivalent U_3O_8 value in ppm. This is done to comply with the industry standard for the reporting of uranium assays and resources is U_3O_8.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• The survey method used for this drilling program was a differential global positioning system. No down-hole surveys were completed since all holes were drilled vertically and the relatively shallow hole depths drilled would be unlikely to have any significant down-hole deviation.
	• *Specification of the grid system used.*	• The grid system used at the Yanrey Project is MGA_GDA94, Zone 50. All data is recorded using Eastings and Northings.

Criteria	JORC Code explanation	Commentary
	• *Quality and adequacy of topographic control.*	• The primary topographic control is from Shuttle Radar Topographic Mission. This data is adequate given the flat-lying nature of sediments at the Yanrey Project.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• The spacing of the core holes was between 350 metre and 800 metre within individual prospects.
	• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*	• The core holes were drilled for numerous reasons, including et al confirmation of uranium grades, assisting with geological interpretation, providing density and porosity data for resource work and identifying how well the uranium leaches from the sediments. As such, the spacing of core hole locations was adequate for this type of work.
	• *Whether sample compositing has been applied.*	• The only compositing done was for leach testing by ANSTO over a selected interval. • For the leach composite from YNDD018 a total of 34 assay pulp samples were composited to make the leaching sample • For the leach composite from YNDD022 a total of 10 assay pulp samples were composited to make the leaching
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• All drill holes were drilled vertically since the sediments are mostly unconsolidated and generally flat-lying. All holes are therefore considered to be representing true width of the uranium mineralisation.
	• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this*	• There is no apparent sampling bias created from the orientation of the drill holes.

Criteria	JORC Code explanation	Commentary
	should be assessed and reported if material.	
Sample security	• *The measures taken to ensure sample security.*	• Information regarding the transportation of core samples from site to the respective laboratories is as detailed in the recent ASX Announcement released on 20 February 2014.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• In conjunction with Cauldron's Competent Person, a full audit of the drill data set is underway to calibrate and update the historical gamma results with both X-ray Fractionation (XRF) and Delayed Neutron Activation (DNA) Analysis. The results are expected to be used in the JORC 2012 compliant resource upgrade following the leach work. • Cauldron's Competent Person has verified that all sampling techniques and data collection is of high standard and no reviews are required at this stage.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The location of the drilling program was completely on E08/1493 which is 100% owned by Cauldron. Cauldron has a Native Title Agreement with the Thalanyji Traditional Owners which cover 100% of this tenement. The tenement is located entirely on the pastoral lease of Yanrey Station. • This tenement is in good standing and there are no known impediments for exploration on this tenement to Cauldron's knowledge.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• A 70 kilometre long regional redox front and several palaeochannels were identified by open hole drilling by CRA Exploration Pty Ltd (CRAE) during the 1970s and early 1980s. CRAE drilled over 200 holes in the greater Yanrey Project area, resulting in the discovery of the Manyingee Deposit and the identification of uranium mineralisation in the Bennet Well channel and the Spinifex channel. Uranium mineralisation was also identified in the Ballards and Barradale Prospects.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Yanrey Project area covers the contact between the Cretaceous aged marine sediments of the Carnarvon Basin and the Proterozoic Yilgarn Block, which lies along the granitic and metamorphic ancient coastline. At least 15 major palaeochannels, sourced from the granite and uranium rich areas of the Gascoyne Province, east of the ancient coastline, have been identified within the Yanrey Project. The channels are Cretaceous in age and are almost completely filled by Cretaceous sediments with a relatively thin Tertiary and Quaternary cover on top. • The bases of these channels are eroded into the underlying Proterozoic-aged granite and metamorphic basement. The channels sourced from the east enter into a deep north to south trending depression that was probably caused by regional faulting and may represent an ancient coastline depression. • The uranium mineralisation of the Yanrey project is sourced from uranium rich granites that, due to erosion, shed detrital uranium locally into palaeochannels. Over time, the amount of uranium from such erosional episodes can reach economic levels. • The style of uranium mineralisation at the Yanrey Project is a mix of roll-front style deposits to more tabular-style uranium orebodies.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in*	• Drill Hole Information previously reported on the ASX on 31Jan 2014

Criteria	JORC Code explanation	Commentary
	metres) of the drill hole collar ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	• No weighted averages were required or employed in the ANSTO testwork.
	• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	• No aggregation of sample intervals or intercepts was required or employed in the ANSTO testwork.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No metal equivalents were required or used.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• The mineralisation reported in this release is sub-horizontal and all drilling is near-vertical so all mineralisation values reported can be considered as true widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Drill Hole Information previously reported on the ASX on 31Jan 2014
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Drill Hole Information previously reported on the ASX on 31Jan 2014
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk*	• A preliminary metallurgical testing program developed by Cauldron and ANSTO has been undertaken to ascertain the leach response of the samples under typical conditions considering both the acid leaching route and the carbonate/bicarbonate leaching route. The results of this form the substantive aspects of this announcement. • The test work scope also included investigations into 138 x drill core interval samples using DNA, uranium mineralisation analysis using QEMSCAN, site water chemical

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	samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	composition and determining the degree of secular equilibrium in two high grade samples using gamma spectrometry to facilitate an audit and upgrade of the existing drill data base which will be incorporated into the new resourced planned for March 2014. • Preliminary leaching tests were performed in small agitated tanks at low solids loading to allow leaching performance to be examined under ideal conditions without the interference of solution matrix effects and to ensure maximum exposure of the uranium minerals to the leach solution. Three tests on each composite were carried including moderate acid leach conditions (duration 1 day), strong acid leach conditions (duration 1 day) and typical carbonate/bicarbonate leach conditions (duration 7 days). • Results for this leach test work form the substantive aspects of this announcement. • Core samples from drill holes YNDD018 and YNDD022 that were submitted to the Australian Nuclear Science and Testing Organisation (ANSTO) in Sydney for various geochemical and metallurgical testwork (see ASX Announcement released on 20 February 2014), were also subjected to bottle roll leach analyses. Using the same homogenous, riffled, pulverized sample prepared for the aforementioned analyses, the bottle roll tests were conducted in small agitator vessels, with no additional oxidant used, over a period of 4 days. The Leach Liquor Matrix comprised local Sydney tap water.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• The bottle roll test results indicated that using an acid leach uranium extraction was very high. The total acid consumption was low and no oxidant was added. • The preliminary leach test results indicated that the uranium mineralisation in the samples tested were readily leached under acid or carbonate/bicarbonate conditions. Cauldron plans to incorporate the extraction and geological data into the JORC 2012 resource upgrade by May 2014. The further development of the feasibility of this mineralisation towards economic extraction now can be initiated. • Cauldron plans on undertaking more detailed testwork in subsequent phases of study with the aim of confirming the optimum metallurgical extraction (whether acid or carbonate/bicarbonate) and identifying the solution purification processes that lead to the production of a high quality uranium oxide product. • The Bennet Well East and Bennet Well South deposits are open along strike in both north and south directions. The priority for future work is to define the full extent of these resources. The location of potential extensions is shown in the plan view

Criteria	JORC Code explanation	Commentary
		diagrams released on the ASX on 31Jan 2014 • The aim in upcoming work will be to get all uranium identified into an Indicated Resource where possible. Infill drilling may be required in certain areas in future drill programs to increase confidence in grades between drill holes so that resources identified can be classified as Indicated. • More core drilling will also be completed to assist in resource calculation, provide samples for metallurgical and leaching testwork, improve geological understanding and provide data for future planned scoping studies.