ASX Announcement

31 January 2014

CAULDRON ENERGY LTD

Bennet Well Surpasses Expectations
Diamond Core Assays Show Higher Uranium Grades

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ASX code: CXU

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

HIGHLIGHTS

- **Comparisons between down hole gamma probe values and core assays have shown an increase in grade width for YNDD018 from 3664 ppm.m to 6166 ppm.m, which is a 68% increase in uranium grade in the main mineralised zone**
- **Significant diamond core assay results include:**
  - **YNDD018 5.1m @ 1209 ppm U_3O_8**
  - **YNDD020 1.5m @ 1237 ppm U_3O_8**
  - **YNDD020 0.6m @ 1066 ppm U_3O_8**
  - **YNDD021 0.6m @ 1453 ppm U_3O_8**
  - **YNDD019 2.1m @ 635 ppm U_3O_8**
  - **YNDD015 2.15m @ 612 ppm U_3O_8**
- **Diamond core assays returned an overall 20.0% increase in the total amount of uranium when compared to down-hole gamma probe data for the equivalent intervals**
- **High grade uranium intersections identified on the most northern and southern drill lines at Bennet Well South show potential to further upgrade current resource in both directions**
- **Cauldron is currently working with resource consultants Ravensgate to complete a JORC 2012 compliant revised resource**

Australian resources company, Cauldron Energy Limited **(ASX: CXU)** ("Cauldron" or "the Company") is pleased to announce a further update on the diamond core drilling program completed at the Bennet Well deposit at its wholly-owned Yanrey project in Western Australia (see Figure 1).

Geochemical assay results for the drill core have now been received and show an overall 20.0% increase in the total amount of uranium when compared to the deconvolved down-hole gamma probe data (see Table 1 and 2).

The assay results confirmed significant increases in grade width for some of the drill holes including YNDD018 where the main mineralised zone increased 68.3% from the gamma probe data. The main mineralised zone in YNDD018 from 89.95m returned an assay result of **5.1m @ 1209 U_3O_8** for a total grade width of **6166 ppm.m**. The gamma probe data returned an average uranium grade of **6.46m @ 567 ppm eU_3O_8** for a total of **3664 ppm.m**.

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

"The increase in grade width in YNDD018 from 3664 ppm.m in gamma probe data to 6166 ppm.m in geochemical assay data highlights the potential benefit for the Bennet Well resources," he said.

"We can see clear evidence uranium content has improved more than 20.0% on the already high uranium grades estimated from gamma probes. This underpins the need for a resource upgrade.

ANSTO is currently completing leach testing on this drill hole. We're eagerly awaiting the results as to what percentage of uranium recovery we get from this high grade core sample from the mineralised zone."

The location of YNDD018, is on the most northern drill line within the resource, and it opens up a large target region of interpreted palaeochannel yet to be drill tested as shown by the gravity image shown in Figure 2 and subsequent interpretation shown in Figure 3. There are a lot of similarities in geology with YNDD018 and high grade drill holes located on the southern edge of the Bennet Well Central resource area, supporting the potential to identify additional resources to the north.

Likely resource extensions also exist to the south of the Bennet Well South Prospect based on the Diamond core program recently completed as shown in Figure 4 and Figure 5. At the southern end of Bennet Well South, an exploration hole YNDD020 identified two significant uranium zones totalling **2.1m @ 1188 ppm U_3O_8** in assay and **2.98m @ 676 ppm eU_3O_8** from gamma probe data. The two high grade uranium intersections identified at either end of the Bennet Well South resource have highlighted the potential for a significant resource upgrade for this area, subsequent to further drilling.

The Bennet Well East resource is also open at both the northern and southern end as shown in Figures 6 to 9. Further drilling both identifying resource extensions and closer spaced drilling within the current resource region is required in future drilling programs to increase the expected resource size.

Additional testing of the core samples is ongoing with ANSTO currently completing leach testing of selected mineralised intervals and CoreLab currently working on providing metallurgical data from the core including profile permeability, porosity and grain density analysis.

Exploration Manager Mark Couzens commented: "There were noticeable differences between the geochemical assay grades and the down-hole deconvolved gamma probe data of some of the drill holes. This suggests that both positive and negative disequilibrium exist in the Bennet Well resources.

"The increase in assay grade relative to the deconvolved gamma probe grades of 20.0% is a lot higher than what would normally be expected from this type of sedimentary uranium deposit which is usually +/- 5% difference. This suggests that during the deconvolution of the gamma probe data there has been a drilling or an environmental factor that has not yet been taken into account. Cauldron is currently working with Uranium Specialist Mr David Wilson to determine what this correction factor is. Mr Wilson has completed the deconvolution of all Cauldron drill holes. Once identified, all previous Cauldron drill holes will need to be adjusted by this factor to get a more realistic uranium grade since the current resources are based primarily on gamma probe data".

Cauldron is currently working with Ravensgate to provide an updated resource estimate for the Bennet Well resources using the new core data. The updated resource which will be JORC 2012 compliant is expected to be completed by the second quarter of 2014.

End.

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

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<u>Background Information</u>

In September 2013, Cauldron completed an 8 hole diamond core drilling program. The drilling was done by Terra Drilling who completed a total of 356 metres of mud rotary pre-collars and 257 metres of HQ3 diamond core. Downhole geophysical logging was completed by Bore-Hole Geophysical Services who probed all of the Bennet Well drill holes.

The drill holes were a mix of twinned holes and exploration holes planned to test for the extension of the uranium zones from known high grade holes. The north to south spacing between core holes was 350m to 800m along the Bennet Well East and Bennet Well South resource areas. The wide spacing of core holes gave Cauldron a good spread of mineralogical, metallurgical and geological data.

The geochemical assay testing was completed at ANSTO in NSW and ALS in WA. The core samples for 2 core holes were sent to ANSTO for geochemical assay testing using Delayed Neutron Activation Analysis (DNA). The core samples for 6 drill holes were sent to ALS for geochemical assay testing using 4 acid ICPAES and ICPMS analysis for 48 elements.

ANSTO is in the process of completing leach tests on the higher grade mineralised zones in YNDD018 and YNDD022. The main reason that these two holes were selected was to test the various lithology types seen from the core samples and how much uranium can be recovered in leach testing.

The types of leach testing to be completed on the selected core samples are an acid in-situ recovery leach (Acid ISR), an Alkaline in-situ recovery leach (Alkaline ISR) and a moderate acid leach. The three leaching methods will determine a) whether in-situ recovery is possible as a production method and b) what the preferred leach type is for any potential in-situ recovery.

ANSTO will also complete some QEMSCAN analysis on selected samples to identify the type of uranium present in the resources, water testing of aquifer samples and also complete some secular equilibrium testing to give us additional information regarding any disequilibrium that may exist in the Bennet Well region.

The calibration of the raw downhole gamma field readings, by Mr David Wilson, has shown that all eight core holes drilled at the Bennet Well Prospects are of economic importance to Cauldron where grades above 250ppm uranium oxide over a one metre interval. (see CXU announcement dated 7 February 2013).

Mr Wilson has re-checked the previously reported deconvolved gamma probe data for the 8 diamond core holes released on the ASX on the 8 October 2013 and has done a correction for Table 1 shown in this release. The grades originally indicated have now been reduced by an average of 7%. Table 2 in this release show the modified deconvolved uranium values.

Based on the successful diamond core drilling program recently completed Cauldron has increasing confidence that the current revision of the Bennet Well Resources will provide enough confidence in terms of resource (Inferred and Indicated) to progress the Bennet Well project into a scoping study. A firm scope and fully costed proposal have been received for this work and await Board approval to be initiated.

Ravensgate, an independent consultant group, have calculated a JORC 2004 compliant resource in February 2013 for the Bennet Well region. The new total uranium resource has increased the previous 4.8Mlb at 300 ppm eU_3O_8 to 15.7 Mlb at 270 ppm eU_3O_8. A 150 ppm cut-off was used in both resource calculations.

The drilling in Bennet Well Deep South falls under the innovation grant currently in progress. Cauldron would like to thank the Department of Mines and Petroleum in Western Australia for their assistance in encouraging new exploration areas and are planning to do further drilling in 2014 as part of this agreement. Cauldron looks forward to further exploration success with the assistance of this government grant.

Geology and Mineralisation

Detailed geological logging of the drill core has increased Cauldrons understanding of the different stratigraphic units and geological models to explain the deposition of the Bennet Well sediments and subsequent uranium deposition.

Bennet Well South and Bennet Well East are geologically very different with the mineralisation located in different stratigraphic units. The only common factor is that both resources are located where they are due to the proximity to a palaeochannel that is the migration passageway for uranium from source to trap site.

Bennet Well East is stratigraphically a lot shallower than Bennet Well South where the depth to granite basement is on average 30m to 40m higher in terms of RL. The end result of this is that the Birdrong Sandstone a marine unit from a sea level rise and the Nanutarra Formation a marginal marine unit have not been able to deposit here due to the height of the granite basement and the fact that the sea cannot enter this location.

The main Bennet Well Palaeochannel which encompasses the Bennet Well Central Resource area has a second limb that has eroded the granite basement along the eastern side of Bennet Well Central. The Bennet Well East palaeochannel is predominantly oxidised with the channel itself having only occasional trap sites for uranium to deposit.

On the eastern edge of this channel there was a shallow depression where in flood conditions sands and pebbles derived from the channel were forced out of the channel edges and into an overbank region. It is in this overbank that during calm periods clay layers deposited within the tree-lined depression.

During these flood events uranium rich material would have been deposited within this depression where over time uranium has deposited in more reduced areas within the overbank. The core from holes at Bennet Well East showed strong evidence of vegetation within the overbank region with large pieces of wood fragments and fossilised trees seen in the core. Some of the wood fragments have been partially replaced by pyrite. It is in such conditions that uranium will readily precipitate.

On the northern half of the Bennet Well East resource area uranium has preferentially deposited within sand and pebble rich horizons within the normally clay rich Muderong Shale Formation. It appears the primary source of sand and pebbles into this marine unit have washed in from the exposed granite basement shelf located further to the east of this location or from small palaeochannel limbs that branch off from the main palaeochannel. The source of some of the uranium is likely to be detrital pieces of eroded granite containing elevated levels of uranium.

The Bennet Well South resource area is geologically very similar to Bennet Well Central where the bulk of the mineralisation is located within the Nanutarra Formation. The Nanutarra Formation is an interbedded sand and clay unit which has been deposited within the palaeovalley created by the palaeochannel erosion. As the channel stopped flowing the sea began to fill this depression but then a sea level drop occurred causing the sea to then recede. Shallow seawater was trapped within the palaeovalley in a shallow lagoon to swamp environment. Over time this unit grew in size up to around 20m thickness in the Bennet Well region.

At Bennet Well South the uranium identified to date is located at the contact between the predominantly oxidised palaeochannel and the reduced Nanutarra Formation. Due to the proximity to oxidised fluids from the channel the Nanutarra Formation which was originally completely reduced has now changed to patchy, transitional zones of both oxidised and reduced sediments.

Uranium is mobile within oxidised sediments so the chemical change from reduced to oxidised has allowed uranium to move through this unit where it deposits on reduced regions adjacent to oxidised regions.

At Bennet Well Central the main resource area is located at the point where the Nanutarra Formation is deposited above the palaeochannel itself. At Bennet Well South, the very northern end of this resource adjacent to the high grade drill hole YNDD018 has near identical geology to the southern edge of the Bennet Well Central resource.

The bulk of the mineralisation is located on the eastern edge of the palaeochannel in the absence of any Nanutarra Formation is located above the palaeochannel suggesting that the channel during this time was still flowing.

If the mineralisation at Bennet Well South is the same as that at Bennet Well Central then there is a strong possibility that the area near YNDD018 is just the start of the main mineralised zone and the rest of Bennet Well South already identified is actually a slightly different geological model.

Further drilling particularly on the northern extension of Bennet Well South is needed to prove whether or not the main mineralised body is actually located further to the north along the palaeochannel.

Disclosure Statements

Analytical Methods for Bennet Well Diamond Drill Core Geochemistry

Laboratory:- Australia Laboratory Services Pty Ltd (ALS)

Techniques used:

ME-MS61 Multi-Acid Digestion with Hydrofluoric Acid for 48 elements
(Inductively Coupled Plasma with both Atomic Emission Spectrometry and Mass Spectrometry finish).

AG-OG62 Ore grade Ag analysis
Four Acid "Near Total" Digestion for Ore Grade Elements (Inductively Coupled Plasma with Atomic Emission Spectroscopy finish)

Laboratory;- Australian Nuclear Science and Technology Organisation (ANSTO)

Techniques used:

DNA Delayed Neutron Activation Analysis (uranium only using this method)
(Irradation of 5g of sample in a nuclear reactor)

Competent Person Statements

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 calculation of the uranium grades used in the resource estimate is 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 a Competent Person 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.

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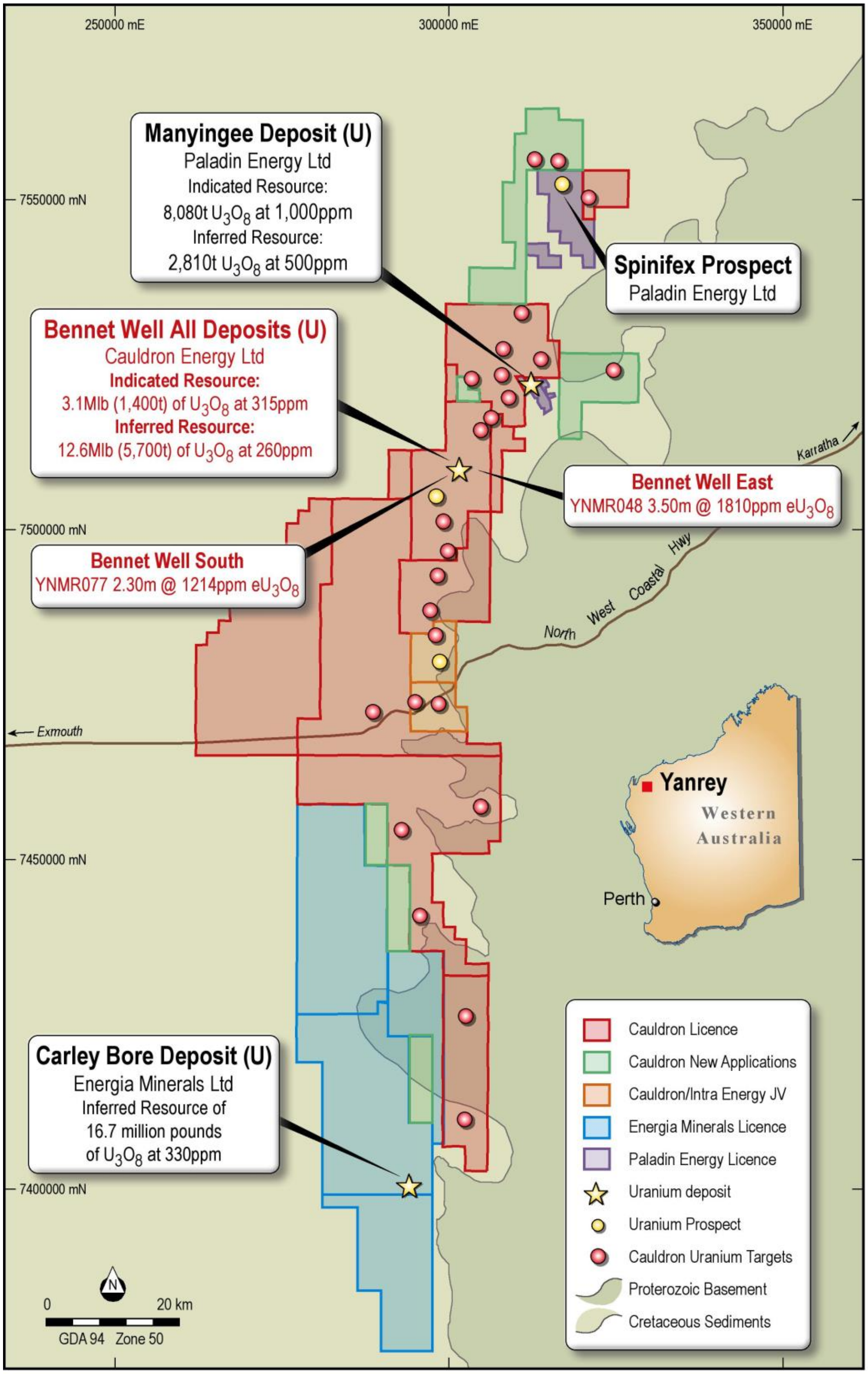

Figure 1 *- Yanrey Project and Prospect Location Plan*

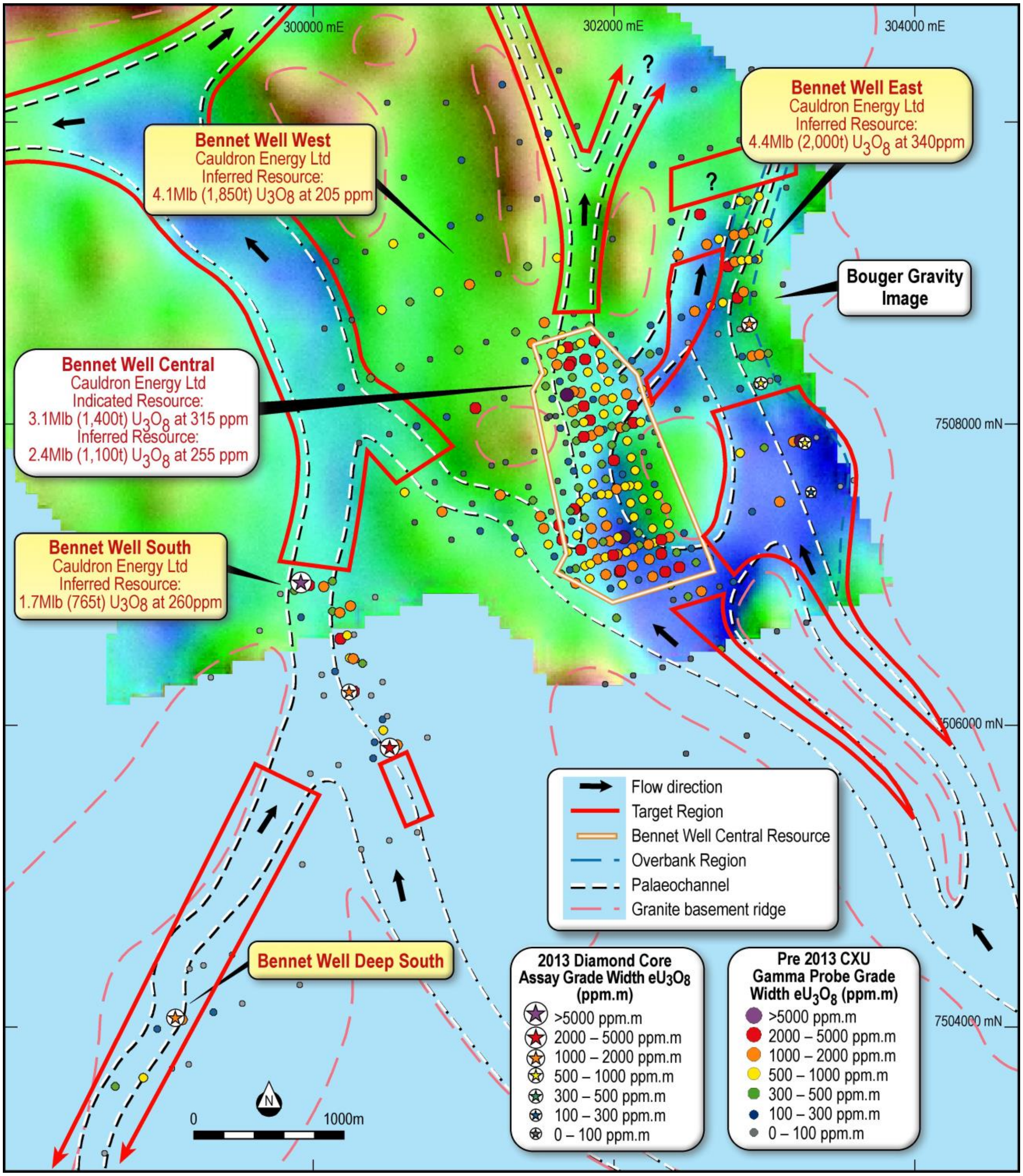

***Figure 2 -** Bennet Well prospect location map from part of E08/1493 showing the location and grade widths of the recently completed core drillholes and pre 2013 drill holes at the Bennet Well resources. In the background is a bouguer gravity image shown with the palaeochannel interpretation*

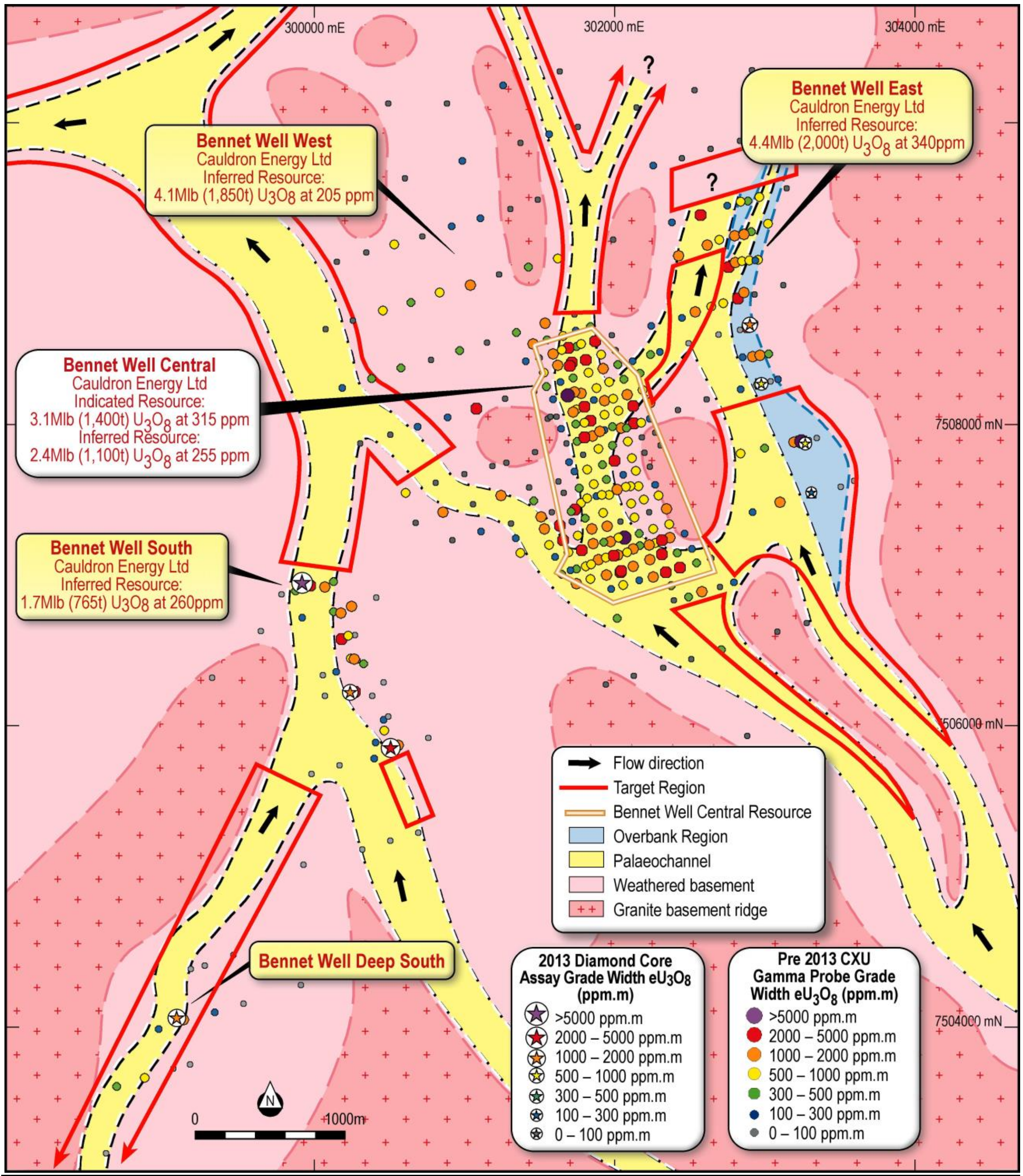

Figure 3 - *Bennet Well prospect location map from part of E08/1493 showing the location and grade widths of the recently completed core drillholes and pre 2013 drill holes at the Bennet Well resources. This image is a schematic image showing the palaeochannel interpretation*

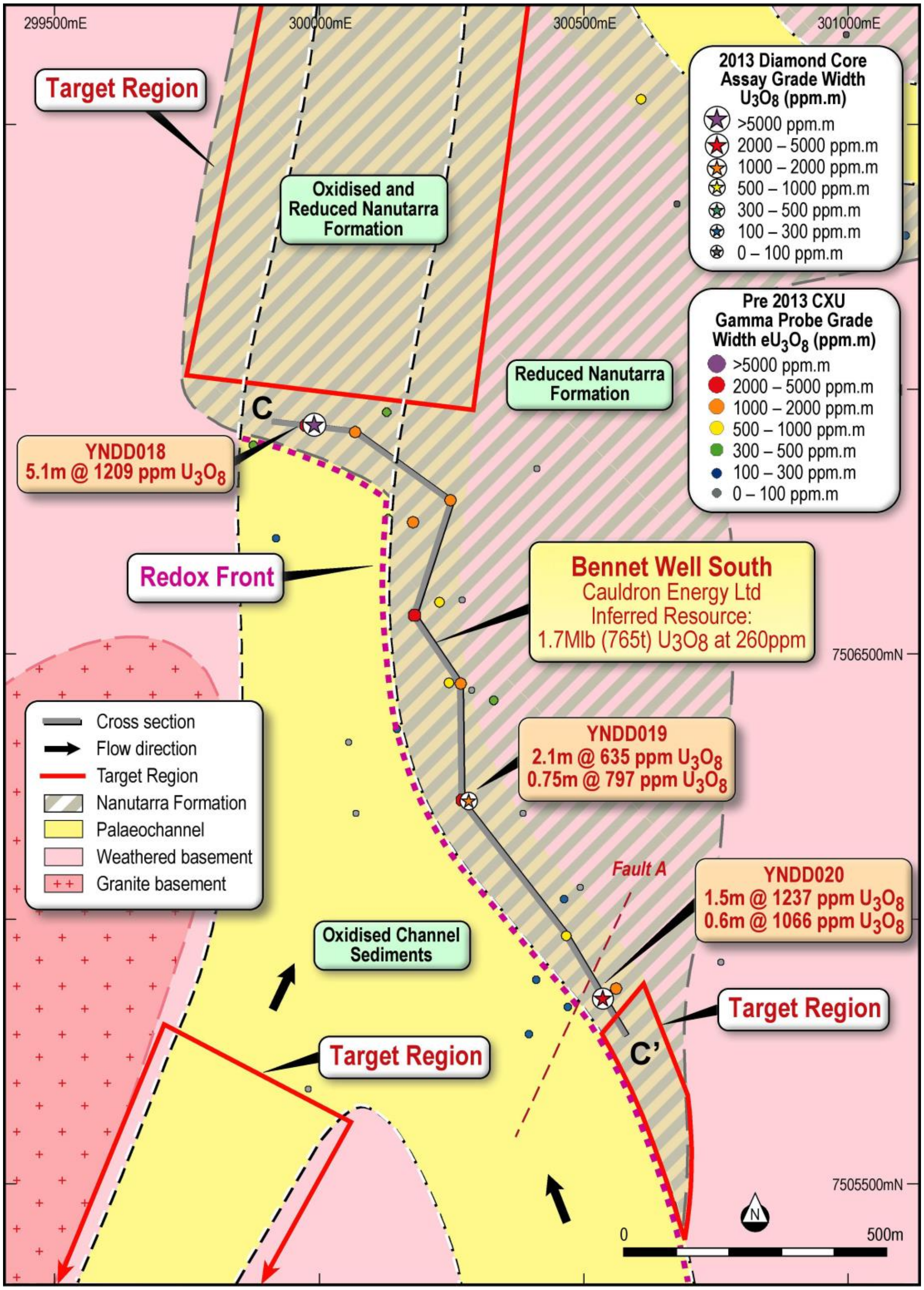

Figure 4 - *Bennet Well South prospect schematic map showing drill hole locations and grade widths. Also shown are the geological interpretation and the location of cross section C-C'*

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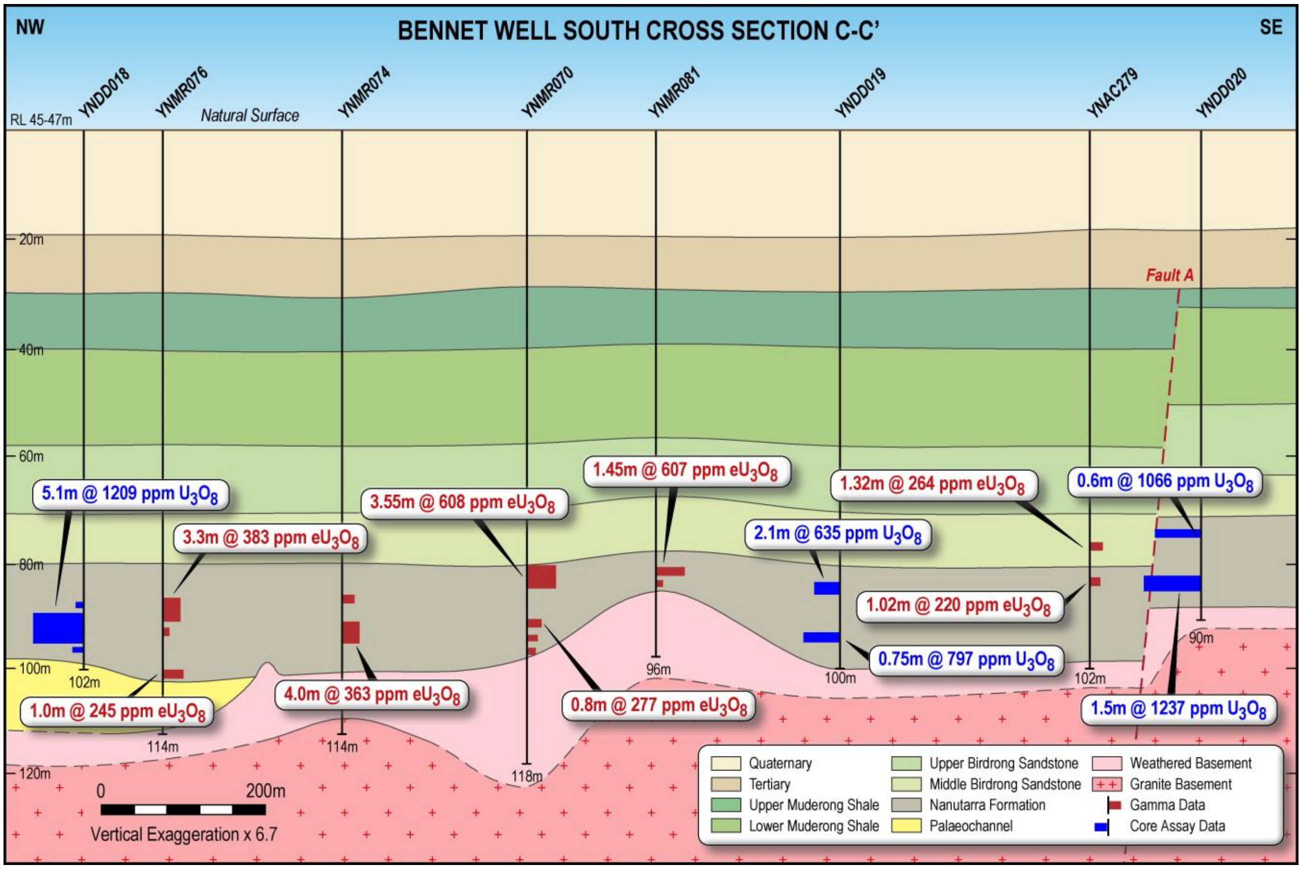

Figure 5 - *Bennet Well South prospect schematic cross section C-C' showing significant uranium intersections and geological units*

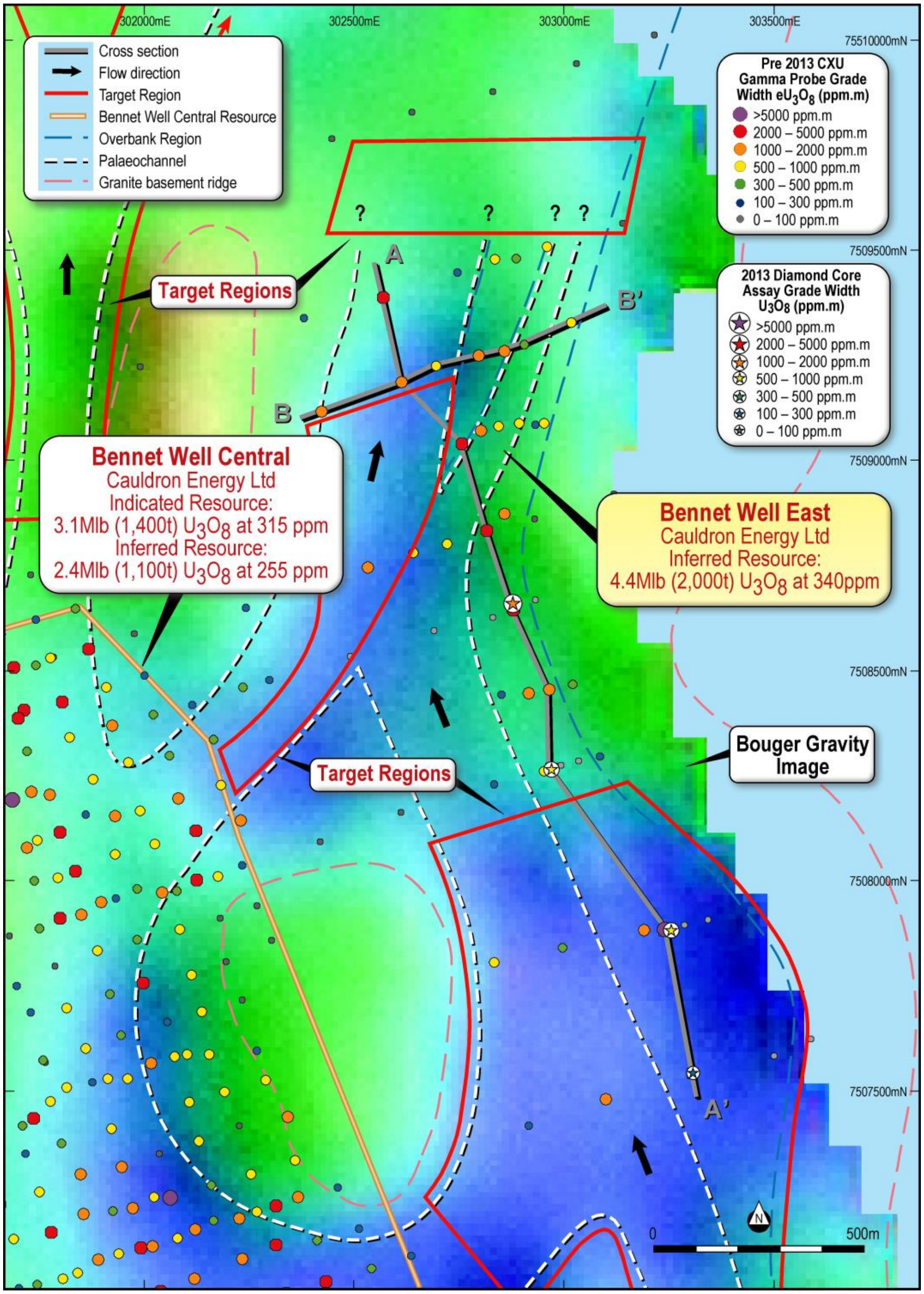

Figure 6 - *Bennet Well East prospect location map showing the location and grade widths of the recently completed core drillholes and pre 2013 drill holes at the Bennet Well resources. In the background is a bouguer gravity image shown the palaeochannel interpretation. Also shown is the location of cross sections A-A' and B-B'*

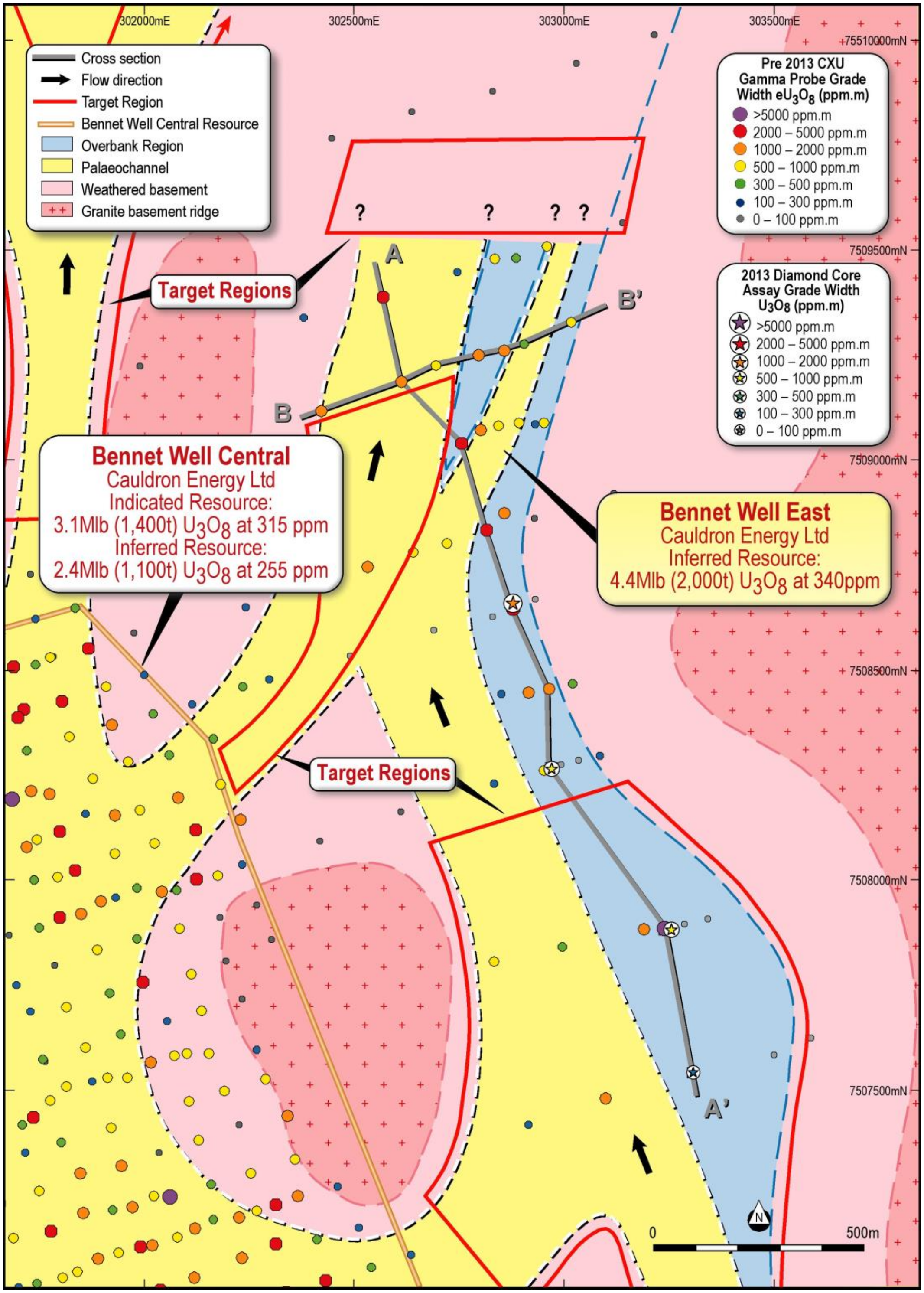

Figure 7 - *Bennet Well East prospect schematic map showing drill hole locations and grade widths. Also shown is the geological interpretation and the location of cross sections A-A' and B-B'*

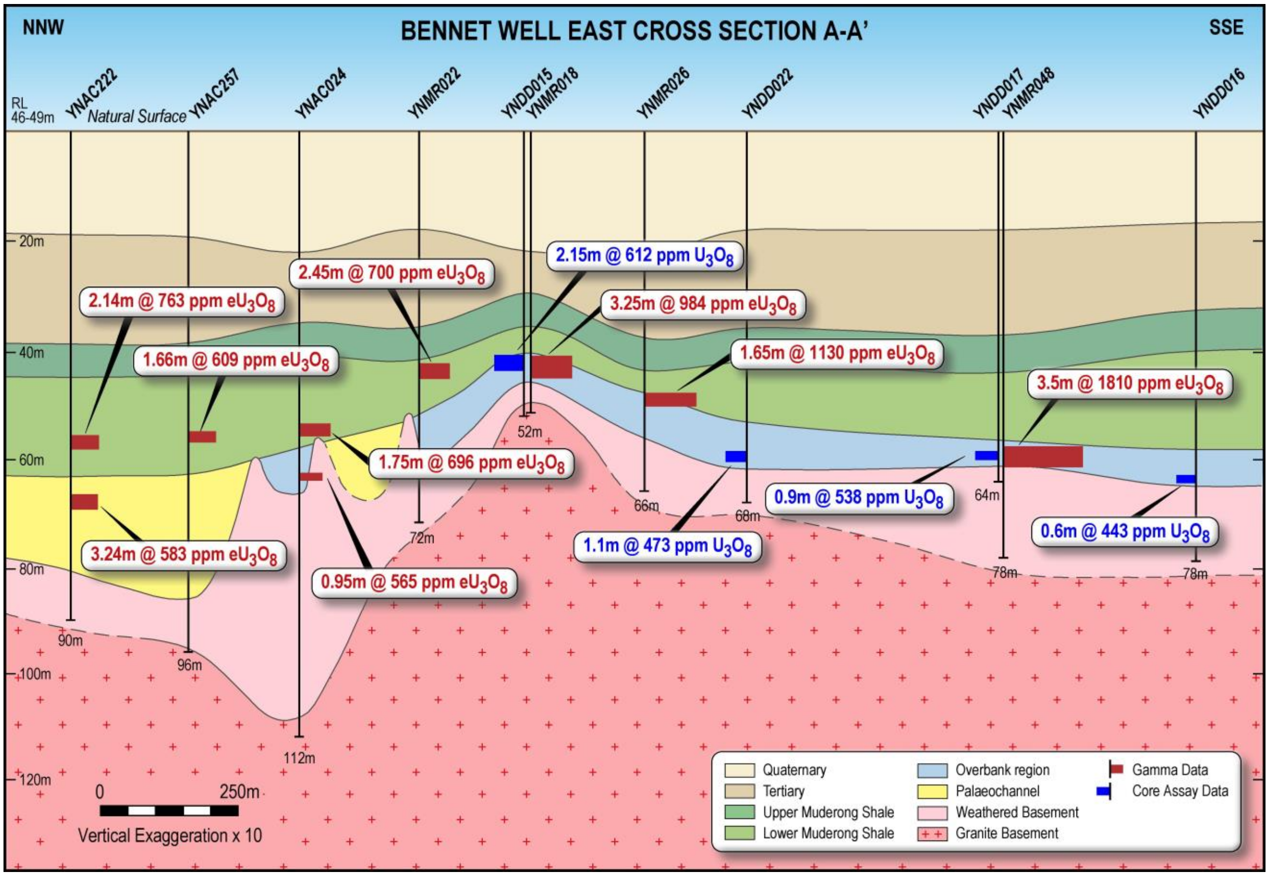

Figure 8 - *Bennet Well East prospect schematic cross section A-A' showing significant uranium intersections and geological units*

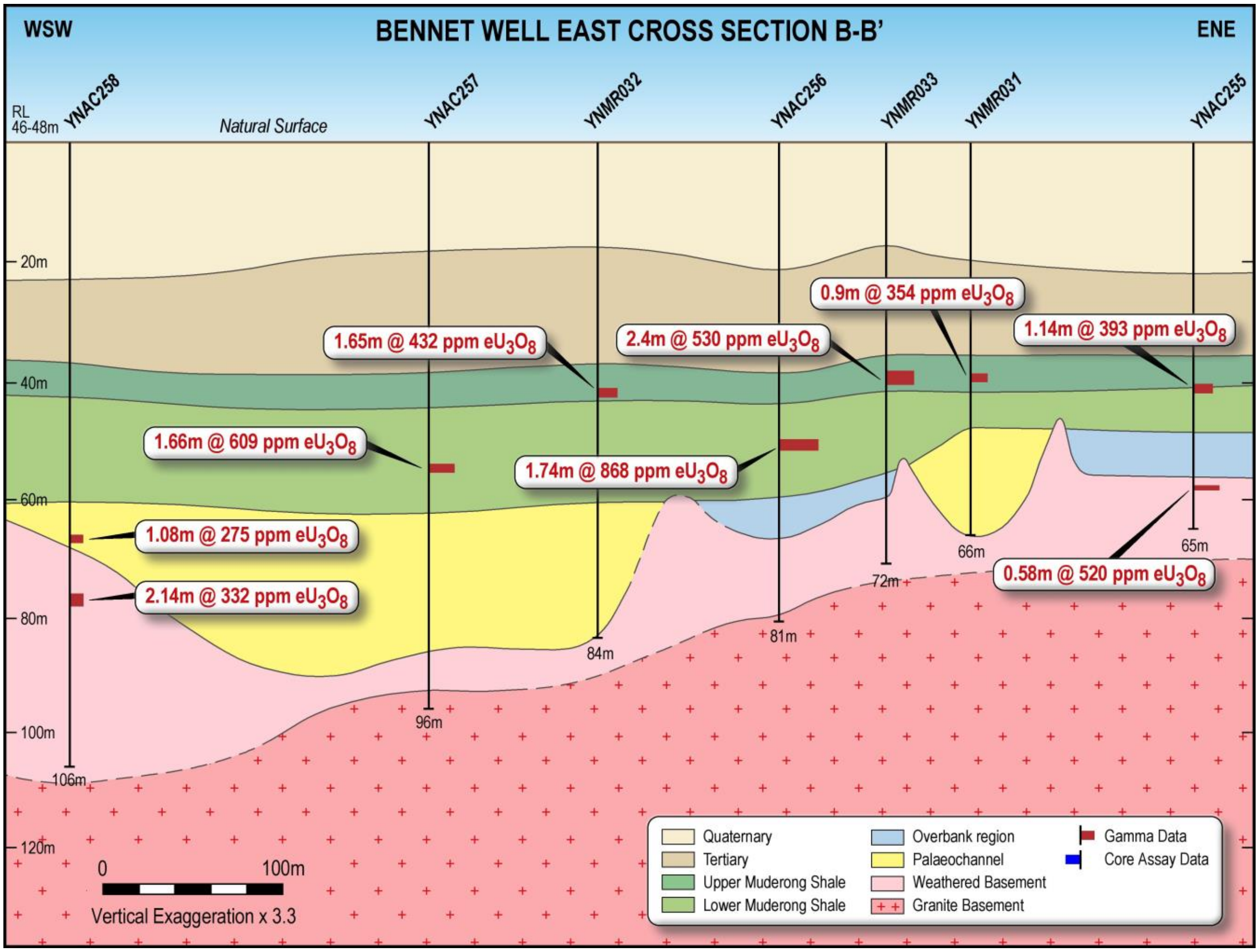

Figure 9 - *Bennet Well East prospect schematic cross section B-B' showing significant uranium intersections and geological units*

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	917	+44%
YNDD016	303305	7507544	68	47	Bennet Well East	62.90	63.5	0.6	443	NA	778	266	275	-3.3%
YNDD017	303240	7507886	64.1	48	Bennet Well East	58.35	59.25	0.9	538	NA	1533	484	887	-45%
						60.6	61.2	0.6	496		613	298	169	+76%
YNDD018	299975	7506937	102.1	45	Bennet Well South	87.85	88.30	0.45	NA	887	2157	399	327	+22%
						89.95	95.05	5.1		1209	4331	6166	3664	+68%
						95.35	96.25	0.9		219	309	197	142	+39%
YNDD019	300271	7506221	99.6	46	Bennet Well South	83.70	85.8	2.1	635	NA	1674	1335	1654	-19%
						92.25	93	0.75	797		2016	598	NA	NA
YNDD020	300538	7505854	90.6	46	Bennet Well South	73.35	73.95	0.6	1066	NA	2511	639	569	+12%
						82.20	83.70	1.5	1237		5506	1855	1444	+29%
YNDD021	299124	7504044	68.7	45	Bennet Well Deep South	53.90	55.40	**Core Loss**					559	NA
						61.15	61.75	0.6	1453	NA	3278	872	646	+35%
YNDD022	302970	7508268	67.6	49	Bennet Well East	58.9	60	1.1	NA	473	1208	520	1258	-59%

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.

Table 1 - *Bennet Well core drillhole locations and geochemical uranium oxide assay grades*

Hole ID	Easting	Northing	TD (m)	RL (m)	Resource Name	Depth From (m)	Depth To (m)	Thickness (m)	Deconv. eU308 (ppm)	Maximum eU308 (ppm)	Grade Width (ppm.m)
YNDD015	302878	7508657	52.5	47	Bennet Well East	40.54	43.08	2.54	361	1069	917
YNDD016	303305	7507544	68	47	Bennet Well East	62.5	63.44	0.94	292	713	275
YNDD017	303240	7507886	64.1	48	Bennet Well East	57.62	59.20	1.58	562	1262	887
						60.54	61.20	0.66	257	555	169
YNDD018	299975	7506937	102.1	45	Bennet Well South	86.88	87.74	0.86	380	1120	327
						88.64	95.10	6.46	567	1901	3664
						95.20	95.94	0.74	192	268	142
YNDD019	300271	7506221	99.6	46	Bennet Well South	80.98	85.64	4.66	355	1315	1654
YNDD020	300538	7505854	90.6	46	Bennet Well South	72.6	73.78	1.18	482	1314	569
						81.28	83.08	1.80	802	3112	1444
YNDD021	299124	7504044	68.7	45	Bennet Well Deep South	54	55.66	1.66	337	675	559
						60.5	61.78	1.28	505	1737	646
						62.58	63.14	0.56	138	199	78
YNDD022	302970	7508268	67.6	49	Bennet Well East	57.54	60.50	2.96	425	1443	1258

Note: All eU308 grades are calculated using 2cm incriments from a 100ppm minimum grade over a minimum width of 50cm.
Note: Drillhole YNDD019 only probed the upper uranium zone and not the lower uranium zone due to hole blockage. The lower zone in the original hole YNAC278 located 5m away (Easting 300271, Northing 7506226) had a lower zone grade of 1.5m @ 1152 ppm eU_30_8
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.
Note: This table has been modified from the original gamma probe data released on the ASX on 8 October 2013 as shown in Table 1. Mr David Wilson has re-checked the grades and has decreased the values by an average of 7%.

***Table 2 -** Bennet Well core drillhole locations showing the corrected deconvolved down-hole gamma probe data equivalent uranium oxide grades. This table has been modified from Table 1 shown in the 8 October 2013 ASX release.*

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 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.*	• The Bennet Well region 2013 Diamond Core drilling program utilized two sampling techniques, down hole geophysical gamma logging and geochemical assaying. • Downhole geophysical logging using a gamma sonde was completed as soon as was possible after the drill rods had been pulled out of the drill hole. Gamma readings were collected every 0.02m from within the open drill hole. Other downhole testwork comprised resistivity, magnetic susceptibility and induction. • The gamma sonde used for this program was calibrated at the Model Logging Pits in Adelaide, South Australia a few months before the start of the program. This calibration is done to check the dead-time and K-Factor conversion variables used to convert observed and true gamma counts into an equivalent eU308 value. • The final downhole gamma data were sent to Mr David Wilson from 3D Exploration Ltd for deconvolution during which corrections are made for various parameters such as hole size, depth to water table, type of gamma probe, etc. The end result of this a more accurate final equivalent uranium grade based on actual program parameters. • Geochemical assays were completed on the 8 HQ3sized core samples obtained from the drilling program. • Half of the core was obtained for archiving and half of the core was used for geochemical assays and metallurgical testing. • The core was tested on site using a handheld GR-135 Scintillometer to identify the main mineralised zones. This data was used to sample the drill core at 0.1 to 1m intervals with over 95% of the mineralised zone sampled at 0.15m per sample. • Core samples from 2 drill holes were sent to ANSTO in NSW for geochemical assay, QEMSCAN and leach testing. Each sample was dried to 50^{o}C and then broken up manually to produce a homogenous sample. A representative sample was obtained by riffling and pulverizing.

Criteria	JORC Code explanation	Commentary
		Assay testing was completed using Delayed Neutron Activation Analysis (DNA) for uranium only. • Core samples from the remaining 6 drill holes were sent to ALS for geochemical assay. Each sample was dried, crushed to minus 6mm and then pulverized to 85% passing 75 microns before assay testing was completed using a 4 acid ICPAES and ICPMS analysis for 48 elements including U (0.1 ppm detection limit). Ore grade Ag analysis was also completed due to rare elevated silver readings. Other elements analysed include Ba, Ca, Fe, K, Mg, Mn, P, Pb, S,Th, Ti and V. Selected high grade uranium samples have been selected for re-testing of the pulps using a pressed powder XRF analysis. This analytical work is currently underway and results are expected in the near future.
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 vertical diamond core holes were drilled. Each hole had a mud rotary pre-collar and a HQ3 diameter diamond tail. • A total of 356m of mud rotary pre-collar was drilled with a total 257m of HQ3 diamond core tails. • The mud rotary pre-collar was drilled using a 4 3/4 inch PCD drill bit. In instances where hard zones were encountered, the pre-collar was drilled using a PQ3 core barrel. • The target zone was cored using a 1.5 metre-long HQ3 standard chrome core barrel.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• 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.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• The core run lengths varied depending on proximity to the target zone to maximize the core return. • Run lengths were 1m to 1.5m above and below the specified uranium target zone and 0.5m within the specified uranium target zone to assist in core recovery since the sediments were mostly unconsolidated.

Criteria	JORC Code explanation	Commentary
	• *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.*	• To date Cauldron has not identified any relationship between sample recovery and grade from the core drilling program.
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.*	• All core and pre-collar chip samples were geologically logged on site. • The mud rotary chip samples were collected every 1m and geologically logged according to sediment/rock type • The core was logged down to centimeter scales with the main emphasis being on both small and larger scale lithology. No geotechnical data was collected due to the generally flat lying geology and mostly unconsolidated sediments.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• The geological logging completed was both qualitative (sediment/rock type, colour, degree of oxidation, etc) and quantitative (recording of specific depths and percentages). • The chip samples were sieved and laid out on a table where they were photographed. • The core was both photographed wet (lightly sprayed with water) and dry. Selected half-core zones are also currently being photographed by Core Labs showing the cut and cleaned surfaces.
	• *The total length and percentage of the relevant intersections logged.*	• All of the mud rotary chip samples and core samples were geologically logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Most of the core was cut in half using a handheld angle grinder and chisels on site since the core was mostly unconsolidated sediments. More consolidated core was cut at Core Labs using a diamond saw.
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• None of the mud rotary chip samples were collected for geochemical assay.

Criteria	JORC Code explanation	Commentary
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• Due to the flat-lying nature of the unconsolidated sediments no orientation lines were done on the core. • When the core was cut in half on site, the site geologist cut the core to ensure that nugget type 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 0.15m lengths but samples were made larger or smaller so that no lithology or REDOX boundaries were crossed.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Duplicates were collected at 1 in 20 samples and both blanks and Certified Reference Material (CRM) standards were inserted at 1 in 30 samples. Blanks used were low uranium grade Certified Reference Material samples.
	• *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.*	• The core sent to ANSTO was tested using Delayed Neutron Activation Analysis (DNA) for uranium only which is considered to be a complete digest for uranium. • The core sent to ALS was tested using a 4 acid ICPAES and ICPMS analysis for 48 elements. This method is considered to be a near total digest since highly resistant minerals are not always entirely digested which can result in the underestimation of assay results. To check the accuracy of the method, Cauldron has resubmitted selected assay pulps to ALS for re-analysis using pressed powder XRF analysis which is considered to be a total digest. This analytical testwork is also currently

Criteria	JORC Code explanation	Commentary
		underway with results estimated to be available in the near future.
	• *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.*	• The gamma sonde used for this program was calibrated at the Model Logging Pits in Adelaide, South Australia a few months before the start of the program. This calibration is done to check the dead-time and K-Factor conversion variables used to convert observed and true gamma counts into an equivalent eU308 value. • Deconvolution of the downhole gamma grades is also completed by an external consultant to take into account environmental and calibration factors. • Duplicates were collected at 1 in 20 samples and both blanks and Certified Reference Material (CRM) standards were inserted at 1 in 30 samples.
	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Cauldron completed a QA/QC report on uranium for all assay samples from ALS and ANSTO. The overall result was that 84% of standards were within one standard deviation. • Duplicate samples were generally within one standard deviation. 2 out of 26 duplicate samples were significantly different suggesting that nugget type features such as the relative distribution of wood fragments and pyrite nodules within the core were not always equally proportioned in both duplicate samples.
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/ consultants who have adequate experience with uranium deposits.
	• *The use of twinned holes.*	• The 8 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 2m to 5m from existing holes due to access issues.
	• *Documentation of primary data, data entry procedures, data verification, data storage*	• 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

Criteria	JORC Code explanation	Commentary
	(physical and electronic) protocols. • *Discuss any adjustment to assay data.*	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. • The laboratory values for uranium assays in parts per million are adjusted by a factor of 1.179 to obtain the equivalent U308 value in ppm. The industry standard for the reporting of uranium assays and resources is U308.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The survey method used for this drilling program was a differential global positioning system (DGPS). No downhole surveys were completed since all holes were drilled vertically and the relatively shallow hole depths drilled would be unlikely to have any significant downhole deviation. • The grid system used at the Yanrey Project is MGA_GDA94, Zone 50. All data is recorded using Eastings and Northings. • The primary topographic control is from SRTM (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.* • *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.* • *Whether sample compositing has been applied.*	• The spacing of the core holes was between 350m and 800m within individual prospects. • The core holes were drilled for numerous reasons. These included to confirm uranium grades, assist with geological interpretation, provide density and porosity data for resource work, identify how well the uranium leaches from the sediments and many more. As such the spacing of core hole locations was adequate for this type of work. • No compositing of core assays were completed. The only compositing done was for leach testing by ANSTO over a selected interval.
Orientation of data in relation to geological	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering*	• All drill holes were drilled vertically since the sediments are mostly unconsolidated and generally flat-lying. All holes are therefore considered

Criteria	JORC Code explanation	Commentary
structure	*the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	to be representing true width of the uranium mineralisation. • There is no apparent sampling bias created from the orientation of the drill holes.
Sample security	• *The measures taken to ensure sample security.*	• The core samples collected were put onto a pallet and held down with metal strapping. The package was then wrapped numerous times in clear plastic wrap along with the appropriate and relevant signage for the transport of radioactive material. These signs were placed in such a way as to be clearly visible before, during and after transport from site to Perth. The samples were then freighted by truck to selected laboratories where they were opened by Cauldron personnel to check the integrity of the samples.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits have been completed to date in regards to sampling techniques and data. The competent person for Cauldron 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 covers 100% of this tenement. The tenement is located 100% on the pastoral lease of Yanrey Station. • This tenement is in good standing with the DMP and there are no known impediments for exploration on this tenement.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• A 70 km-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. CRA 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 fifteen 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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*	• All information from drill holes reported in this release is shown in Table 1 and 2.

Criteria	JORC Code explanation	Commentary
	○ *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.*	• The dip and azimuth has not been included in Table 1 and 2 since all holes were drilled vertically where dip is -90 and Azimuth is 0.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• With the reporting of assay results a 100ppm cut off was used at a minimum distance of 0.5m. • The length of assay sample intervals varies so for all results, a weighted average has been applied when calculating assay grades to take into account the size of each interval. • There have been no metal equivalents used.
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,*	• 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.

Criteria	JORC Code explanation	Commentary
	true width not known').	
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.*	• Within this release there are 2 plan view gravity images showing geology interpretation, 3 plan views images showing schematics of the interpreted geology and 3 schematic cross sections showing the geology and distribution of the uranium mineralisation.
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.*	• All significant assay results from all 8 core holes from this program have been displayed in Table 1. All plan view diagrams within this release show the grades of all drill holes completed by Cauldron in the general area.
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 samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Metallurgical testing, water testing and leach testing are currently being completed on the drill core but no results are yet available.
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 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 diagrams in this release. • 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 metallurgical and leaching data, improve geological understanding and provide data for future planned scoping studies.