



4 July 2019

ASX Announcement

Uranium Resource Base Increased by 48 Mlbs to 110 Mlbs

- Acquisition of 48 million lbs of High-Grade Resources at an average of 859ppm U₃O₈
- Approximate 80% Increase in Marenica's Uranium Resource base
- The Uranium Resources are likely to be amenable to Marenica's *U-pgrade*[™] beneficiation process
- Marenica will rank 4th largest*, by uranium resource, of all Uranium focussed companies on the ASX
- Acquisition price – A\$250,000 cash and 27.5 million shares in Marenica
- Timely acquisition with pending Uranium Section 232 decision in US

Marenica Energy Limited ("Marenica", "the Company", ASX:MEY) is pleased to advise that it has executed a binding term sheet with Optimal Mining Limited ("Optimal") for the acquisition of Optimal's Australian uranium tenements ("Acquisition Assets"). Completion of the purchase is subject to a number of conditions, including that the shares in Marenica will be in-specie distributed to Optimal's shareholders. Please refer to the Transaction Details on Page 4 of this announcement.

The outright purchase of Angela, Thatcher Soak and Oobagooma, and joint venture holdings in the Bigirlyi, Malawiri, Walbiri and Areva joint ventures in Australia; add significant high-grade Mineral Resources to Marenica's asset base, which increases to 110 Mlbs U₃O₈. The Mineral Resources are significant in their own right, but when coupled with the potential of Marenica's *U-pgrade*[™] beneficiation process, Marenica can foresee how further value could be unlocked from these assets.

Marenica Managing Director, Murray Hill, said "The counter-cyclical purchase of these high-grade uranium resources in Australia, averaging 859 ppm U₃O₈, increases our uranium resources by 48 Mlbs to 110 Mlbs. Following completion of the acquisition Marenica will have high-grade uranium resources in Australia; uranium resources and a recently assembled highly prospective exploration tenement position in Namibia; all of which Marenica expects to add significant value through application of its *U-pgrade*[™] beneficiation process. One of the largest uranium resource inventories on the ASX, diversified by location, with a revolutionary uranium beneficiation process; where else can you find that! The acquisition is timely given the pending decision on the uranium Section 232 Petition in the US and the improving fundamentals for the uranium market. Marenica continues its exciting phase of development in the uranium space."

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* Refer to Annexure 1 for ranking matrix

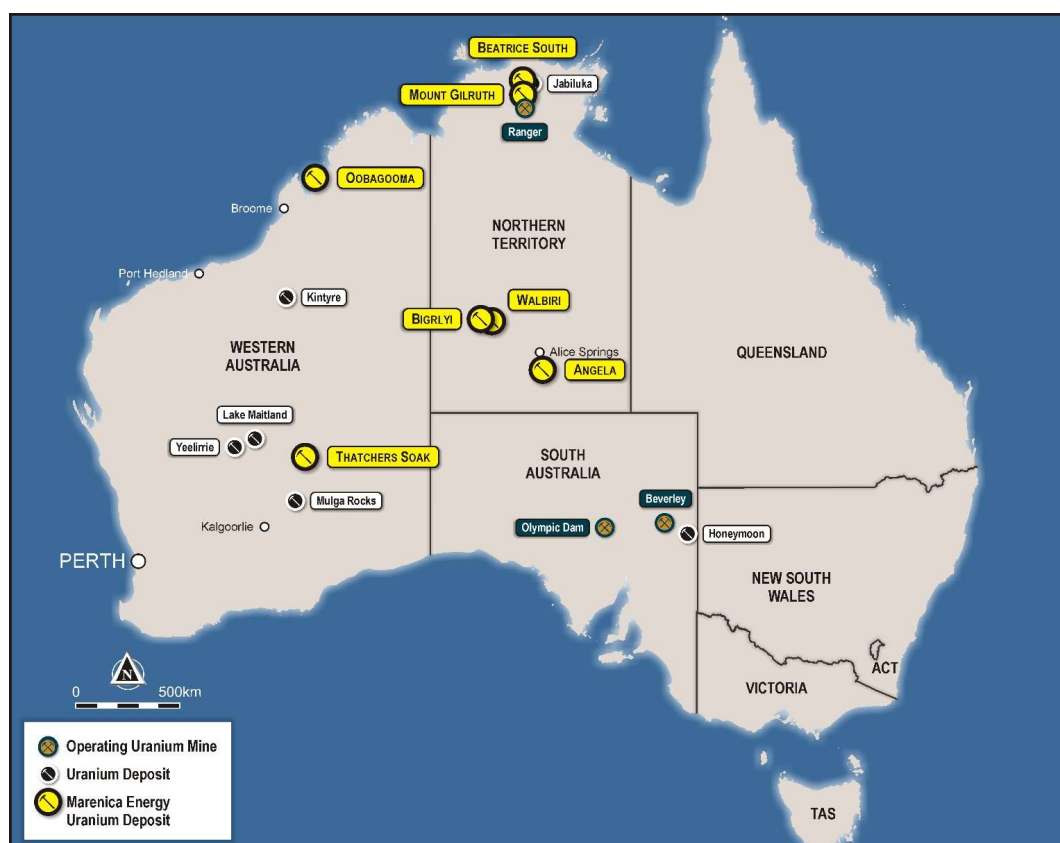
Table 1: JORC Resource Summary

Deposit	Category	Cut-off (ppm U ₃ O ₈)	Total Resource			Holding	Marenica Share		
			Tonnes (M)	U ₃ O ₈ (ppm)	U ₃ O ₈ (Mlb)		Tonnes (M)	U ₃ O ₈ (ppm)	U ₃ O ₈ (Mlb)
100% Holding									
Angela *	Inferred	300	10.7	1,310	30.8	100%	10.7	1,310	30.8
Thatcher Soak	Inferred	150		425	10.9	100%	11.6	425	10.9
100% Held Resource Total			22.3	850	41.7	100%	22.3	850	41.7
Bigirlyi Joint Venture									
Bigirlyi Deposit*	Indicated	500	4.7	1,366	14.0				
	Inferred	500	2.8	1,144	7.1				
Bigirlyi Deposit Total		500	7.5	1,283	21.1	20.82%	1.55	1,283	4.39
Sundberg	Inferred	200	1.01	259	0.57	20.82%	0.21	259	0.12
Hill One JV	Inferred	200	0.26	281	0.16	20.82%	0.05	281	0.03
Hill One EME	Inferred	200	0.24	371	0.19				
Karins	Inferred	200	1.24	556	1.52	20.82%	0.26	556	0.32
Bigirlyi Joint Venture Total			10.2	1,049	23.5	20.82%	2.07	1,065	4.86
Walbiri Joint Venture									
Joint Venture	Inferred	200	5.1	636	7.1	22.88%	1.16	636	1.63
100% EME	Inferred	200	5.9	646	8.4				
Walbiri Total	Total	200	11.0	641	15.5				
Malawiri Joint Venture									
Malawiri JV	Inferred	100	0.42	1,288	1.20	23.97%	0.10	1,288	0.29
Joint Venture Resource Total			21.6	847	40.2		3.34	923	6.77
Australia Total			43.9	848	81.9		25.6	859	48.4

* JORC 2004 Resources, all others are JORC 2012.

In addition, the Bigirlyi Deposit Mineral Resource contains 19.7 Mlb V₂O₅ at a grade of 1,197 ppm V₂O₅ with 13.4 Mlb V₂O₅ at 1,303 ppm V₂O₅ in the Indicated Resource Category and 6.3 Mlb V₂O₅ at 1,020 ppm V₂O₅ in the Inferred Resource Category, reported at a cut-off grade of 500 ppm U₃O₈.

Figure 1: Location of the Tenements to be Acquired



The Assets to be Acquired

On completion, Marenica will acquire all of the interests in three Australian subsidiaries of Optimal which collectively hold 16 mining tenements and joint venture interests in 28 mining tenements in Western Australia and the Northern Territory (New Tenements) that are prospective for uranium.

Angela Deposit (100%)

Angela is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 30.8 Mlb U_3O_8 at 1,310 ppm U_3O_8 located in the Amadeus Basin of the Northern Territory, approximately 25 km from Alice Springs.

The mineralisation includes a higher-grade core of 20.2 Mlb U_3O_8 at a grade of 2,500 ppm U_3O_8 at a cut-off grade of 1,500 ppm.

Thatcher Soak Deposit (100%)

The Thatcher Soak deposit is located within the main Yilgarn calcrete province in Western Australia and includes an Inferred Mineral Resource of 10.9 Mlbs U_3O_8 at 425 ppm U_3O_8 . Thatcher Soak is a calcrete hosted uranium deposit. Other similar style deposits in this province include Yeelirrie, Lake Way, Centipede and Lake Maitland.

Oobagooma Deposit (100%)

The Oobagooma deposit is located in the West Kimberley region of Western Australia, 1,900 km north-north-east of Perth and 75 km north-east of the regional centre of Derby. The Oobagooma deposit area was explored by AFMEX between 1983 and 1986, during which time extensive zones of uranium mineralisation were discovered.

Joint Venture Assets

Bigirlyi Joint Venture (Energy Metals Limited 72.39%, Marenica Energy Limited 20.82%, Southern Cross Exploration NL 6.79%)

The Bigirlyi Joint Venture covers exploration licences located in the Ngalia Basin approximately 320 km north-west of Alice Springs in the Northern Territory. The Bigirlyi deposit is a sandstone-hosted roll-front type uranium deposit with a total Mineral Resource of 21.1 Mlb U_3O_8 at 1,283 ppm U_3O_8 (14.0 Mlb U_3O_8 at 1,366 ppm U_3O_8 in the Indicated Resource Category and 7.1 Mlb U_3O_8 at 1,144 ppm U_3O_8 in the Inferred Resource Category) and also contains a vanadium resource of 19.7 Mlb V_2O_5 at 1,197 ppm V_2O_5 (19.7 Mlb V_2O_5 at 1,197 ppm V_2O_5 in the Indicated Resource Category and 6.3 Mlb V_2O_5 at 1,020 ppm V_2O_5 in the Inferred Resource Category).

The mineral resources of the Sundberg, Hill One and Karins deposits are also included in the Bigirlyi Joint Venture.

Walbiri Joint Venture (Energy Metals Limited 77.12%, Marenica Energy Limited 22.88%)

Walbiri is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 15.5 Mlb U_3O_8 at 641 ppm U_3O_8 located in the Ngalia Basin of the Northern Territory.

Malawiri Joint Venture (Energy Metals Limited 76.03%, Marenica Energy Limited 23.97%)

Malawiri is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 1.2 Mlb U_3O_8 at 1,288 ppm U_3O_8 located in the Ngalia Basin of the Northern Territory.

Transaction Details

Marenica will acquire the Acquisition Assets from Optimal by paying cash of \$250,000 and issuing 27,500,000 convertible preference shares ("CPS"), which Optimal will then in-specie distribute to its shareholders, at which time the CPS will automatically convert into Marenica ordinary shares ("Transaction").

Marenica has agreed to provide a bridge loan of \$250,000 to Optimal for the following purposes (and in the following order of priority); first assist in completing the transaction in accordance with the Binding Term Sheet, second to satisfy cash calls under the Joint Ventures, rents or rates on the Tenements and third for working capital purposes ("Bridge Loan"). The amount advanced to Optimal under the Bridge Loan facility, will be offset against the cash portion of the purchase price of \$250,000. The Bridge Loan facility will terminate on 30 September 2019. The Bridge Loan will be secured over Optimal's 100% owned tenements, which are the subject of this acquisition.

The Transaction is subject to a number of conditions, including:

- Marenica completing final due diligence of the Acquisition Assets within 14 days;
- ASX confirming within 30 days that:
 - (a) the CPS are appropriate and equitable for the purposes of ASX Listing Rule 6.1;
 - (b) a waiver will be granted by ASX in respect to Listing Rule 9.1.3 so that the CPS (and the ordinary shares in Marenica into which they convert upon being distributed in-specie to Optimal shareholders) will not be restricted; and
 - (c) it will not exercise its discretion under Listing Rule 11.1.3 to require Marenica to re-comply with Chapters 1 and 2 of the ASX Listing Rules.
- Marenica's shareholders approving the Transaction for the purposes of section 254A(2) of the Corporations Act and Listing Rules 7.1 and 11.1.2 (if required by ASX) within 60 days;
- FIRB approval, if required;
- Compliance with all regulatory approvals within 75 days;
- Receiving third parties' approval where required within 75 days;
- Optimal obtaining shareholder approval for the Transaction and under section 256B and 256C(1) of the Corporations Act for the in-specie distribution of the CPS referred to above within 60 days.

Notes on Resources And Competent Persons Statements

The resources of Angela and Thatcher Soak will be 100% owned by Marenica.

Angela

The Mineral Resource Estimate for the Angela deposit was prepared in accordance with the requirements of the JORC Code 2004. The Mineral Resource Estimate was previously reported by Paladin Energy Limited on the 20 July 2011 in an ASX announcement titled "Quarterly Activities Report for the Period Ending 30 June 2011", details of the competent person are included in this announcement.

The most recent Resource Statement for the Angela deposit was reported by Paladin Energy Limited in their 2016 Annual Report. The original statement of resources can be found under <https://www.paladinenergy.com.au/financial-reports/2016>. The Company is not aware of any new information, or data, that affects the information in Paladin's 2016 Annual Report and understand that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed.

The Angela Mineral Resource Estimate was prepared and first disclosed under the 2004 Edition of the Australian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves (JORC Code 2004). It has not been updated since to comply with the 2012 Edition of the Australian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves (JORC Code 2012) on the basis that the information has not materially changed since it was last reported. A Competent Person has not undertaken sufficient work to classify the estimate of the Mineral Resource in accordance with the JORC Code 2012; it is possible that following evaluation and/or further exploration work the currently reported estimate may materially change and hence will need to be reported afresh under and in accordance with the JORC Code 2012; the Company has technically reviewed the methodology and reporting documents used to estimate the Mineral Resource, and notes that Paladin technical staff have a high level of experience in the estimation of uranium resources; additionally nothing has come to the attention of the acquirer that causes it to question the reliability of the former owner's estimate; the acquirer has not independently validated the former owner's estimate and as required under the relevant ASX guidance notes, the Company should not be regarded as reporting, adopting or endorsing the estimate.

The Mineral Resource Estimate for the Angela deposit was completed by highly experienced and competent Mineral Resource estimator and, as such, the Company believes that the Mineral Resource presented reasonably reflects the mineralisation in the ground for the deposit. The Company does not believe that there have been any material changes to the data that underpins the Mineral Resource and believes that this information has been collected in a diligent manner in line with standard industry practice.

The Angela Mineral Resource Estimate was completed in June 2011 and followed extensive compilation and validation of historic data and a drilling program of 172 drill holes for 32,810 metres by the Cameco-Paladin JV. The Angela deposit is located 25 km south of Alice Springs on EL25758 and EL25759, ideally situated adjacent to the Old South Road and the Central Australian Railway.

The Mineral Resource estimate is based on 794 holes totalling 180,468 metres and covers the Angela I-V and Pamela deposits. The mineralisation dips shallowly ($\sim 9^\circ$) to the west and the larger of the deposits, Angela I, has been defined up to 4.3 km to the West at depths up to 600 metres. The mineralisation is contained within nine individual stratigraphic sequences with mineralised thicknesses of up to 10.4 metres. The deposits are sandstone hosted and are formed at geochemical (redox) boundaries by deposition of uranium from groundwater.

The cut-off for the Mineral Resource is a combination of grade ≥ 300 ppm U_3O_8 and thickness greater than 0.5 metres, in addition areas of low-grade probability were removed from the model.

	Mt	Grade ppm U_3O_8	t U_3O_8	Mlb U_3O_8
Inferred Mineral Resource	10.7	1,310	13,980	30.8

(Figures in this table may not calculate exactly due to rounding)

The Mineral Resource estimation was completed using a two-dimensional conditional simulation. The dataset was derived predominantly from recent and historic downhole radiometric logging. The radiometric grades have been extensively validated against laboratory assays.

The Mineral Resource is classified as Inferred, primarily due to drill spacing and the large volume of historic drilling data within dataset. A higher confidence classification could be expected if additional drilling was completed. A 3 hole test drilling programme in April 2011 established that the mud rotary drilling method can be utilised to efficiently drill the strata at the Angela deposit, due to cost benefits it is expected that future drill programmes would utilise this technique.

Conversion of JORC Code 2004 Mineral Resources to JORC Code 2012 standard

Given the amount of drilling that has already been completed on the Angela deposit it is expected that the work required to convert the Mineral Resource estimate for the deposit to the JORC Code 2012 will be limited to a thorough review of the existing data and Mineral Resource Estimate to ensure that the estimate and the supporting information comply with the requirements of the current code. Reasonable prospects for eventual economic extraction (RPEEE) parameters will need to be defined for the deposit and application of RPEEE requirements may alter both the Mineral Resource Estimate cut-off grade and the spatial limits to which the existing Mineral Resource may have been estimated. Both of these items may impact on the quantity of material which falls into any resulting JORC Code 2012 Mineral Resource Estimate. As no material additional drilling has been completed on the deposit it is not expected that the Mineral Resource will be required to be re-estimated.

It is anticipated that a thorough review of the underlying data can be completed within a 3-6 month timeframe which would then allow the Mineral Resource Estimate to be re-stated with the appropriate RPEEE applied and accompanying JORC Code 2012 Table 1.

The Mineral Resource Estimate for the Angela deposit is based on and fairly represents, information prepared by Mr David Princep who is a consultant to the Company and a member of AusIMM. Mr Princep consents to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Mr Princep has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2004 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Thatcher Soak

The Mineral Resource Estimate for the Thatcher Soak deposit was prepared in accordance with the requirements of the JORC Code 2012. The Mineral Resource Statement titled "Thatcher Soak Mineral Resource Upgrade to JORC 2012 ..." is appended to this announcement.

The Mineral Resource Estimate for the Thatcher Soak deposit is based on and fairly represents, information prepared by Mr Peter Gleeson who is a full-time employee of SRK and is a member of AIG. Mr Gleeson consents to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Mr Gleeson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Oobagooma

Paladin, the previous owners of the deposit, determined an Exploration Target estimate for Oobagooma, however, Marenica is not currently in a position to report this estimate.

Joint Venture Assets

The following are joint venture deposits in which Energy Metals Limited (Energy Metals) is the dominant joint venture interest holder and manages the joint ventures. Marenica will be a minor joint venture interest holder following completion of the acquisition.

Bigrlyi Joint Venture

Bigrlyi Deposit

The Mineral Resource Estimate for the Bigrlyi deposit was prepared in accordance with the requirements of the JORC Code 2004. The Mineral Resource Estimate was previously reported by Energy Metals on

the 28 June 2011 in an ASX announcement titled “Bigirlyi Joint Venture, Updated Resource Estimate”, details of the competent person are included in this announcement.

The most recent statement of resources can be found in the Energy Metals 2018 Annual Report under <https://energymetals.net/investor-asx-announcements-reports/>. The Company is not aware of any new information, or data, that affects the information in Energy Metals 2018 Annual Report and understands that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed.

The Bigirlyi deposit Mineral Resource Estimate was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. A Competent Person has not undertaken sufficient work to classify the estimate of Mineral Resource in accordance with the JORC Code 2012; it is possible that following evaluation and/or further exploration work the currently reported estimate may materially change and hence will need to be reported afresh under and in accordance with the JORC Code 2012; the Company has technically reviewed the methodology and reporting documents used to estimate the Mineral Resource, and notes that Energy Metals technical consultants have a high level of experience in the estimation of uranium resources; additionally nothing has come to the attention of the acquirer that causes it to question the reliability of the former owner’s estimate; the acquirer has not independently validated the former owner’s estimate and as required under the relevant ASX guidance notes, the Company should not be regarded as reporting, adopting or endorsing those estimates.

The Mineral Resource Estimate for the Bigirlyi deposit was completed by highly experienced and competent Mineral Resource estimator and, as such, the Company believes that the Mineral Resource presented reasonably reflects the mineralisation in the ground for the deposit. The Company does not believe that there have been any material changes to the data that underpins the Mineral Resource and believes that this information has been collected in a diligent manner in line with standard industry practice.

The Mineral Resource Estimate for the Bigirlyi deposit was jointly compiled by Energy Metals and Hellman & Schofield Pty Limited (H&S). Energy Metals completed digital data compilation, validation, QA/QC and geological interpretations. H&S completed independent mineral resource estimates, as well as providing advice on modelling methods, geostatistics and wireframe modelling of the mineralisation domains.

The Mineral Resource Estimate is based on the interpretation of 459 historic drill holes (222 percussion and 237 pre-collard diamond holes) and 533 holes (404 percussion and 129 pre-collard diamond holes) drilled by Energy Metals between October 2006 and December 2010. Drill holes are spaced between 20-50 metres along strike in the main areas of Anomalies 15, 4 and 2. This spacing increases to a nominal 100 metres at Anomaly 3 and 200 – 400 metres in peripheral areas. Assays were derived from predominantly chemical methods (XRF) in all holes drilled by Energy Metals, and re-assayed historic diamond holes. Calibrated radiometric methods were used in historic percussion holes.

Wire frame models were digitised on north – south cross sections using an approximate 10 ppm (U_3O_8) boundary to model multiple mineralised lenses outcropping at surface. The lenses generally occur within mineralised horizons within the Mount Eclipse sandstone. The two major horizons are located at the contacts of the Units B and C and Units C and D. Additional horizons at Anomalies 4 and 15 are seen within Units D and B. The mineralised lenses are generally narrow (2-5 metres) and strike east – west. The mineralised lenses are sub-vertical and predominantly dip 70-88 degrees. The modelled block dimensions are 15 metres along strike, 15 metres down dip and 2 metres width. These block dimensions have been chosen to reflect the geometry of the mineralisation.

Conversion of JORC Code 2004 Mineral Resources to JORC Code 2012 standard

Given the amount of drilling that has already been completed on the Bigirlyi deposit it is expected that the work required to convert the Mineral Resource Estimate for the deposit to line with the JORC Code 2012 will be limited to a thorough review of the existing data and Mineral Resource Estimate to ensure that the estimate and the supporting information comply with the requirements of the current code. Reasonable prospects for eventual economic extraction (RPEEE) parameters will need to be defined for the deposit and application of RPEEE requirements may alter both the Mineral Resource Estimate cut-off grade and the spatial limits to which the existing Mineral Resource may have been estimated. Both of these items may impact on the quantity of material which falls into any resulting JORC (2012) Mineral Resource Estimate. As no material additional drilling has been completed on either deposit it is not expected that the individual Mineral Resource will be required to be re-estimated.

It is anticipated that a thorough review of the underlying data can be completed within a 3-6 months timeframe which would then allow the Mineral Resource Estimate to be re-stated with the appropriate RPEEE applied and accompanying JORC Code 2012 Table 1.

The information in this announcement that relates to Mineral Resources for the Bigirlyi deposit is based on information compiled by Mr Arnold van der Heyden, who is a Member and Chartered Professional (Geology) of the Australian Institute of Mining and Metallurgy and a Director of H&S Consultants Pty Ltd. Mr van der Heyden has sufficient experience relevant to the assessment of this style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr van der Heyden consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Sundberg and Hill One Deposits

The Bigirlyi Joint Venture also includes the Sundberg and Hill One deposits. The Mineral Resource Estimates for the Sundberg and Hill One deposits were prepared in accordance with the requirements of the JORC Code 2012. The Mineral Resource Statement for the Sundberg and Hill One deposits is titled "Ngalia Uranium Project (Walbiri Deposit)" and is appended to this announcement.

The Mineral Resource Estimates for the Sundberg and Hill One deposits are based on and fairly represents, information prepared by Mr Dmitry Pertel and Dr Maxim Seredkin who are full time employees of CSA Global Limited and are respectively a member and fellow of AusIMM. Mr Pertel and Dr Seredkin consent to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Mr Pertel and Dr Seredkin have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Karins Deposit

The Bigirlyi Joint Venture also includes the Karins deposit. The Mineral Resource Estimate for the Karins deposit was prepared in accordance with the requirements of the JORC Code 2012. The Mineral Resource Statement for the Karins deposit is titled "Ngalia Uranium Project (Karins Deposit)" and is appended to this announcement.

The Mineral Resource Estimate for the Karins deposit is based on and fairly represents, information prepared Mr Dmitry Pertel and Dr Maxim Seredkin who are full time employees of CSA Global Limited and are respectively a member and fellow of AusIMM. Mr Pertel and Dr Seredkin consent to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Mr Pertel and Dr Seredkin have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent

Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Walbiri Joint Venture

The Walbiri Joint Venture is specific to the Walbiri deposit. The Mineral Resource Estimate for the Walbiri deposit was prepared in accordance with the requirements of the JORC Code 2012. The Mineral Resource Statement for the Walbiri deposit is titled "Ngalia Uranium Project (Walbiri Deposit)" and is appended to this announcement.

The Mineral Resource Estimate for the Walbiri deposit is based on and fairly represents, information prepared by Mr Dmitry Pertel and Dr Maxim Seredkin who are full time employees of CSA Global Limited and are respectively a member and fellow of AusIMM. Mr Pertel and Dr Seredkin consent to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Mr Pertel and Dr Seredkin have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Malawiri Joint Venture

The Malawiri Joint Venture is specific to the Malawiri deposit. The Mineral Resource Estimate for Malawiri deposit was prepared in accordance with the requirements of the JORC Code 2012. The Mineral Resource Statement for the Malawiri deposit is titled "Malawiri Uranium Project" and is appended to this announcement.

The Mineral Resource Estimate for the Malawiri deposit is based on and fairly represents, information prepared by Dr Maxim Seredkin who is a full-time employee of CSA Global Limited and is a fellow of AusIMM. Dr Seredkin consents to the inclusion, form and context of the relevant information herein as derived from the original resource reports. Dr Seredkin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Overarching Competent Persons Consent

Mr David Princep who is a Fellow of the AusIMM and Competent person under JORC Code 2004 and 2012, considers that the information included in this announcement regarding JORC Code 2004 and JORC Code 2012 Mineral Resource Estimates provides an accurate representation of the available data and estimates on the Mineral Resources.

List of Tenements and Joint Venture Interests being Acquired

Tenement	Status	JV Name	Deposit Name	State	Equity (%)
R38/1	Granted	n/a	Thatcher Soak	WA	100
E04/2297	Granted	n/a	Oobagooma	WA	100
EL25758	Granted	n/a	Angela	NT	100
EL25759	Application	n/a	Pamela	NT	100
ELR 22	Application	n/a	Minerva	NT	100
ELR 23	Application	n/a	Minerva	NT	100
ELR 24	Application	n/a	Minerva	NT	100
ELR 25	Application	n/a	Minerva	NT	100
ELR 26	Application	n/a	Minerva	NT	100
ELR 27	Application	n/a	Minerva	NT	100
ELR 28	Application	n/a	Minerva	NT	100
ELR 29	Application	n/a	Minerva	NT	100
ELR 30	Application	n/a	Minerva	NT	100
ELR 31	Application	n/a	Minerva	NT	100
ELR 32	Application	n/a	Minerva	NT	100
ELR 33	Application	n/a	Minerva	NT	100
ELR 46	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 47	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 48	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 49	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 50	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 51	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 52	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 53	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 54	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
ELR 55	Granted	Bigrlyi JV	Bigrlyi	NT	20.82
MCS 318	Application	Bigrlyi JV	Karins	NT	20.82
MCS 319	Application	Bigrlyi JV	Karins	NT	20.82
MCS 320	Application	Bigrlyi JV	Karins	NT	20.82
MCS 321	Application	Bigrlyi JV	Karins	NT	20.82
MCS 322	Application	Bigrlyi JV	Karins	NT	20.82
MCS 323	Application	Bigrlyi JV	Karins	NT	20.82
MCS 324	Application	Bigrlyi JV	Karins	NT	20.82
MCS 325	Application	Bigrlyi JV	Karins	NT	20.82
MCS 326	Application	Bigrlyi JV	Karins	NT	20.82
MCS 327	Application	Bigrlyi JV	Karins	NT	20.82
MCS 328	Application	Bigrlyi JV	Karins	NT	20.82
MLN 1952	Application	Bigrlyi JV	Karins	NT	20.82
EL 30144	Granted	Bigrlyi JV	Dingos Rest South	NT	20.82
ELR 31319	Granted	Bigrlyi JV	Sundberg	NT	20.82
ELR 41	Granted	Malawiri JV	Malawiri	NT	23.97
ELR 45	Granted	Walbiri JV	Walbiri	NT	22.88
EL1466	Application	Areva JV	Mount Gilruth	NT	33.33
EL3114	Application	Areva JV	Beatrice South	NT	33.33

Annexure 1

ASX Uranium Focussed Companies

Uranium Resource Table

Company	Resource (Mlbs U ₃ O ₈)	Information Source
Paladin Energy Ltd	320	2018 Annual Report
Bannerman Resources Ltd	271	Presentation - Uranium sentiment shifting November 2018
Deep Yellow Ltd	146	Corporate Update 4 June 2019
Marenica Energy Ltd	110	Refer to total calculation below.
A-Cap Resources Ltd	103	2018 Annual Report

The resources included in the above table were sourced from the following.

Paladin Energy Ltd – 2018 Annual Report, <https://www.paladinenergy.com.au/financial-reports/2018>

Bannerman Resources Ltd – Presentation “Uranium sentiment shifting, November 2018”, https://www.bannermanresources.com.au/wp-content/uploads/2018/11/181113_BMN-presentation_Sentiment-shifting.pdf

Deep Yellow Ltd – Corporate Update 4 June 2019, <http://deepyellow.com.au/investors/asx-announcements/>

Marenica Energy Ltd –

48.4 Mlbs as per Table 1, Page 2 of this ASX announcement

61.3 Mlbs – 2018 Annual Report, <http://marenicaenergy.com.au/annual-reports/>

109.7 Total Mlbs U₃O₈

A-Cap Resources Ltd – 2018 Annual Report, <https://acap.com.au/financial-reports/>

Annexure 2

JORC 2012 Mineral Resource Estimates

Project Memo

Client:	Optimal Mining Limited	Date:	21 April 2017
Attention:	Dewan Cai, Alternate Director, Uranium Africa Limited	From:	Daniel Guibal
Project No:	OPT001	Revision No:	0
Project Name:	Thatcher Soak Mineral Resource Upgrade to JORC 2012 and Review of Oobagooma data to establish feasibility for a JORC 2012 resource estimate		
Subject:	Thatcher Soak JORC Code 2012 statement		

SRK Consulting (Australasia) Pty Ltd (SRK) reviewed the data and the process followed to estimate the Mineral Resources of the Thatcher Soak uranium deposit in 2012. The Mineral Resource estimation was prepared by SRK on behalf of the then owner, Uranex NL, in accordance with the definitions and standards set out in the JORC Code (2004 edition).

Following this review and taking into account that no new data since 2012 is available, SRK has concluded that the 2012 Mineral Resource of the Thatcher Soak uranium deposit can be upgraded to the standard of the JORC Code (2012 edition) by completing the Table 1 of the JORC Code, which gives a detailed account of the resource estimation process.

Table 1 for the Thatcher Soak Uranium deposit Mineral resource is given in Appendix A.

Competent Person's Mineral Resource Statement – Thatcher Soak Uranium Resource Estimate as at 31 March 2017

The Thatcher Soak uranium resource is a calcrete-hosted channel uranium deposit of large tonnage and low to medium grade. It has similarities to other West Australian calcrete-hosted channel deposits such as Mega Uranium's Lake Maitland Project, BHP Billiton's Yeelirrie Project and Toro Energy's Wiluna Project.

The latest 2012 Mineral Resource estimate is based on downhole gamma log results verified by chemical XRF assays for uranium over the mineralised intervals. This includes the results from 720 aircore holes and 40 rotary air blast (RAB) holes drilled by Uranex NL since 2007 – a total of 9,591 m of drilling. In addition to this, the results from a 12-hole sonic coring program (190 m) have been included. The resource has been drilled out on a 100 x 200 m grid spacing to a depth of approximately 20 m.

The 2012 Mineral Resource estimate prepared by SRK takes the tight geologic controls on the resource into account and involved selective modelling of the higher grade portions of the resource. The 2012 estimate was modelled using a grade domain constraint of 150 ppm eU_3O_8 . This constraint was chosen as it is suitable for selective mining of the higher grade portions of the resource and is economically more viable. The result of this approach has been to increase the head grade from 290 ppm in the previous estimates to 420 ppm in the current estimate (based on the same lower cut-off value of 150 ppm eU_3O_8).

The 2012 estimate employed contemporary grade and geological software modelling techniques not used in previous estimations. This revised approach to modelling enabled SRK to create wireframe models of the resource at various cut-offs and, in addition, allowed SRK to further domain and estimate the resource by lithology. The study found that there is a strong relationship between geology and grade. The result of this "improved" modelling has led to an increase in the estimated average block grade for the resource. The 2012 model includes unique geological and estimation domains for the main lithological types seen at Thatcher Soak (clay, sandy-clay, silcrete, calcrete and sand).

SRK has undertaken a desktop review of the earlier QA/QC work performed by both H&S and Uranex NL, especially with regard to the comparison of the chemical uranium assays against the gamma logging undertaken for the sonic drilling. Generally, the quality of the gamma logging appears well within industry standard guidelines and every effort has been made to ensure correct calibration of the gamma probes. Twin hole comparison of the sonic core chemical assays with aircore gamma eU_3O_8 values clearly identifies the comparable horizons in each dataset in terms of grade and downhole location. The earlier chemical to gamma log study undertaken with the aim of determining disequilibrium cannot, in SRK's opinion, conclusively identify the presence or degree (if any) of disequilibrium that may be present. This therefore still remains an unknown factor in the resource estimate and would need to be quantified at a certified laboratory. From the comparative study, however, it is clear that a significant amount of disequilibrium is unlikely to be present. For this reason (and others, discussed later in the statement), it is recommended that the resource not be classified any higher than Inferred.

The density used for tonnage calculations in the model was based on over 1,251 composited downhole density logs. The specific gravity was estimated into the resource using inverse distance squared methods based on lithological domains. A comparison was made between half-core density measurements from the sonic core (some 93 measurements) and the equivalent downhole measurements; the latter were found to be within 5% of the core measurements. This gave confidence in the use of the downhole probe density data for the estimate. Density logs were taken for all holes and therefore cover the entire deposit (unlike the sonic densities). Some of the density logs in the upper parts of the stratigraphic sequence do have very low densities, but these are commonly outside of the resource zone.

Prior to estimation, SRK constructed a series of grade wireframes for the deposit at a series of lower cut-off grades of 25, 50, 100, 150 and 200 ppm eU_3O_8 using Leapfrog™ Mining software. The choice of 150 ppm eU_3O_8 as the lower grade surface for the final resource domain was based on economic considerations for a high grade selective mining scenario, 2012 uranium prices and geological factors. For estimation purposes, the resource was further domained into six major lithological domains within the grade shell. While the use of a higher grade (selective) shell contains some risk (compared to the use of a lower grade shell), its use is justified – despite the high grade, good grade continuity could still be demonstrated to exist over numerous drill holes and sections along a strike length of several kilometres and horizontal widths of more than 600 m. It is likely that the deposit can be mined with a large degree of selectivity (using radiometric grade control) and that this may ensure a high head grade is maintained during mining. However, SRK does recommend infill drilling between the 200 m spaced sections (down to 50 or 100 m), to confirm this continuity. This would be essential for any future resource upgrade from Inferred (to Indicated or Measured).

The use of Leapfrog™ Mining software to build the grade shells and other geological surfaces is justified, given the complexity of the grade distributions and the time it would otherwise take to build the wireframe models. It is SRK's experience that careful use of these automated modelling techniques is justified at Thatcher Soak, provided the results are checked against the actual drill hole grades and the models are constrained within known geological limits. All Leapfrog™ models were checked against a series of 35 geological cross sections supplied by Uranex NL and gave reliable results. SRK has a substantial experience using Leapfrog™ and considers that, in many cases, it produces results which are superior to manual sectional wireframing methods.

The resulting Leapfrog™-generated wireframes were taken into GOCAD Mining software for construction of the block model, lithological modelling (using categorical estimation techniques), variography, statistical analysis and resource estimation. A detailed variogram study was undertaken for the deposit on a lithological and grade domain basis. A block size based on approximately one half of the sampling interval was used (100 x 50 x 1 m). In general, the anisotropic ratios of the variography reflected the main mineralisation trends observed in the sample data and known lithological controls. Estimation was undertaken in each of the lithological domains using Ordinary Kriging based on appropriately sized sample composites (1 m) flagged for each domain. The sample size chosen for the estimates reflected the degree of geological selectivity likely to be used, and possible mining bench height. The resource model was designed with the premise that the deposit would be available to selective open pit mining (hence the higher cut-off grade chosen for the final wireframe shell).

An upper cut was applied to the sample composites used in the estimates to limit the influence of a few high grade outliers. The application of an upper cut (1200 ppm eU_3O_8) was based on a statistical review of the sample composites to determine any outliers and also examined the spatial distribution of these samples, their grade and frequency. All samples were flagged by lithological domain and chosen within the 150 ppm eU_3O_8 wireframe grade shells ready for estimation.

Estimation into the block model was done using a search ellipse that was designed to search to the extents of the constraining 150 ppm grade shell to ensure all blocks were estimated. Estimation was also completed on a domain by domain (clay, clayey sand, calcrete, silcrete and sand) basis within the 150 ppm grade shell. A minimum of four sample composites were used to estimate individual blocks. Densities were applied to the blocks using an inverse distance estimator on a lithological domain basis (using the downhole probe density data)

The resource was classified as Inferred as per JORC Code (2012 edition) guidelines, for the following main reasons:

Relatively large drill hole sample separation distance (current 200 x 100 m grid)

Insufficient knowledge of disequilibrium

Relatively high grade wireframe shell used to constrain reported estimates

Some degree of uncertainty over sample recovery for the aircore program.

Due to the consistent pattern of drilling, no part of the deposit has been excluded from classification as Inferred.

SRK's June 2012 Mineral Resource figures for the Thatcher Soak uranium deposit, based on the 150 ppm eU₃O₈ grade shell, are summarised in **Table 1**.

Table 1: SRK June 2012 Inferred Resource - Thatcher Soak - 150 ppm lower cut-off grade

Tonnes	Grade (ppm eU ₃ O ₈)	Tonnes eU ₃ O ₈	lbs eU ₃ O ₈
11,582,120	425	4,922	10,853,894

A grade-tonnage curve for the new resource was compiled at a range of different cut-offs – from 150 ppm eU₃O₈ to 500 ppm eU₃O₈. In some cases, there is only a small amount of material between the 150 ppm eU₃O₈ and 200 ppm eU₃O₈ cut-offs. This is because few samples occur between these grades. The grade-tonnage report for Thatcher Soak Mineral Resource is given in Table 2 and includes a breakdown by material type. Approximately half the resource is contained in the clay and silcrete materials, which have the highest grades.

Table 2: Inferred Resource - Thatcher Soak (SRK, June 2012)

Thatchers Soak Global Inferred Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade eU ₃ O ₈ (ppm)	Contained e U ₃ O ₈ (tonnes)	Contained e U ₃ O ₈ (lbs)
150	5,791,060	11,582,120	425	4,922	10,853,894
200	5,791,050	11,582,100	425	4,922	10,853,875
250	5,590,120	11,180,240	431	4,819	10,625,197
300	4,990,470	9,931,035	448	4,449	9,810,274
350	4,211,980	8,381,840	468	3,923	8,649,556
400	2,889,210	5,749,528	510	2,932	6,465,632
450	1,799,520	3,581,045	563	2,016	4,445,563
500	1,171,920	2,332,121	609	1,420	3,131,677

Thatchers Soak Clay Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade e U ₃ O ₈ (ppm)	Contained e U ₃ O ₈ (tonnes)	Contained e U ₃ O ₈ (lbs)
150	2,317,120	4,657,411	451	2,100	4,631,586
200	2,317,110	4,657,391	451	2,100	4,631,566
250	2,194,630	4,433,153	463	2,053	4,525,872
300	2,026,500	4,093,530	477	1,953	4,305,513
350	1,748,630	3,514,746	499	1,754	3,867,258
400	1,382,250	2,778,323	532	1,478	3,259,139
450	930,733	1,852,159	585	1,084	2,389,146
500	701,062	1,388,103	620	861	1,897,675

Thatchers Soak Silcrete Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade e U ₃ O ₈ (ppm)	Contained e U ₃ O ₈ (tonnes)	Contained eU ₃ O ₈ (lbs)
150	1,043,710	2,076,983	445	924	2,037,988
200	1,043,600	2,076,764	446	926	2,042,352
250	1,016,890	2,023,611	451	913	2,012,390
300	955,084	1,900,617	462	878	1,936,178

350	851,534	1,694,553	477	808	1,782,305
400	634,878	1,263,407	506	639	1,409,621
450	436,001	867,642	541	469	1,035,014
500	220,274	438,345	608	267	587,663

Thatchers Soak Sandy Clay Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade eU ₃ O ₈ (ppm)	Contained eU ₃ O ₈ (tonnes)	Contained eU ₃ O ₈ (lbs)
150	674,410	1,396,029	410	572	1,262,080
200	674,000	1,395,180	410	572	1,261,312
250	649,819	1,345,125	418	562	1,239,789
300	558,320	1,155,722	441	510	1,123,830
350	403,977	836,232	483	404	890,600
400	308,751	639,115	514	329	724,353
450	249,786	517,057	537	278	612,239
500	159,017	329,165	579	191	420,244

Thatchers Soak Sand Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade e U ₃ O ₈ (ppm)	Contained e U ₃ O ₈ (tonnes)	Contained e U ₃ O ₈ (lbs)
150	283,567	575,641	390	224	495,022
200	283,567	575,641	390	224	495,022
250	283,567	575,641	390	224	495,022
300	283,567	575,641	390	224	495,022
350	242,497	492,269	401	197	435,267
400	99,666	211,292	436	92	203,132
450	21,469	46,158	482	22	49,058
500	4,360	9,287	529	5	10,833

Thatchers Soak Calcrete Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade e U ₃ O ₈ (ppm)	Contained e U ₃ O ₈ (tonnes)	Contained eU ₃ O ₈ (lbs)
150	1,121,340	2,186,613	389	851	1,875,556
200	1,121,320	2,186,574	389	851	1,875,523
250	1,105,150	2,155,043	392	845	1,862,733
300	964,829	1,881,417	406	764	1,684,301
350	815,990	1,591,181	417	664	1,463,067
400	385,653	725,028	465	337	743,389
450	146,202	285,094	540	154	339,461
500	79,982	149,566	589	88	194,249

Thatchers Soak Other Lithologies Resource (150 ppm grade shell model) with 1200 ppm upper-cut applied					
Cut-off grade	Volume	Tonnes	Grade eU ₃ O ₈ (ppm)	Contained eU ₃ O ₈ (tonnes)	Contained eU ₃ O ₈ (lbs)
150	350,917	663,233	350	232	511,850
200	350,000	661,500	350	232	510,513
250	340,071	642,734	354	228	501,699
300	203,023	371,532	391	145	320,318
350	149,358	273,325	409	112	246,497
400	77,011	127,068	437	56	122,441
450	15,326	25,288	526	13	29,330

Competent Person's Statement

The work reported herein relating to the Thatcher Soak Project was undertaken by Peter Gleeson, MAIG, who is a full-time employee of SRK. Peter Gleeson is a Competent Person as defined by the JORC Code (2012) and takes responsibility for all components of the Thatcher Soak Mineral Resource Estimate, including the assessment of data quality, the geological model, and the geostatistical estimation. He has more than five years' experience relevant to the style of mineralisation and type of deposit described in the Report, and is a Member of the Australian Institute of Geoscientists.

This Mineral Resource Statement is reported in accordance with the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 JORC Code). The summarised Mineral Resource estimates in **Table 1** have been compiled as of the final 2008 close of the drill hole database by Uranex and the new resource is effective as of the completion of the revised modelling and estimation on 21 June 2012. The classification of the Mineral Resource estimates into the Inferred category is a function of the confidence in the historical data, recent confirmation data and data analysis, geological interpretation, mineralisation geometry and geological context within which the estimation has taken place. The classification of resources is consistent with the Australasian Guidelines and Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (revised 2012) as prepared by the Joint Ore Reserves Committee (JORC) of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia.

Peter Gleeson (who is a full-time employee of SRK) accepts responsibility for classifying the current Thatcher Soak Mineral Resource estimate as Inferred and the data upon which the estimates are based, including the geological interpretation.

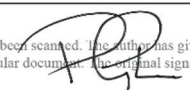
The eU₃O₈ grades used in the resource estimation are based on data obtained from previous explorers, by a range of drilling methodologies, with analyses undertaken at a range of laboratories and geophysical probe utilising various analytical methodologies, as was supplied to SRK by Uranex. To the best of its knowledge, SRK has reviewed all such information and accepts it as reliable and free from any material error.

Yours faithfully

SRK Consulting (Australasia) Pty Ltd

Signed by:

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Peter Gleeson
Corporate Consultant
(Mining Geology)
BSc, MSc, MAIGS, CEng, MIMMM
SRK Consulting (UK) Ltd

Signed by:

Daniel Guibal
Associate Corporate Consultant

Appendix A: JORC Code (2012) – Table 1

JORC Code, 2012 Edition – Table 1 report – Thatcher Soak Uranium Project – Uranex Limited

1. Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> eU₃O₈ values are calculated from deconvolved radiometric downhole values. All samples used in the resource are from drilling completed by Uranex in 2007 and 2008. RAB drilling was undertaken in May 2007 and the first phase of AC drill holes completed in mid-2007. Samples were from 5½ inch diameter holes and taken at 1 m intervals. A short AC drilling program consisting of 109 holes was completed, to redrill collapsed RAB holes. Samples were also 5½ inch diameter and were taken every meter for the entire hole, with every second row being selected for sampling. For the second phase of AC drilling (209 holes) which was completed for infill purposes, 1 m samples were collected throughout the hole, but selectively sampled based on scintillometer results (values greater than 300 cps). The Sonic drilling undertaken in mid-2008 consisted of 12 holes drilled at PQ size, spread over the deposit. The purpose of these holes was the collection of in situ samples in polycarbonate tubes for bulk density testwork. These samples were also chemically assayed (XRF). All holes were geophysically logged using a calibrated downhole gamma probe and gamma counts were converted to equivalent e U₃O₈ values (in ppm). For the sonic holes, all gamma data was compared with geochemistry data via both downhole comparisons and overall population bivariate analysis, and distribution analysis to check for potential error or disequilibrium. SRK is of the opinion a direct comparison between chemical assays and

Criteria	JORC Code explanation	Commentary
		<p>gamma pairs is not an accurate method for determining disequilibrium.</p> <ul style="list-style-type: none"> Preferred options to determine the presence of disequilibrium include: <ul style="list-style-type: none"> PFN (prompt fission neutron logging) downhole tool for direct comparison with gamma logging; this technique measures the uranium directly, but has limitations for lower grade mineralisation (detection limit of 250 ppm eU₃O₈) “Closed Can” determination from core Special chemical disequilibrium study carried out by a certified radiometric laboratory
<i>Drilling techniques</i>	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> RAB, AC and sonic drilling techniques have been used at Thatcher Soak. The RAB drilling was initially completed in early 2007. AC drilling was then completed to replace RAB drilling, partially to improve the quality of the RAB samples, and to infill the mineralised zone in late 2007. Sonic drilling was undertaken in 2008, primarily for bulk density testwork and for chemical assay (XRF) analysis.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Poor quality samples in the RAB drill holes due to the high incidence of water, required the drilling technique to be replaced by AC drilling. There is also a high proportion of wet samples in the AC drilling, leading to concerns over the representivity of chemical assays. During the sonic drill program, sample loss was calculated for each tube. For all cases, a positive loss indicated significant water addition and was not recorded. During sonic core drilling, core loss is minimised by ‘casing as we drill’ through all ore zones or any zone where the geological information is critical – such as for geotechnical purposes. Sample loss of 70% was recorded for hole TSS001 due to core cutting methodology experimentation, and for TSS157 due to abnormally wet samples in the tube. No correlation between core loss and grade has been found. Geochemical grades are also checked against composited gamma derived grades (see

Criteria	JORC Code explanation	Commentary
		above), which acts as another check on errors in the geochemistry that may (or may not) be due to core recovery.
<i>Logging</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Logging of AC and RAB holes included geological logging by Uranex logging codes; this information enabled the creation of the litho-facies domains used for estimation Radiometric logging was carried out on all holes, where possible, on 2 cm intervals to either the end of the hole or to the point of hole collapse. Uranex used the services of Borehole Wireline Pty Ltd for the gamma logging. Geophysical density logging was also conducted on the sonic drill holes.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> 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. Quality control procedures adopted for all sub-sampling stages to maximise representivity of 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> Once dry, samples from the AC and RAB drill holes were split using a two tier 'Jones' riffle splitter. Samples from the sonic drill program were collected in PQ polycarbonate tubes or plastic sleeve material for density determinations. Tubes were a maximum of 1.5 m in length and sealed at either end by a tube cap and tape. The samples were collected in situ in polycarbonate tubes and cased with slotted PVC for hydrological work and assayed on approximate foot lengths of half-core. Samples were collected wet and the weight recorded, and then dried and the weight recorded again, to assist with the density calculations. Field duplicates were not taken during the first phase of drilling (AC and RAB holes). In the second phase of AC drilling (infill drilling the mineralisation), a field duplicate was taken for each hole sampled (approximately every 15th sample).
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Samples were analysed by Genalysis Perth and prepared in the following way: <ul style="list-style-type: none"> Samples were dried overnight at 105° (~17 hours) Boyd crush to 2 mm Single stage LM5-equivalent for samples under 3 kg. Pulverisation is to a nominal 80 – 90% passing 75 micron. Samples greater than 3 kg were riffle split first. Bowls were cleaned with barren silica, when

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	<p>necessary, or at the end of the job.</p> <ul style="list-style-type: none"> Packet pulp of 100 g is then selected and packaged and Genalysis' in-house database used for registration, tracking and control. Lab pulp duplicates and standards are randomly selected by the database (1 lab standard and 1 duplicate per 25 samples). 30 g of the sample is pressed into powder for XRF analysis. Genalysis retain a 0.5 - 3 kg pulverised reject, unless otherwise instructed. All drill holes completed in the sonic drill program were geophysically logged using a downhole gamma probe and gamma counts were then converted to equivalent eU_3O_8 (in ppm) using appropriate deconvolution calculations (Wilson 2007). The sonic core program also used chemical assays (XRF) for direct comparison with the gamma logging grade values.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Twin hole comparison was completed by H&S (2008) for the sonic core chemical analysis. Data was entered into a drilling database which included collar positions, radiometric measurements, geological logging and any chemical analysis. All holes have been reviewed by Uranex to ensure logging codes are consistent.
<i>Location of data points</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Collars location were accurately recorded and picked up with a GPS device with an accuracy of ± 0.5 m horizontally and less than 0.1 m vertically. All planned and actual coordinates are in MGA (Map Grid of Australia) 94_51; all elevations are expressed relative to Australian Height Datum (AHD) 1971. Topography surface was determined based on collar coordinates.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Drill hole spacing is relatively regular with hole spacing of approximately 100 mE x 200 mN, and to a depth of ~20 m. In some places, the drill hole spacing expands to ~200 mE x 200 mN.

Criteria	JORC Code explanation	Commentary
	<p>Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <ul style="list-style-type: none"> Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Strong geological continuity at multiple grade cut-offs indicates that the current drill spacing is appropriate for a Mineral Resource estimation with Inferred Classification. Samples were composited to 1 m.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering 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. 	<ul style="list-style-type: none"> All drill holes are vertical, with total depths from 5 – 30 m. Mineralisation is hosted in horizontally bedded sediments within relatively thin vertical widths. Therefore, vertical drill holes are considered appropriate.
<i>Sample security</i>	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Samples were dispatched to Genalysis in Perth. On arrival, samples were sorted according to lab request sheet; extra or missing samples were reported. Job information includes date received, date completed, sample type and contact person.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> A review of the QA/QC was completed in 2008 by H&S. This review incorporated: <ul style="list-style-type: none"> Standards and blanks Calibration for gamma logs Density determinations Inter laboratory checks Internal laboratory pulp duplicates External laboratory pulp duplicates Field duplicates Collar locations Twin hole studies SRK completed a desktop review of the work done by H&S (2008) and also reviewed the database that was to be used for the resource estimation. SRK concluded that, in general, the chemical assays and RC samples are within industry standards. Gamma probes were also routinely calibrated – again, to industry standards.

2. Section 2 Reporting of Exploration Results

NOT APPLICABLE TO THIS RESOURCE UPDATE

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The Thatcher Soak resource is located within a project tenement package covering an area of some 500 km². The exploration licences held by Uranex are E38/1732 and P38/3298. Uranium mineralisation at Thatcher Soak is not restricted to the Uranex tenements. In 2008, Eleckra Mines Ltd, operating an adjacent licence to the east of the Uranex licences, defined a small resource. . Geologically, both resources are part of the same paleochannel mineral system.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The ground was first licensed for uranium mineral exploration in 1971 by Ausminex JV after the discovery of carnotite (a potassium uranium vanadate mineral) at Thatcher Soak. Between 1973 and 1974, other explorers completed wide-spaced drilling programs, which established the main zone of mineralisation to be 7.5 km long and 200 - 1,000 m wide. Between 1976 and 1981, Uranerz Australia Pty Ltd held the western portion of the deposit, and from 1971 to 1984, BP Minerals Australia held the eastern portion. The central portion was held by Anderson, Dante and Row Pty Ltd during this time. In 1986, a JV was established to reassess the deposit, resulting in a drilling program (52 holes) and radiometric survey (along existing drill lines at 800 m spaced intervals). In addition, geology and geophysical logging and mapping, radiometric surveys and groundwater studies were completed. Between 1988 and 1989, Total Mining Australia PL carried out metallurgical testing. During the period of 2007 – 2008, Uranex undertook a drill program (two phases) of AC and RAB drilling to define a resource.

Criteria	JORC Code explanation	Commentary
<i>Geology</i>	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Thatcher Soak is located in the Yamarna Terrain of Yilgarn Province of Western Australia and has many similarities to other calcrete-hosted channel uranium deposits in the region, e.g. Lake Maitland and Yeelirrie. The geological model for Thatcher Soak is a surficial clay-calcrete-hosted uranium deposit. Mineralisation is hosted in a complex network of alternating, interfingering lenses of clays, calcrete, sandy clays, sands and gravels. The model for the genesis of calcrete-hosted uranium deposits involves the liberation of uranium from source rocks enriched in uranium, and the transportation of the metal by alkaline, oxidising waters. The presence of local geological barriers downstream from the source rocks (such as uplifted basement or local constrictions in the channel) creates the environment for precipitation of uranium minerals such as carnotite $K_2[UO_2]_2[VO_4]2.3H_2O$ during arid/ dry seasons. The main host for the mineralisation is the paleodrainage system, along with adjacent areas, which contains the calcrete and dolomite units. The uranium mineralisation is commonly seen as the yellow staining of carnotite.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in 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. 	<ul style="list-style-type: none"> All drill holes from the 2007 - 2008 drilling program in the Thatcher Soak deposit are vertical with total depths between 5 - 30 m. The total meterage drilled is 9,592.6 m (AC drilling of 8,757 m and RAB drilling of 835 m). A total of 12 sonic holes for a total of 536 m was drilled. The mineralised target zone is 1 - 2 m thick at a depth of 1 to 2 m from the surface.

Criteria	JORC Code explanation	Commentary
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All results representing average grades over stated intervals reported here were based on a 150 ppm eU₃O₈ cut-off of the upper and lower intercept (boundary of the mineralized zone). No aggregation of intervals was made. All results are reported from deconvolved gamma data converted to eU₃O₈ as stated in Section 1 of this table.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> 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'). 	<ul style="list-style-type: none"> The mineralisation lenses at Thatcher Soak are horizontal in nature. Thus, given that all drill holes are vertical from the surface, and hence perpendicular to mineralisation, all stated mineralisation intercept thicknesses represent the true thickness of the mineralisation lens at the specified cut-off grade.
<i>Diagrams</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All relevant maps are located in the Thatcher Soak Uranium Deposit Mineral Resource Estimate report released in September 2012.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No exploration results are reported in this document – resource drilling only.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No exploration results are reported in this document – resource drilling only.

Criteria	JORC Code explanation	Commentary
<i>Further work</i>	<ul style="list-style-type: none">• 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.	<ul style="list-style-type: none">• SRK recommends that further work at Thatcher Soak be concentrated on upgrading the existing resource, including infill drilling and a better understanding of the disequilibrium as currently defined.

3. Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> SRK completed a desktop review of QA/QC work compiled by H&S, sampling procedures from Uranex, as well as a review of the database provided by Uranex, before undertaking the resource update. SRK determined that sampling was carried out carefully and no major sampling issues with the chemical assay data or radiometric logging data were identified.
<i>Site visits</i>	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> The Competent Person responsible for the resource estimate, Peter Gleeson, visited site previously in 2011 for an Independent Geologist's Report. Therefore, it was not considered that another site visit was necessary, given Mr Gleeson's experience with Uranex's Thatcher Soak uranium deposit.
<i>Geological interpretation</i>	<ul style="list-style-type: none"> The use of geology in guiding and controlling Mineral Resource estimation. Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> The geological model for Thatcher Soak is a surficial clay-calcrete-hosted uranium deposit. There is a strong correlation between the paleochannel location and mineralisation. Several litho-facies within the channel represent different environments of deposition over time, with the uranium concentrated in the silcrete, clay, sandy clay and calcrete-bearing units. The grade domains generated in Leapfrog™ software are based on these lithological boundaries and the grade distribution is consistent within three flat-lying horizons, even at lower cut-off grades (50 ppm eU₃O₈). The uranium mineralogy is predominantly carnotite, which occurs in voids, along fractures and joint surfaces in the calcrete.
<i>Dimensions</i>	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> The Thatcher Soak deposit is surficial with a vertical thickness which averages 2 - 10 m. The along channel strike length is 8 km and the width across channel is 2 km.
<i>Estimation and modeling techniques</i>	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a 	<ul style="list-style-type: none"> Implicit modelling techniques available in Leapfrog™ software were used to generate grade iso-surfaces from 1 m composites at multiple eU₃O₈ grade cut-offs. This enabled an appreciation for the grade continuity and was used to define a hard boundary for later estimation. Next, the Leapfrog™ iso-surfaces were constrained using appropriate

Criteria	JORC Code explanation	Commentary
	<p>description of computer software and parameters used.</p> <ul style="list-style-type: none"> • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	<p>geological and geographical domains, namely the topographic surface and the base of the channel model surface. An anisotropic search distance was applied to the interpolations at multiple cut-offs, with 150 ppm eU_3O_8 determined as being the most appropriate. A visual inspection of the grade shells and the 1 m drill sample composites indicated an excellent correlation.</p> <ul style="list-style-type: none"> • Due to the local complexity of the different channel litho-facies, it was decided the use of Leapfrog™ rather than the traditional method of sectional wireframing. The implicit methodology available in Leapfrog™ is more efficient and accurate, enabling a more detailed geological framework to be developed, and a higher cut-off of 150 ppm eU_3O_8 was used for the estimation domains. • To develop the geological domain model, a technique from the petroleum industry was adopted – GOCAD software's stratigraphic gridding (S-Grid) techniques with categorical lithological estimation. Using an S-Grid rather than a traditional orthogonal regular grid enables a more accurate block model to be created, as an S-Grid honours the stratigraphical nature of the geology in a horizontal deposit more accurately. In an S-Grid, the volumes of the block remain constant, but the shape of the block deforms to fit the stratigraphic nature of the mineralisation. The parent cell size reflects the drill spacing (half the average drill hole spacing along strike). • After the construction of the stratigraphic grid within the channel area, the lithology codes from the drill holes were assigned to the nearest block in the S-Grid using categorical modelling. • Multiple different lithologies were flagged, but the five main lithology groups were used for the resource estimation: <ul style="list-style-type: none"> - Clay - Calcrete - Sandy Clay - Silcrete - Sand - Other (comprised <5% of the total resource area) • The geological domain model was then imported into Leapfrog™ software, where the 150 ppm eU_3O_8 iso-surface was generated within the channel and

Criteria	JORC Code explanation	Commentary
		<p>used to constrain the block model. Therefore, the final domains used in the resource estimate are a combination of geological and grade domain models.</p> <ul style="list-style-type: none"> • The constrained S-Grid volume model was then domained by geology, grade and unique density values for each domain were assigned, based on rock type. The density values were estimated into the block model by inverse distance squared on a lithological domain basis. The density values were derived from 1,251 downhole probe measurements supported by half-sonic core density measurements. • Statistical analysis was undertaken using univariate and conditional statistics, where appropriate. Upper cutting of grades (1200 ppm eU₃O₈) was applied to the composited drill holes data on a global basis, to limit the influence of a few high grade outliers. The application of the upper cut was based on a statistical review of the sample composites to determine the presence of any outliers. The spatial distribution, grade and frequency of the samples were also considered. • Estimation was then carried out on the S-Grid domain volumes in a UVW (deformed) space using a search ellipse designed to search to the extent of the 150 ppm eU₃O₈ grade shell. Estimation was completed on a domain by domain basis within this grade shell. • Ordinary kriging was used to estimate eU₃O₈ and inverse distance squared was used to estimate bulk density. • Search parameters were proportional to the variogram models, and following several iterations, estimation parameters were determined to be: <ul style="list-style-type: none"> - Minimum samples per block = 4 - Maximum samples per block = 32 - Maximum per octant = 4 • Experimental variograms of eU₃O₈ were calculated and modelled for each domain. However, due to limited samples in each domain, it was not possible to develop well-structured variography for each domain. Therefore, the ranges and orientation of the variogram were established on a global basis, and the nugget and sill variances values adjusted for each domain. The directional variography for Thatcher Soak indicates a distinct anisotropy, with the major

Criteria	JORC Code explanation	Commentary
		<p>axis along the NNW-SSE direction, and half the ranges in the direction normal to this (NE-SW) and distinct flattening in the vertical direction. This anisotropy is consistent with the paleochannel and subsequent orientation of the uranium mineralisation.</p> <ul style="list-style-type: none"> • The nugget variance approximates to 30% of the total variance in all domains, with the major direction indicating ranges of up to 1,000 m, the semi-major direction ranges of approximately 500 m and the minor direction only 4 m, which is consistent with a channel-hosted deposit. • For validation, the block estimate grades were compared to drill composite data visually and statistically. The estimate was also compared to the previous H&S 2008 estimate. Significant differences were noted in the updated resource model, which are attributed to the difference in grade thresholds used for domain modelling (150 vs 50 ppm eU₃O₈), which previously, unnecessarily, lowered the overall average grade of the estimate. The updated model is also more highly constrained geologically, which puts more weighting on the high grade clay material, which forms the predominant ore type (by volume). • Previous estimates by H&S (2008) and in-house by Uranex used traditional wireframing techniques, with a domain cut-off of 50 ppm eU₃O₈. This enabled 15% - 20% of its samples below the cut-off to be included in the estimate.
<i>Moisture</i>	<ul style="list-style-type: none"> • Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	<ul style="list-style-type: none"> • Tonnages are dry tonnages. • A moisture value for above and below the water table of the 12 sonic holes was calculated to take into account the more significant change compared to moisture value by rock type. All moisture values were used in calculating an average value below the water table while moisture values >25% were not considered when calculating a value above the water table. • The bulk density data used for the estimation come from downhole probe measurements, which include both wet and dry values.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> • The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> • Grade-tonnage curves are provided for a range of cut-offs. Optimal cut-off will be determined from the mining studies.

Criteria	JORC Code explanation	Commentary
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<ul style="list-style-type: none"> Block size in the vertical direction (1 m) was determined based on a possible mining bench height, and the current composite length of 1 m. The current resource model assumes the mining selectivity will be no better in the vertical or horizontal direction than the block height or width. The block size selected (50 mE x 100mN) is large enough to ensure that an unbiased grade estimate is achieved at lower cut-off grades. To improve selectivity, infill or grade control drilling is necessary.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. 	<ul style="list-style-type: none"> Metallurgical assumptions have not been taken into consideration during estimation.
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<ul style="list-style-type: none"> Environmental assumptions have not been taken into consideration during the Thatcher Soak model update.
<i>Bulk density</i>	<ul style="list-style-type: none"> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and 	<ul style="list-style-type: none"> Density determinations were taken using two methods: <ul style="list-style-type: none"> - Geophysical downhole probe density logs (1,251 densities from 1 m composites).

Criteria	JORC Code explanation	Commentary
	<p>representativeness of the samples.</p> <ul style="list-style-type: none"> The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> Sonic core (half-core) measurements using water immersion methods (123 densities), from 12 PQ-sized holes spread over the deposit and covering all major rock types. Densities were taken from both wet and dry core. Prior to 2008, bulk density was allocated a nominal value of 1.8 for all rock types, based on H&S's experience with similar calcrete-hosted uranium deposits. Sonic wet and dry densities and downhole probe densities were analysed and SRK determined that only the downhole probe densities should be used in the revised estimate. This was attributed to a statistically significant higher number of samples across all lithologies and greater geographical distribution in the downhole probe densities. While downhole probe densities contain both wet and dry values, the sonic half-core measurements do not appear to reflect the densities for the upper levels in the deposit well, where sediments are less compacted and specific gravity (SG) is generally lower. The downhole probe densities were used to estimate block densities in the resource model using inverse distance squared methodology based on the same lithological domains as the eU₃O₈.
<i>Classification</i>	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit. 	<ul style="list-style-type: none"> The Inferred classification is based on the consideration of drill spacing, quality of sample data, confidence in geological continuity and variography. Factors which will enable an improvement in classification include: <ul style="list-style-type: none"> Infill drilling to at least 100 x 100 m spacing Confirmation of disequilibrium level Confidence in high grade continuity Aircore sample recovery clarification Additional sonic core drilling program to provide further density information Trench-bulk sampling of the resource at surface to determine the variability and grade of the near surface mineralisation, compared to results from adjacent RC or diamond drilling

Criteria	JORC Code explanation	Commentary
<i>Audits or reviews</i>	<ul style="list-style-type: none"> The results of any audits or reviews of Mineral Resource estimates. 	<ul style="list-style-type: none"> There has been no audit of the resources reporting material change within this ASX release, other than internal SRK and Uranex assessment and geological interpretation.
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> Compared to previous estimates by H&S (2008) and Uranex (2008), the use of Leapfrog™ mining software to build the grade shells and other geological surfaces is justified, given the complexity of the grade distribution. The 2012 estimate incorporated only minimal additional information (12 sonic core holes), and the estimate has been updated due to the availability of superior wireframing techniques which allowed SRK to reveal the strong relationship between geology and grade. The use of implicit modelling means the revised estimate incorporates tighter geological controls and allows the threshold grade to be increased to 150 ppm, which is more suitable for potential selective mining. A comparison with the previous H&S (2008) and in-house Uranex (2008) estimates shows a significant decrease in tonnage (~45%), but a significant increase in mean grade (~30%) in the revised estimate, resulting in a similar contained uranium metal (~1% lower). The re-estimation of the Thatcher Soak resource has resulted in the definition of higher grade domains that are geologically well constrained, which has led to a significant increase in the average grade of the resource. No production statistics available – not an operating mine.

4. Section 4 Estimation and Reporting of Ore Reserves

NOT APPLICABLE – NO RESERVES REPORTED

5. Section 5 Estimation and Reporting of Diamonds and Other Gemstones

NOT APPLICABLE – URANIUM ONLY

Mineral Resource Estimate Summary

Walbiri, Sundberg and Hill One Uranium Deposits

Compiled 12 November 2015 Reported by Marenica Energy Limited 4 July 2019

Exploration Results

Walbiri and its satellite deposits are a tabular, sandstone-hosted, uranium-vanadium style of deposit similar to the nearby Bigrlyi deposit. Mineralisation is hosted in the Mt Eclipse sandstone which is comprised dominantly of arkose, sub-arkosic sandstone and shale deposited in an ancient fluvial channel and alluvial fan system. Mineralisation is stratiform in nature and occurs within a number of semi-continuous lenses confined by shale bands; the dominant lens occurs immediately above a shale marker band termed the 'C-shale'. Mineralisation is hosted in reduced, grey-green coloured, pyrite-bearing rocks typically near the interface with oxidised mottled or red-coloured rock units. Uranium tends to be variably distributed along strike and at depth probably due to both primary depositional features, including the abundance of detrital clay clasts and channel morphology, and the effects of later uranium remobilisation.

The dimensions of the main Walbiri mineralised domain are approximately 3.6 km along strike with an average plan width of 300 m and maximum modelled plan width of 1,100 m. The total combined strike length of the Walbiri deposit and its two satellite deposits (Sundberg and Hill One) is 8.7 km. Stratigraphy and mineralisation dips between 10° and 18° to the SW and the width of the mineralised interval varies from 0.2m to 7.5m, averaging 1.3m thickness. Mineralisation extends from surface and plunges toward the SE with the deepest drill intercept being 230m below surface. Drill hole collar locations and other drilling details are provided in Annexure 1.

Uraninite and coffinite are the dominant uranium minerals in the sub-surface and they occur in close association with pyrite, ferroselite, and detrital-origin phyllosilicate minerals including biotite, clays and chromium-bearing chlorite. Walbiri and the satellite deposits are characterised by low levels of carbonate cement.

All Central Pacific Minerals (CPM) drill holes were logged open-hole, by independent geophysical contractors, using downhole gamma probe tools (for further details see the comments with regard to JORC reporting below). The downhole gamma probe was used as the primary analytical tool to measure eU_3O_8 grade. Drill core samples were assayed for uranium, however, these data are not considered to be sufficiently robust nor representative to be used in the resource estimation. Historically a number of samples were assayed to determine the extent of possible radiometric disequilibrium; although the data are somewhat variable it was concluded that significantly mineralised zones are most likely in equilibrium. This view is supported by a comparison of assay and gamma log U_3O_8 data, and therefore application of a disequilibrium correction is not considered to be warranted at this stage (i.e. radioactive equilibrium factor or REF has been assigned a value of 1).

Drill hole information and gamma log data for all drill holes, including associated metadata and probe calibration records, were compiled from Energy Metals Limited (EME) archives. Historical gamma logs were archived as a compilation of analogue printouts on paper charts; these were scanned at high resolution, digitised and converted to counts per second (cps) data at 10cm intervals downhole. Using

the calibration data and hole information the cps data were reprocessed to yield deconvolved eU_3O_8 values according to well established methods. Significant intercepts (minimum width 0.3m, maximum internal dilution 0.3m, cut-off grade 100ppm eU_3O_8 , and grade x thickness value >100) are detailed in Annexure 2. All relevant drilling data, gamma logging data and geological data including lithological logs have been converted to digital format, verified and loaded into EME's database (a summary of the information is provided in Table 1 below).

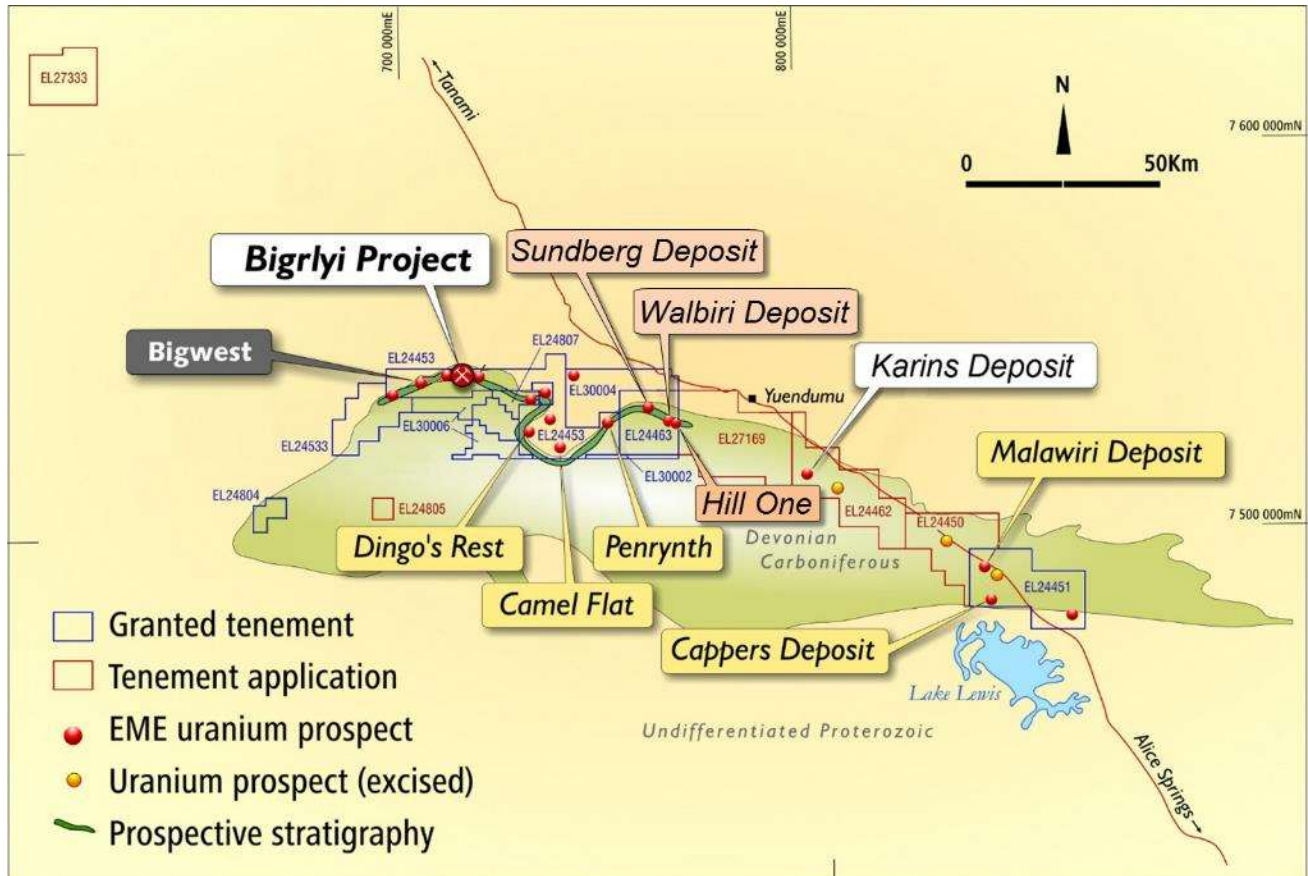


Figure 1. Map showing the location of the Walbiri deposit and the Sundberg and Hill One satellite deposits in relation to the Ngalia Basin (in green).

Table 1. Database Summary used in the Resource Estimation

Category	Total
Number of drill holes	66*
Total metres drilled	10,018.71
Number of downhole survey records	66
Number of gamma logged intervals (at 10 cm)	79,505
Number of mineralised intervals based on 10 cm gamma-logging	94
Number of assays	395
Number of assays used for REF estimate purposes	58
Number of intervals with lithological data	4,573

*57 CPM drill holes and 9 Alcoa drill holes. The latter holes, drilled mainly to the west of Sundberg, do not have available gamma logs and were used to constrain lithological continuity and the extent of mineralisation only.

Land tenure

Just over one half of the Walbiri deposit and most of the Sundberg and Hill One satellite deposits are located within granted tenement EL24463, which is 100% EME owned. The remainder of the Walbiri deposit and a portion of the Hill One deposit are located on granted joint venture tenement ELR45, which is a joint venture between EME (77.12%) and Northern Territory Uranium Pty Ltd (NTU: 22.88 %) with EME as the operator of the joint venture. About one third of the Sundberg deposit is located on granted tenement EL30145 which is a joint venture between EME (72.39%), Northern Territory Uranium Pty Ltd (NTU: 20.82 %) Northern Territory Uranium Pty Ltd and Southern Cross Exploration (SXX: 6.79%) with EME as the operator of the joint venture.

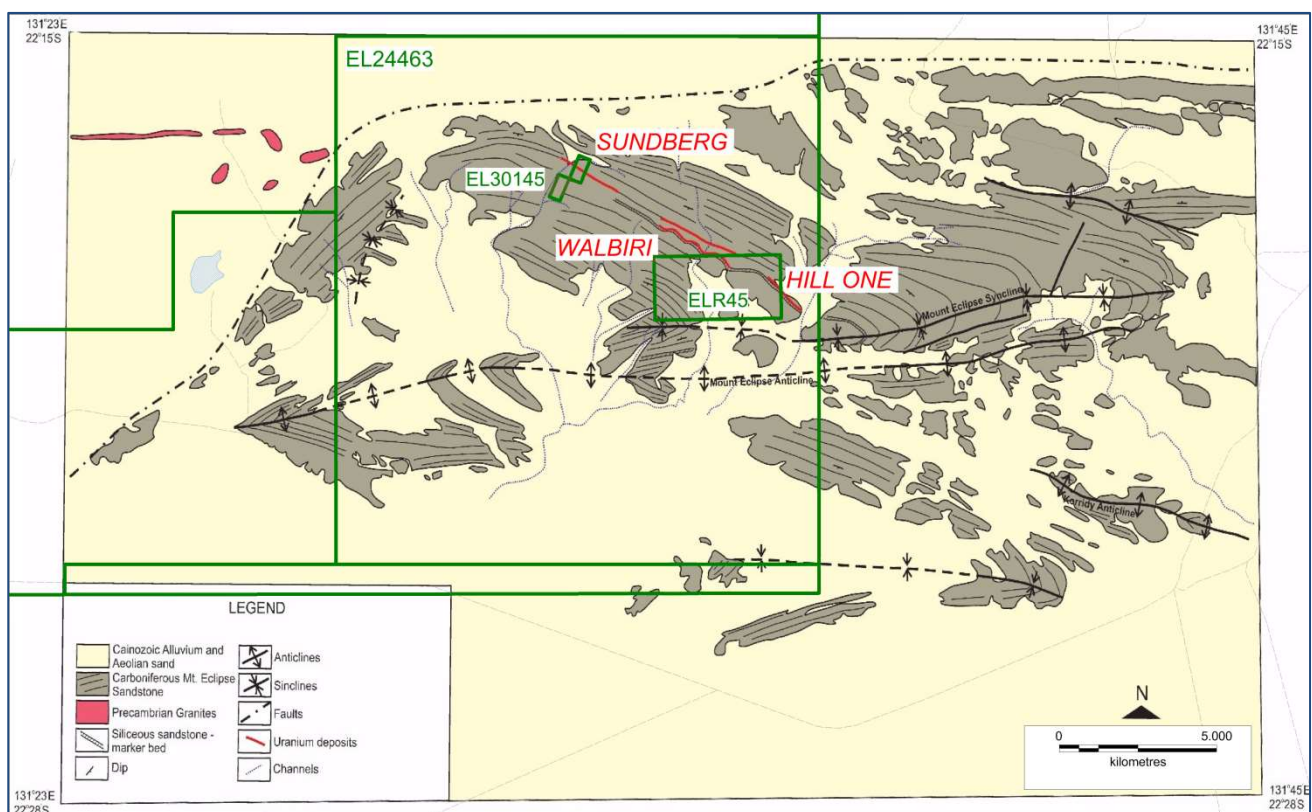


Figure 2. Map showing the location of Walbiri, Sundberg and Hill One deposits in relation to tenement boundaries (green), outcropping sandstone (grey), surface mineralisation (red lines), bedding planes and syncline/anticline axes. Northern boundary of Ngalia Basin (dot-dash line) and drainages (blue) are shown.

The deposits are all located on the Mt Doreen pastoral lease over which a Native Title claim was determined by consent in 2013. Currently, resource areas of the Walbiri, Sundberg and Hill One deposits are affected by Aboriginal heritage zones which restrict access and limit ground disturbing activities within the area.

Resource Estimation Procedure

Mineralised envelopes at a 100ppm eU_3O_8 cut-off grade were interpreted and wireframed (Figures 3 & 4). The wireframes were constrained by surface outcrops and constructed on the basis of a sectional interpretation in which the boundaries were extrapolated to half the nominal section spacing beyond the extents of current drilling. For profiles containing only one drill hole, an average bedding dip was assumed. Using the digital lithological logs, digital models were also generated for

the three shale horizons (A, B & C-shales) which bound internal sandstone sub-units (Figure 3).

The downhole eU_3O_8 data were composited over mineralised intervals using the following parameters: minimum thickness 0.3m, 100ppm eU_3O_8 cut-off grade, 0.3m maximum width of internal waste, no external dilution, and minimum grade-thickness of 30 ppm·m. A REF value of 1 was applied ($U_3O_8/eU_3O_8 = 1$) and statistical and geostatistical analyses were then performed. The block model was created and filled following application of a coordinate transformation to provide a constant orientation of mineralisation for interpolation purposes. Because the distribution of uranium grades consists of several populations the Multiple Indicator Kriging (MIK) method was used for interpolation of grades in the block model. The dimensions of the parent blocks were set at 10x10x0.5 m with sub-celling applied at the boundaries of the model. An average bulk density of 2.56 t/m³, as measured from Walbiri core samples held in EME's core facility, was used. The distribution of U_3O_8 grade x thickness values obtained is shown in Figure 5 and the resulting resource estimate, which is classified as inferred, is provided in Annexure 3 for various cut-off grades as well as splits for both deposit and joint venture interest.

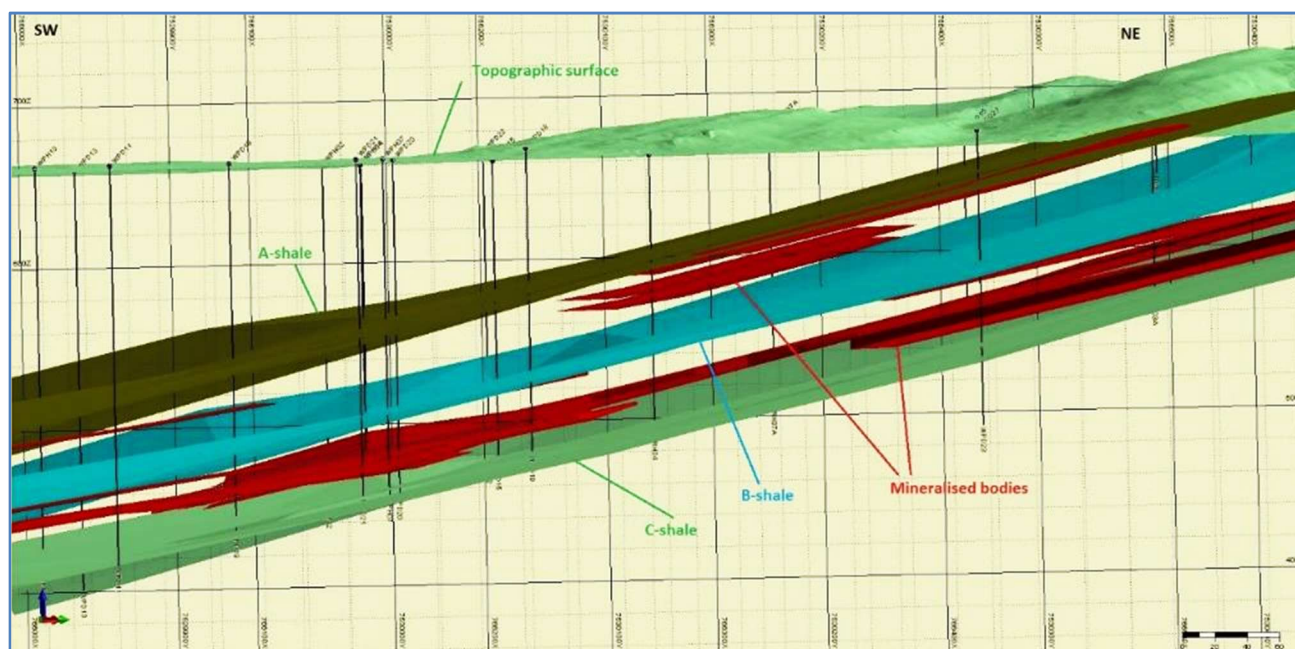


Figure 3. A SW-NE cross-section through the Walbiri Deposit showing wireframe models of lithological domains (brown: A-shale; blue: B-shale and green: C-shale) and mineralised bodies (red). Topographic surface and drill hole traces also shown.

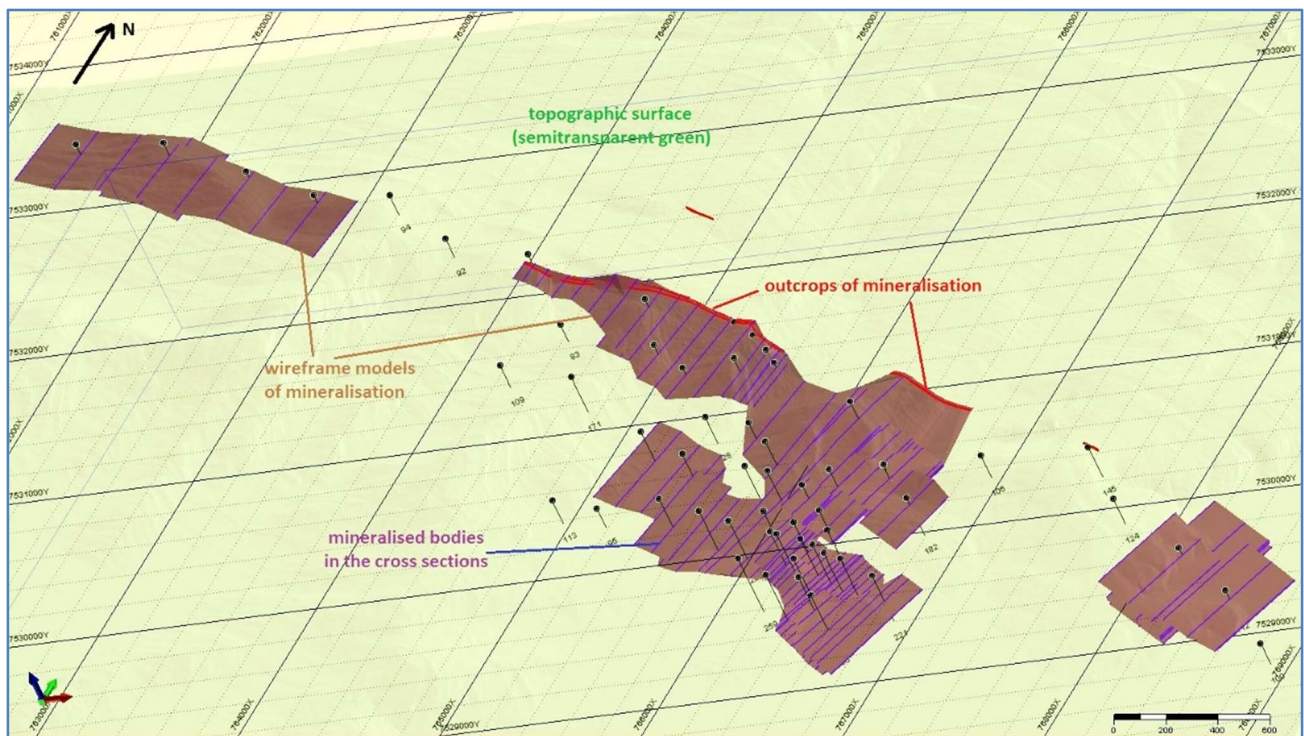


Figure 4. Wireframe models of the mineralised bodies. Outcropping mineralisation shown in red.

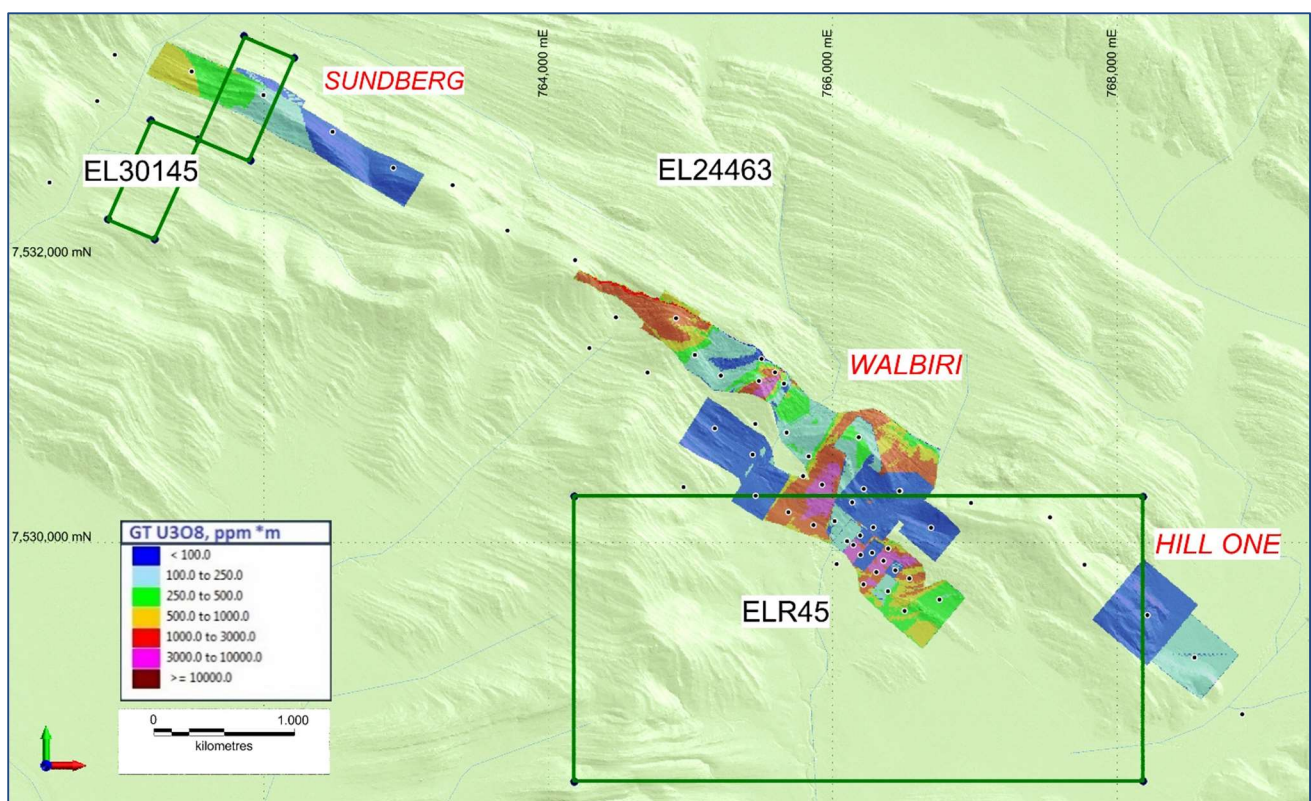


Figure 5. Distribution of U_3O_8 grade x thickness (GT) for the Walbiri and satellite deposits.

Summary

The Mineral Resources are summarised in Table 2 for a 200ppm U₃O₈ cut-off grade:

Table 2: Estimate of Mineral Resources for the Walbiri and Satellite Deposits (Ngalia Basin)

Category	Deposit	Volume '000 m ³	Tonnes '000 t	Grade		Mineral Resources	
				U ₃ O ₈ ppm	U %	U ₃ O ₈ Mlb	U ₃ O ₈ tonnes
Inferred	Hill One	192	494	321	0.027	0.350	159
Inferred	Walbiri	4,274	10,983	641	0.054	15.514	7,037
Inferred	Sundberg	391	1,005	259	0.022	0.574	260
Inferred	Total	4,857	12,482	597	0.051	16.438	7,456

Notes:

1. The Mineral Resources are for a 100% interest in the associated joint ventures and not the Mineral Resources attributable to the individual joint venture partners.
2. Mineral Resources are based on 200 ppm cut-off grade per resource block.
3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
4. Mineral Resources are based on JORC-2012 definitions.
5. Mineral Resources are based on a bulk density of 2.56 t/m³.
6. Rows and columns may not add up exactly due to rounding.

The Mineral Resources have been classified and reported in accordance with JORC (2012) requirements. The resource classification is based on the assessed level of confidence in sample methods used, geological interpretation, drill spacing and geostatistical measures.

Competent Persons Statement

The information in this report that relates to Mineral Resource estimation is based on information compiled by Mr Dmitry Pertel, Principal Consultant Geologist, CSA Global Ltd and Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Information in this report relating to the interpretation and determination of gamma probe results is based on information compiled by Mr Evgeny Sirotenko, consultant geophysicist, under supervision of Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Mr Pertel is a member of the Australian Institute of Geoscientists (MAIG) and is an employee of CSA Global. Dr Seredkin is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), a member of the Australian Institute of Geoscientists (MAIG), and is an employee of CSA Global. Mr Pertel and Dr Seredkin have 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 Competent Persons as defined by the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)", and Mr Pertel and Dr Seredkin both consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Annexure 1. Collar coordinates for historical drilling at the Walbiri deposit and satellite deposits, GDA94 datum, Zone 52.

HOLE NUMBER	DEPOSIT	EASTING (m)	NORTHING (m)	ELEVATION (m)	DRILL TYPE*	DIP (deg-rees)	TRUE AZI-MUTH (deg-rees)	TOTAL DEPTH (m)	Hole Completion Date
NGDD07	Walbiri	765595	7531202	718.2	DD	-90	5	53.63	20/09/1972
NGDD08	Walbiri	765659	7531123	705.8	DD	-90	5	64.64	29/09/1972
NGDD09	Walbiri	765501	7531296	731.2	DD	-90	5	55.8	1/10/1972
NGDD10	Walbiri	765031	7531324	725.4	DD	-90	5	91.44	5/10/1972
NGDD11	Walbiri	765483	7531140	738.7	DD	-90	5	104.24	10/10/1972
NGDD12	Walbiri	765173	7530807	671.5	DD	-90	5	216.4	24/10/1972
NGDD13	Walbiri	765678	7530779	669.5	DD	-90	5	100.89	11/11/1972
NGDD14	Walbiri	766184	7530745	729.9	DD	-90	5	100.58	17/11/1972
NGDD15	Walbiri	764900	7531580	772.1	DD	-90	5	102.7	27/11/1972
NGDD17	Walbiri	765439	7530624	666.2	DD	-90	5	165.2	1/12/1972
NGDD18	Walbiri	765926	7530411	678.7	DD	-90	5	165.2	10/12/1972
NGDD19	Walbiri	764699	7531199	707.9	DD	-90	5	170.7	20/12/1972
NGRH01	Walbiri	764476	7531588	698.7	PH	-90	5	82.6	19/08/1973
NGRH02	Walbiri	764290	7531371	687.6	PH	-90	5	109	27/09/1973
NGRH03	Walbiri	766475	7530368	670.9	PH	-90	5	26	11/08/1973
NGRH03A	Walbiri	766472	7530367	670.8	PH	-90	5	97.25	17/08/1973
NGRH04	Walbiri	766287	7530113	663.1	PH	-90	5	169	26/08/1973
NGRH05	Walbiri	766975	7530284	710.9	PH	-90	5	106	21/09/1973
NGRH11	Walbiri	764189	7531989	776.1	PH	-90	5	85	14/10/1973
NGRH12	Walbiri	763713	7532197	757.9	PH	-90	5	92	17/10/1973
NGRH36	Walbiri	765793	7530472	673.8	PH	-90	5	161	18/11/1973
NGRH37A	Walbiri	766139	7530288	676.4	PH	-90	5	166	15/11/1973
NGRH38	Walbiri	765214	7531179	697.9	PH	-90	5	29	not specified
NGRH50	Walbiri	765457	7530839	681.5	PH	-90	5	128	5/11/1973
WPH01	Walbiri	765690	7530220	662.1	PH	-90	5	218.5	2/02/1975
WPH02	Walbiri	765865	7530129	660.1	PH	-90	5	208.04	13/02/1975
WPH03	Walbiri	765459	7530335	666.5	PH	-90	5	216.08	15/03/1975
WPH04	Walbiri	766146	7529989	660.8	PH	-90	5	191.83	24/03/1975
WPH05	Walbiri	766196	7529919	662.1	PH	-90	5	94	13/03/1975
WPH06	Walbiri	764951	7530395	679.3	PH	-90	5	113.04	21/03/1975
WPH07	Walbiri	766359	7529878	664.9	PH	-90	5	207.84	26/04/1975
WPH08	Walbiri	766541	7529754	666.5	PH	-90	5	212.55	17/09/1975
WPH09	Walbiri	766752	7529606	668.6	PH	-90	5	220.7	14/10/1975
WPH10	Walbiri	766218	7529711	663.1	PH	-90	5	253	27/10/1975
WPD11	Walbiri	766389	7529664	664.5	PD	-90	5	247.42	21/04/1976
WPD12	Walbiri	766507	7529526	663.8	PD	-90	5	256.25	29/04/1976
WPD13	Walbiri	766028	7529854	660.4	PD	-90	5	259.44	5/05/1976

WPD14	Walbiri	766103	7530016	660.9	PD	-90	5	187.3	11/05/1976
WPD15	Walbiri	766195	7530055	661.7	PD	-90	5	187.12	15/05/1976
WPD16	Walbiri	766219	7530382	672.5	PD	-90	5	125.75	29/05/1976
WPD17	Walbiri	765833	7530611	684.6	PD	-90	5	133.47	1/06/1976
WPD18	Walbiri	766392	7529963	669.5	PD	-90	5	189.34	5/06/1976
WPD19	Walbiri	766307	7529798	663.7	PD	-90	5	226.92	12/06/1976
WPD20	Walbiri	766279	7529933	663.8	PD	-90	5	205.62	18/06/1976
WPD21	Walbiri	766441	7529810	665.1	PD	-90	5	208.69	23/06/1976
WPD22	Walbiri	766014	7530157	666.2	PD	-90	5	187.57	27/06/1976
WPD23	Walbiri	766694	7530109	674.8	PD	-90	5	181.67	2/07/1976
NGRH06	Hill One	767530	7530183	752.6	PH	-90	5	144.6	10/11/1973
NGRH07	Hill One	767773	7529851	720.0	PH	-90	5	123	9/11/1973
NGRH08	Hill One	768214	7529497	687.5	PH	-90	5	151	7/11/1973
NGRH09	Hill One	768545	7529199	662.8	PH	-90	5	112	8/11/1973
NGRH10	Hill One	768880	7528801	659.1	PH	-90	5	100	11/11/1973
NGRH13	Sundberg	763327	7532516	780.3	PH	-90	5	94	21/10/1973
NGRH14	Sundberg	762911	7532637	745.8	PH	-90	5	92	23/10/1973
NGRH15	Sundberg	761997	7533148	738.7	PH	-90	5	99	25/10/1973
NGRH45	Sundberg	762483	7532891	726.1	PH	-90	5	97.5	27/10/1973
NGRH46	Sundberg	761493	7533314	672.2	PH	-90	5	105	3/11/1973
MD007	Sundberg	761456	7534413	673.0	PH	-60	25	100	4/07/1978
MD008	Sundberg	762153	7534207	679.0	PH	-60	205	152	15/07/1978
MD013	Sundberg	760108	7532421	654.1	PH	-60	27	200	19/08/1978
MD014	Sundberg	760492	7532535	659.9	PH	-60	27	149	21/08/1978
MD015	Sundberg	760951	7533431	671.1	PH	-60	40	200	23/08/1978
MD016	Sundberg	761192	7534039	673.0	PH	-60	35	200	25/08/1978
MD025	Sundberg	760829	7533106	659.7	PD	-60	140	325.2	26/03/1980
MD019	Other	761260	7529206	637.2	PH	-90	5	200	2/08/1979
MD020	Other	760035	7529280	636.1	PH	-90	5	200	3/08/1979

*PH = Percussion Hole; DD = Diamond Drill Core; PD = Diamond Tail

Annexure 2. Significant eU₃O₈ (Deconvolved Gamma Log) intercepts from the Walbiri and satellite deposits based on the criteria: Minimum width 0.3m, maximum internal dilution 0.3m, 100ppm eU₃O₈ cut-off grade; Grade x Thickness >100. Grade x Thickness (GxT) values >1000 are highlighted in bold italics.

Hole Number	From (m)	To (m)	Width (m)	eU ₃ O ₈ (ppm)	GxT (ppm·m)
NGDD10	45.2	45.8	0.6	324	194
NGDD11	67.6	68.5	0.9	2210	1989
	72.0	73.3	1.3	1269	1650
	73.9	75.4	1.5	1181	1772
NGDD12	144.1	144.9	0.8	192	154
NGDD13	76.8	77.3	0.5	369	185
NGDD14	82.2	84.1	1.9	150	285
	87.0	89.1	2.1	603	1266
	89.5	91.0	1.5	372	558
NGDD15	39.3	41.8	2.5	820	2050
	82.7	85.3	2.6	644	1674
NGDD18	139.9	142.9	3.0	1740	5220
NGDD07	10.0	16.1	6.1	433	2641
	16.9	21.1	4.2	583	2449
	22.1	25.1	3.0	198	594
NGRH15	63.5	64.1	0.6	305	183
	96.3	96.8	0.5	207	104
	68.0	68.6	0.6	201	121
NGRH37A	138.6	139.1	0.5	406	203
	139.5	146.3	6.8	646	4393
	88.1	88.7	0.6	511	307
NGRH03A	90.0	91.6	1.6	455	728
	93.0	95.1	2.1	265	557
NGRH46	48.3	50.8	2.5	202	505
NGRH09	43.7	44.1	0.4	395	158
	46.2	46.8	0.6	273	164
WPD11	162.6	163.0	0.4	718	287
	200.8	201.3	0.5	339	170
	211.2	212.6	1.4	416	582
WPD12	169.1	171.1	2.0	244	488
	175.0	175.6	0.6	214	128
	225.9	227.5	1.6	678	1085
WPD14	98.8	99.4	0.6	213	128
	166.8	170.6	3.8	484	1839
WPD15	144.6	145.1	0.5	296	148
	169.0	170.7	1.7	365	621
	171.7	172.7	1.0	5340	5340
WPD16	106.8	109.4	2.6	513	1334
WPD18	172.3	174.6	2.3	393	904

WPD19	199.6	204.0	4.4	523	2301
	204.5	204.9	0.4	2554	1022
WPD20	179.8	181.4	1.6	586	938
WPD21	190.3	193.4	3.1	555	1721
WPD22	170.7	171.4	0.7	159	111
	172.3	174.0	1.7	904	1537
WPH01	194.2	194.9	0.7	234	164
	195.4	200.5	5.1	372	1897
WPH10	215.3	216.3	1.0	485	485
	218.1	219.4	1.3	364	473
	220.5	221.1	0.6	1825	1095
WPH02	186.5	188.0	1.5	276	414
	189.6	192.1	2.5	348	870
	193.4	195.9	2.5	835	2088
WPH04	177.0	181.6	4.6	993	4568
	182.1	183.1	1.0	353	353
WPH07	187.1	194.6	7.5	1098	8235
WPH08	187.7	190.1	2.4	916	2198
WPH09	124.6	125.7	1.1	251	276
NGDD08	29.6	30.5	0.9	250	225

Annexure 3. Walbiri deposit and Satellite deposits Resource Report.

Cut-off U ₃ O ₈ ppm	Volume '000 m ³	'000 tonnes	Average Grade U ₃ O ₈ ppm	U ₃ O ₈ Mlb	U ₃ O ₈ tonnes
Hill One Deposit					
100% Energy Metals					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	2	6	550	0.007	4
400	8	19	452	0.019	8
300	81	208	362	0.166	75
200	189	486	323	0.346	157
100	487	1,252	201	0.555	252
0	487	1,252	201	0.555	252
JV Northern Territory Uranium Pty Ltd and Energy Metals (ELR45)					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	0	0	-	0.000	0
400	0	0	-	0.000	0
300	0	0	-	0.000	0
200	3	8	208	0.004	2
100	295	759	122	0.205	93
0	295	759	122	0.205	93
Total, Hill One Deposit					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	2	6	550	0.007	3
400	8	19	452	0.019	9
300	81	208	362	0.166	75
200	192	494	321	0.350	159
100	782	2,011	171	0.759	344
0	782	2,011	171	0.759	344
Walbiri Deposit					
100% Energy Metals					
1,000	341	877	1,598	3.090	1402
750	744	1,911	1,167	4.915	2229
500	1,063	2,732	998	6.011	2727
400	1,367	3,512	876	6.786	3078
300	1,886	4,847	730	7.798	3537
200	2,301	5,913	644	8.402	3811
100	3,119	8,015	516	9.119	4136
0	3,330	8,559	486	9.178	4163
JV Northern Territory Uranium Pty Ltd and Energy Metals (ELR45)					

1,000	284	730	1,920	3.090	1402
750	429	1,102	1,554	3.775	1712
500	750	1,927	1,147	4.872	2210
400	1,014	2,607	965	5.545	2515
300	1,441	3,703	781	6.374	2891
200	1,973	5,070	636	7.112	3226
100	2,310	5,936	565	7.394	3354
0	2,325	5,975	562	7.400	3357
Total, Walbiri Deposit					
1,000	625	1,607	1,744	6.180	2803
750	1,172	3,013	1,308	8.691	3942
500	1,813	4,659	1,059	10.883	4936
400	2,381	6,119	914	12.331	5593
300	3,327	8,551	752	14.172	6428
200	4,274	10,983	641	15.514	7037
100	5,428	13,951	537	16.513	7490
0	5,655	14,534	517	16.578	7520
Sundberg Deposit					
100% Energy Metals					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	0	0	-	0.000	0
400	3	7	410	0.006	3
300	52	133	322	0.095	43
200	292	750	252	0.416	189
100	550	1,413	203	0.633	287
0	550	1,413	203	0.633	287
JV Northern Territory Uranium Pty Ltd, Energy Metals & Southern Cross (EL30145)					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	0	0	-	0.000	0
400	2	5	410	0.004	2
300	54	139	325	0.100	45
200	99	255	281	0.158	72
100	161	414	246	0.224	102
0	161	414	246	0.224	102
Total, Sundberg Deposit					
1,000	0	0	-	0.000	0
750	0	0	-	0.000	0
500	0	0	-	0.000	0
400	5	12	410	0.010	5
300	106	273	323	0.194	88
200	391	1,005	259	0.574	260
100	711	1,827	213	0.857	389
0	711	1,827	213	0.857	389

Combined Deposits					
1,000	625	1,607	1,744	6.180	2803
750	1,172	3,013	1,308	8.691	3942
500	1,815	4,665	1,059	10.890	4940
400	2,393	6,150	912	12.361	5607
300	3,514	9,031	730	14.532	6592
200	4,857	12,482	597	16.438	7456
100	6,922	17,789	462	18.130	8224
0	7,149	18,372	449	18.195	8253

Note: All figures in the tables are rounded, and therefore the total sums might not be the direct sum of the input figures

Annexure 4: JORC Table 1

The following commentary is provided to ensure compliance with the JORC (2012) requirements for the reporting of Mineral Resource Estimates as discussed above for the Walbiri, Sundberg and Hill One Deposits located on tenements EL24463, ELR45 and EL30145.

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>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.</i> 	<ul style="list-style-type: none"> The primary sampling instrument at the Walbiri and satellite deposits was the downhole gamma tool (or 'probe') which was used to obtain a total gamma count reading down each drill hole. Drilling was by rotary percussion (PH) and diamond core drilling (DD) methods with NE-SW oriented drill lines on 100 - 150 m spacing and closer 50 m spacing within the primary mineralised zones. Away from the primary zones the spacing varied from 250 m to 500 m. Drill holes were mostly vertical to optimally intersect shallow-dipping mineralisation. Original analogue gamma log data was digitised at 10 cm intervals downhole and converted to standard format LAS files followed by calculation of equivalent U_3O_8 (eU_3O_8) grades (see below for further information on gamma log processing procedures). The total count gamma logging method used here is a common method used to estimate uranium grade where the radiation contribution from thorium and potassium is small (as is the case for sandstone-hosted deposits of the Bigirlyi-type considered here). Gamma radiation is measured from a volume surrounding the drill hole that has a radius of approximately 35 cm. Therefore the gamma probe samples a much larger volume than drill spoil or drill core samples recovered from a drill hole of normal diameter; gamma logging is considered to provide a more representative sample of the mineralised body and is preferred over geochemical assay of drill samples for resource estimation purposes. Estimates of uranium concentration determined from gamma ray measurements are based on the commonly accepted initial assumption that the uranium is in secular equilibrium with its daughter products (radionuclides), which are the principal gamma ray emitters along the U-series decay chain. If uranium is in disequilibrium as a result of the redistribution (depletion or enhancement) of uranium relative to its daughter radionuclides, then the true uranium concentration in the holes logged using the gamma probe will be higher or lower than those reported. For the present resource estimation at Walbiri no disequilibrium correction has been applied, i.e. the Radioactive Equilibrium Factor (REF) = U_3O_8/eU_3O_8 has been set to 1 (see below for further explanation). This is consistent

<p>Drilling techniques</p> <ul style="list-style-type: none"> • <i>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).</i> 	<p>with current knowledge of other Ngalia Basin uranium deposits such as Bigirlyi.</p> <ul style="list-style-type: none"> • Rotary percussion and diamond drilling methods were used by Central Pacific Minerals (CPM) between the years 1972 – 1976 and by Alcoa in the period 1978 - 1980. The 1972 program primarily consisted of NQ diamond drilling from surface with a reduction in diameter to BQ at depth. The later programs included rotary percussion pre-collars between 50 - 100m depth with NQ diamond tails and also pure rotary percussion from surface to target depth. Rotary percussion drilling used 6 - 6 1/8" tri-cone roller bits and 11 – 12 cm diameter air-hammer. Hole sizes ranged from 7.6 to 16.5 cm and were primarily cased with NQ and NW casing to the pre-collar depths.
<p>Drill sample recovery</p> <ul style="list-style-type: none"> • <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> • <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Drill spoil recovery is not relevant to the sampling method used (i.e. downhole gamma logging). • Drill core from CPM exploration programs in the period 1972-1976 is archived in Energy Metals core storage facility and at the NTGS Alice Springs core library. • Core recoveries at the time of drilling were noted by CPM to be better than 94%.
<p>Logging</p> <ul style="list-style-type: none"> • <i>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.</i> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<ul style="list-style-type: none"> • Twenty-two historical diamond core holes were re-logged by EME geologists for lithology, colour, grain-size, stratigraphic unit, oxidation state, alteration, cementation, weathering and other features; data was recorded digitally and core was photographed. Scintillometer and Niton portable XRF measurements were undertaken at 20 cm intervals through mineralised zones to confirm the width of mineralisation. The coded data was verified according to EME's standard logging look-up tables. The re-logs were found to be in good agreement with previous logging records, which provided confidence in the quality of original CPM logging, and permitted EME to proceed with digitisation of the remaining CPM historical drill core logs. • Rotary percussion drill chip samples were logged at the time of drilling by CPM geologists and the hard copy lithological logs were converted to digital format by EME geologists using EME's standard codes.

Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>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.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • Core was originally split into samples of half core for assay work. Half core was quartered for duplicate checks. Historically, CPM assayed for uranium and vanadium. The assay data were not used for the resource estimation work as they are not considered sufficiently robust nor representative in comparison with the gamma logging measurements. However, assay data has been used to evaluate the Radioactive Equilibrium Factor.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • The gamma tools used for downhole gamma ray measurements were calibrated and operated by geophysical contractors Austral United Geophysical (AUG) during the period 1972 – 1973 then McPhar Geophysics Pty Ltd until 1975 and after this time by Geoex Pty Ltd of South Australia who acquired the assets of McPhar. Calibration information including k-factors and deadtime corrections and hole information including hole diameter, casing depths/type and fluid levels/type were recorded for each hole. The accuracy and reproducibility of the probe data were monitored using two on-site standard radioactive sources (a low-level and a high-level source) and the monitoring data was included on each paper log and deemed satisfactory. • In 1972 holes were probed by AUG using a combination tool #326E (S.P., resistivity and gamma); which included a Sodium Iodide (NaI) 1 x ¾ inch detector crystal. In 1973 AUG switched to a different NaI probe of the same make and size detector (#223). A primary run was undertaken for each hole and if warranted a separate run over mineralised intervals was completed. Post-1975, drill holes were probed with the L1 or lithology gamma probe which employed a sensitive 4 x 1 inch NaI detector crystal. Intervals of significant mineralisation (off-scale on the L1 probe) were re-probed with the O1 or 'ore' gamma probe which employed the less sensitive 1 x ¾ inch NaI detector crystal. No gamma log data was available for holes drilled by Alcoa (western margin of the Sundberg prospect). • Approximately 75% of the drill holes (those with a standing water level) were logged electrically to provide downhole electric potential and resistivity data. This data has not been digitised or used for resource estimation purposes. • The counts per second (cps) downhole gamma data were recorded on paper charts with an analogue pen recorder; for some 1975 - 1976 holes (WPH) the cps data was also recorded in digital printout form for the O1 probe.

	<ul style="list-style-type: none"> Logging parameters including the time constant, logging speed and chart scale were recorded. Both L1 and O1 paper logs were digitised by EME's geophysical contractor and converted into digital standard- format LAS files. LAS file data were converted to equivalent U_3O_8 values (eU_3O_8 in ppm) using the specified probe calibration factors and taking into account drill hole size, fluid levels and other parameters. The eU_3O_8 data was filtered (deconvolved) to correct for smearing of the gamma signal at mineralised interfaces so that true grades and thicknesses more closely reproduce actual grade. The eU_3O_8 grades were calculated by consultant geophysicist Mr Evgeny Sirotenko under the supervision of Dr Maxim Seredkin using the well-established methodology of Khaikovich and Shashkin, widely tested and upheld in the evaluation of uranium deposits in Kazakhstan and the former USSR.
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> <ul style="list-style-type: none"> LAS files from four holes with significant uranium intersections were independently reprocessed and deconvolved by consultant geophysicist Mr David Wilson of 3D Exploration Pty Ltd. Comparison of eU_3O_8 grade composites between the Wilson and Sirotenko datasets indicates that agreement is within 4% which is deemed satisfactory. No twinned holes are available from the historical dataset. Historical data including paper gamma logs, assay certificates and lithological logs were stored in archive boxes in EME's library. The data is a complete record of CPM's exploration works conducted from 1972 through 1976. Historically, CPM undertook 'closed can' eU_3O_8 and uranium assay measurements at The Australian Mineral Development Laboratories (AMDEL), Adelaide, on 103 core samples in order to evaluate possible uranium series disequilibrium and determine a REF value applicable to the deposit. A scattered distribution with an average U_3O_8/eU_3O_8 value of 1.12 ± 0.36 (1σ) was obtained, however, AMDEL commented that "primary ore grade mineralisation was in equilibrium". As an additional check, a comparison was made between available chemical assay and gamma log eU_3O_8 data from 58 separate intervals (this report). Excluding outliers a U_3O_8/eU_3O_8 value of 0.98 was obtained and with outliers a value of 0.89 was obtained. Because these various measurements provide no corroborating evidence for a systematic deviation from 1 within statistical error, the REF for resource estimation purposes at Walbiri at this stage is best assigned a value of 1. This is consistent with the REF used for the nearby Bigirlyi deposit. However, further detailed investigations and verification of historical data may in the future lead to refinement of the REF applied at Walbiri. No adjustments were made to eU_3O_8 assay data other than the standard reprocessing (deconvolution) discussed above.
Location of data points	<ul style="list-style-type: none"> <i>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</i> <ul style="list-style-type: none"> Hole collar locations were determined using three independent datasets. The primary dataset comprised CPM's original exploration drill hole plans, which were scanned at high resolution and carefully georeferenced to allow extraction of hole

	<p>estimation.</p> <ul style="list-style-type: none"> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<p>coordinates. The drill collars locations were compared with drill sites identifiable from high resolution digital aerial photographic images and with the same drill sites converted from CPM's original local coordinate grid. Agreement between the three data-sets was found to be excellent and the accuracy of the collar coordinates is judged to be better than +/- 10 m in the horizontal plane.</p> <ul style="list-style-type: none"> • The coordinates are located on the MGA94 grid, Zone 52 using the GDA94 datum (refer Annexure 2). • In the vertical plane topographic control was provided by a Digital Elevation Model (DEM) generated from a high resolution aerial photographic survey flown in 2011. Accuracy is judged to be at least +/- 0.5 m in the vertical plane. • All CPM holes were drilled vertically and as no surveys were undertaken, were assumed to have remained vertical to the end of hole. A number of Alcoa drill holes were angle holes; as no downhole surveys were undertaken the starting dip and azimuth were assumed until end of hole.
Data spacing and distribution	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>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.</i> • <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> • The Walbiri deposit was drilled on NE-SW panels spaced at 100 - 150 m. Within strongly mineralised zones infill drilling was conducted on 50 m spaced panels with 100 – 200 m step-outs (depending on topography and access) to test down dip continuity. Away from the main zone limited down-dip drilling has been completed and the spacing between holes is 450 - 500 m. • EME and CSA Global consider the spacing sufficient to establish continuity of geology and grade for the purposes of estimation of an inferred mineral resource. • Downhole gamma logs were digitised at 10 cm intervals and were composited (refer EME database) for resource reporting purposes.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • Several investigations have shown that Biglyi-style (tabular stratiform sandstone-hosted) uranium mineralisation as found at Walbiri exhibit no significant structural control. Mineralisation is controlled by physical and chemical characteristics of the host rock such as permeability and redox state and is influenced by primary depositional and sedimentological features. • The deposit occurs in shallowly dipping beds and was sampled by vertical drill holes. The downhole gamma probe data was subsequently corrected for mineralised zone boundary effects by deconvolution. There is therefore no bias of sampling related to orientation of the mineralised zones.
Sample security	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • Not applicable.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • No audits or reviews of sampling techniques were undertaken.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Approx. 54% of the Walbiri deposit and most of the Sundberg and Hill One satellite deposits are located within granted tenement EL24463, which is 100% EME owned. Granted joint venture tenement ELR45 covers 46% of the Walbiri resource which is a joint venture between EME (77.12%) and Northern Territory Uranium Pty Ltd (22.88%). EME is the operator of the joint venture. Granted joint venture tenement EL30145 covers 28% of the Sundberg resource which is a joint venture between EME (72.39%), Northern Territory Uranium Pty Ltd (20.82%) and Southern Cross Exploration (6.79%). EME is the operator of the joint venture. A Native Title Claim covering the Mt Doreen pastoral lease on which the Walbiri and satellite deposits are located, was granted by consent on 2-July-2013. The Ngalyia Aboriginal Corporation is the relevant Registered Native Title Body Corporate and holds the native title interests of the traditional owners. Currently, resource areas of the Walbiri, Sundberg and Hill One deposits are affected by Aboriginal heritage zones which restrict access and limit ground disturbing activities within the area.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> All the exploration data reported here is the result of drilling programs undertaken by CPM over the period 1972 to 1976 and Alcoa over the period 1978 to 1980. EME acquired CPM's interest in the project in 2005 including all historical data and archived drill core.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Walbiri and its satellite deposits are Bigirlyi-style, tabular, stratiform, sandstone-hosted uranium deposits of Carboniferous age located on the northern margin of the Ngalia Basin in the Northern Territory.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in 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 	<ul style="list-style-type: none"> Refer to Annexure 1.

	<p>exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	
Data aggregation methods	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Exploration results, i.e. mineralised intercepts, are reported as equivalent U_3O_8 values (eU_3O_8) from processed gamma logs. For reporting purposes (see Annexure 2) significant gamma log intersections have been composited from 10 cm deconvolved eU_3O_8 values using the following criteria: a cut-off grade of 100 ppm U_3O_8, a minimum thickness of 0.3 m, a maximum internal dilution of 0.3 m, no external dilution and a grade x thickness value of >100. A Radioactive Equilibrium Factor (REF) value of 1 was applied, i.e. $U_3O_8 / eU_3O_8 = 1$.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • 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'). 	<ul style="list-style-type: none"> • Based on geological mapping work by CPM geologists and structural measurements of drill core, sandstone beds hosting mineralisation are shallowly dipping (broadly between 10 and 20 degrees). All CPM holes have been drilled vertically and true widths of intersections are approximately 95% of the reported downhole widths.
Diagrams	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Refer to figures in the body of the text.
Balanced reporting	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • All significant results have been reported (see Annexure 2). Historical results have previously been reported and are available as open file reports from the NTGS.
Other substantive exploration data	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Preliminary metallurgical test work involving acid and alkaline leach tests on composite mineralised samples were undertaken by AMDEL in March 1976. AMDEL reported high levels of extraction with a best result of 99% using a pH 1.5 leachate over 24 hours; acid consumption was low (3 to 5 kg/tonne). • Petrographic studies were undertaken by AMDEL in 1973-1976 who reported uraninite and coffinite as the dominant uranium minerals in association with pyrite and ferroselite. More recently (2014) petrographic work conducted by the CSIRO has shown a close association between uranium and detrital-origin phyllosilicate

		minerals including biotite, clays and chromium-bearing chlorite; Walbiri and satellite deposits are characterised by low levels of carbonate cement.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> Future exploration activities are planned to test extensions and stratigraphic repeats of Walbiri mineralisation in folded strata of the Mt Eclipse syncline and anticline to the south of the currently known extent of the Walbiri resource. Additional work is planned to rigorously assess the nature and extent of possible uranium series disequilibrium within various mineralised domains to provide a better estimate of the Radioactive Equilibrium Factor (REF).

Section 3: Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i> <i>Data validation procedures used.</i> 	<ul style="list-style-type: none"> Data used in the Mineral Resource estimate was sourced from the original hardcopy. Hardcopy data was converted to digital format and collated, tabulated and verified before being validated upon importation into EME's Geobank database. CSA Global were provided with a validated Micromine database by EME. Relevant tables from the database were exported to Micromine .DAT format for import into Micromine 2014 software prior to use in the Mineral Resource estimation. Validation of the imported data included checks for missing, duplicated and/or incorrectly recorded collar locations, survey data, sample data, gamma log data and lithological log data. Original historical gamma logs were reprocessed and deconvolved to yield eU₃O₈ (ppm) values which correlated well with the historical information stored in EME's archives.
Site visits	<ul style="list-style-type: none"> <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i> <i>If no site visits have been undertaken indicate why this is the case.</i> 	<ul style="list-style-type: none"> No site visits were undertaken by the Competent Person (Mineral Resource Estimation) or CSA Global staff. CSA has relied on EME for all data regarding the deposits, and given the current stage of the project, considers this appropriate.
Geological interpretation	<ul style="list-style-type: none"> <i>Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit.</i> <i>Nature of the data used and of any assumptions made.</i> <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i> <i>The use of geology in guiding and controlling Mineral Resource estimation.</i> <i>The factors affecting continuity both of grade and</i> 	<ul style="list-style-type: none"> There is a reasonable level of confidence in the geological interpretation of Walbiri and the adjacent satellite deposits. The geology is traceable and reasonably continuous between drill holes and sections. Geological controls such as the dip of the sedimentary rocks and the definable shale marker beds have been used to constrain the extrapolation of mineralisation within stratigraphic bounds. It is recommended in future exploration programs that several holes are 'twinning' to validate the historical data and a more detailed estimation of the Radioactive Equilibrium Factor (REF) be undertaken.

<p><i>geology.</i></p>	<ul style="list-style-type: none"> • Geological structure and gamma logging have formed the basis for the geological interpretation. The REF is assumed to be 1 based on comparison of gamma and assays measurements in drill holes (58 pairs) and historical closed can eU_3O_8 and assay measurements (103 samples). • Further work may be required to better define the limits of the mineralisation, particularly with depth, but no significant downside changes to the currently interpreted mineralised volume are anticipated. • Mineralisation is primarily concentrated within sandstones between siltstone/claystone ('shale') lenses and interlayers that form lower and upper confining layers. • Grade continuity is controlled by a reduced zone within partially oxidised sandstones and siltstones; regionally the deposits are hosted along the northern margin of the Ngalia Basin, which is an elongate intracratonic depression about 300 km long (east-west) and 40 km wide (north- south) on average. This basin is filled with late Proterozoic to Palaeozoic aged sedimentary rocks, predominantly continental-marine arkosic sandstone, and Neoproterozoic glaciogene deposits and quartzite.
<p>Dimensions</p>	<ul style="list-style-type: none"> • <i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i> • Mineralisation is stratiform in nature but is variably distributed along strike and at depth due to probable epigenetic modification of the deposit. The dimensions of the Walbiri mineralised domain is approximately 3.6 km along-strike with an average plan width of 300 m and maximum modelled plan width of 1,100 m. The total combined strike length of the Walbiri deposit and its two satellite deposits (Sundberg and Hill One) is 8.7 km overall. Stratigraphy and mineralisation dips between 10 and 18 degrees to the SW. The mineralised interval varies from 0.2 m to 7.5 m, averaging 1.3 m. The model extends from surface to 230 m below surface.
<p>Estimation and modelling techniques</p>	<ul style="list-style-type: none"> • <i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i> • <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i> • <i>The assumptions made regarding recovery of by-products.</i> • <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i> • Gamma logging has been used for the definition of mineralised intervals and interpretation (wireframing) of mineralisation. The REF is assumed to be 1. The model consists of 35 mineralised domains defined by wireframe models. Grade estimation was carried out using the Multiple Indicator Kriging (MIK) method using Micromine 2014 software. Downhole and directional indicator semivariograms have been used for to define the distance of interpolation. No top cutting of extreme grade values was undertaken. • Several in-house, non-JORC, historical resource estimates were undertaken for the Walbiri deposit. In the latest available estimate (November 1976), Australian Mineral Development Laboratories (AMDEL) obtained an estimate of 4,789 tonnes U_3O_8 for an average grade of 1,140 ppm U_3O_8 (cut-off grade not specified) using chemical assay data and employing geostatistical methods. No mining has taken place. • No assumptions have been made regarding recovery of by-products. • No other elements were estimated. • The block model was constructed using a 10 m E by 10 m N by 0.5 m RL

	<ul style="list-style-type: none"> • <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> • <i>Any assumptions behind modelling of selective mining units.</i> • <i>Any assumptions about correlation between variables.</i> • <i>Description of how the geological interpretation was used to control the resource estimates.</i> • <i>Discussion of basis for using or not using grade cutting or capping.</i> • <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<p>parent block size, with sub-celling to 2 m E by 2 m N by 0.1 m RL for domain volume resolution. The parent cell size was chosen on the basis of the morphology of mineralised lenses and in order to avoid the generation of unrealistically large blocks. The sub-celling size was chosen to maintain the resolution of the mineralised bodies. The sub-cells were optimised in the models where possible to form larger cells.</p> <ul style="list-style-type: none"> • The search ellipse radii were determined from the ranges of semivariograms: the main direction being along strike of mineralised bodies (range 90 m), the second direction being down dip of mineralised bodies (range 188.7 m) and the range of the third direction was set at 2.5 m. The first radial dimensions were 10 x 10 x 0.3 m, the second 60 x 127 x 0.3 m, and the third 90 x 188.7 x 0.5 m. The model cells that did not receive grades from the first runs were then estimated using radii incremented by the 90 x 188.7 x 0.5 m (2.5 m). • No selective mining units were assumed in this estimate. • Geological boundaries were used to guide the interpretation of mineralised lenses. Specifically, mineralisation occur within the shallow dipping 10-18° Mt Eclipse Sandstone. For the satellite deposits, the sections contain one drill hole only. Grade envelopes at 100 ppm eU₃O₈ were defined for interpretative purposes. • A 200 ppm eU₃O₈ cut-off grade was applied to mineralisation inside envelopes. No top cuts have been applied at this stage. • Validation of the block model consisted of a comparison between the block model volume and the wireframed volumes. Grade estimates were validated by visual comparison with the drill data. Grade estimation was verified by IDW2 and Ordinary Kriging without a top cut applied and with a top cut of 4,100 ppm U₃O₈ applied. The block model compared favourably with grade composites for a series of sections in different directions (north, east). • No reconciliation data is available at this early stage of the project.
Moisture	<ul style="list-style-type: none"> • <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> • The tonnages are estimated on a dry basis.
Cut-off parameters	<ul style="list-style-type: none"> • <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> • A cut-off grade of 100 ppm U₃O₈ has been used for interpretation and a cut-off grade of 200 ppm U₃O₈ has been used for resource reporting. Based on CSA's experience with this type of deposit, this is considered a reasonable cut-off grade which could result in eventual economic extraction.
Mining factors or assumptions	<ul style="list-style-type: none"> • <i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction</i> 	<ul style="list-style-type: none"> • At this stage of resource development it is assumed that mining would be by open pit and/or underground methods. Future hydrogeological investigations and leaching tests would be useful in determining whether solution mining may be possible.

	<p><i>to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></p>	
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i> 	<ul style="list-style-type: none"> Metallurgical and hydrological test work is required to determine if the deposit is amenable to solution mining and/or heap leaching. There is a requirement for a certain level of natural permeability and for mineralisation to occur below the water table if in-situ recovery is to be considered. Hydrological pumping cluster tests would need to be undertaken if the deposit is found to be amenable to in-situ extraction processes.
Environmental factors or assumptions	<ul style="list-style-type: none"> <i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i> 	<ul style="list-style-type: none"> No detailed assumptions regarding possible waste and process residue options have been made at this early stage.
Bulk density	<ul style="list-style-type: none"> <i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i> <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i> <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i> 	<ul style="list-style-type: none"> Bulk density testing was carried out on both mineralised and un-mineralised drill core. EME supplied CSA Global with a table comprising 144 bulk density determinations from 11 drill holes. The rock types found at Walbiri include arkose, sub-arkosic sandstone and shale. Density estimates were obtained using the Archimedes method on the selected core samples. The balance was calibrated using two standard weights. Hairspray was used to seal the exterior to account for natural porosity (voids) when necessary. Test work to date has shown that there are no significant density differences due to sample porosity or alteration type. An average bulk density of 2.56 t/m³ has been applied to all material in the models.

Classification	<ul style="list-style-type: none"> • <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> • <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i> • <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<ul style="list-style-type: none"> • CSA Global has considered several factors in the classification of the Mineral Resources such as search ellipse dimensions, geological data and exploration drill hole grids. The Walbiri deposit has been classified as Inferred due to: the limited data available for REF definition, the need to verify historical gamma logging by drilling twin holes, and the fact that some exploration sections are based on single drill holes (Sundberg and Hill One deposits). • The Inferred classification has taken into account all available geological and sampling information, and the classification level is considered appropriate. • The Mineral Resource estimate appropriately reflects the views of the Competent Persons.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> • No audits of the Mineral Resource estimate has been undertaken at this time.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> • <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i> • <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> • The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as Inferred as per the guidelines contained in the 2012 JORC Code. • The resource statement refers to global estimation of tonnes and grade. • No production data is available for comparison.

Mineral Resource Estimate Summary

Karins Uranium Project

Compiled 22 July 2015 Reported by Marenica Energy Limited 4 July 2019

Exploration Results

Karins is a tabular uranium-vanadium-style deposit similar to the Bigryi deposit, although with an oxidised zone (carnotite zone) of variable thickness that extends from near surface to as much as 60m depth. The fresh host rocks are generally, reduced, light grey, feldspathic, fine to medium grained sandstones containing interbedded greenish-grey siltstone or mudstone. Primary uranium mineralisation is usually present as uraninite. Drilling by Central Pacific Minerals N.L. (CPM) showed the presence of widespread uranium mineralisation, which occurs as a series of discontinuous sheets or pods, over a strike length of approximately 5.8km. Mineralised zones, which typically vary in thickness from 0.2 to 6m, were intercepted from surface to approximately 100m depth within shallowly dipping (15 to 22 degrees) sandstone beds of the Mt Eclipse Formation. The mineralised sandstone is confined by upper and lower shale units; the latter is a prominent marker bed 3 to 10m thick known as the 'red shale'. Drill hole collar locations and other drilling details are provided in Annexure 1.

All CPM's drill holes were logged open-hole, by independent geophysical contractors, using downhole gamma probe tools (initially the sensitive L1 probe for all holes with follow up using the O1 or ore probe over significant mineralised zones). The downhole gamma probe was used as the primary analytical tool to measure eU_3O_8 grade. A number of drill core samples were assayed for uranium and vanadium for comparative purposes, however, these data are not considered to be sufficiently robust nor representative to be used in the resource estimation; a number of samples were assayed to determine the extent of possible radiometric disequilibrium but no evidence of any systematic deviation from equilibrium was found.

Drill hole information and gamma log data for all drill holes, including associated metadata and probe calibration records, were compiled from Energy Metals Limited (EME) archives. Historical gamma logs were archived as a compilation of analogue printouts on paper charts; these were scanned at high resolution, digitised and converted to counts per second (cps) data at 10cm intervals downhole. Using the calibration data and hole information, the cps data was reprocessed to yield deconvolved eU_3O_8 values according to well established methods. Significant intercepts, i.e. those defined as: minimum width 0.3m, maximum internal dilution 0.3m, cut-off grade 100ppm eU_3O_8 , have been detailed in Annexure 2. All relevant drilling data, gamma logging data and geological data including lithological logs have been converted to digital format, verified and loaded into EME's database. A summary of the information provided for the resource estimation is given in Table 1 below.

Table 1. Database Summary used in the Resource Estimation

Category	Total
Number of Drill holes	110
Total metres drilled	5,563.6
Number of Downhole Survey records	110
Number of Gamma logged intervals (at 10 cm)	49,378
Number of Mineralised intervals based on 10 cm gamma-logging	79
Historical mineralised intervals based on gamma logging	35
Number of assays	168
Number of Intervals with lithological data	648

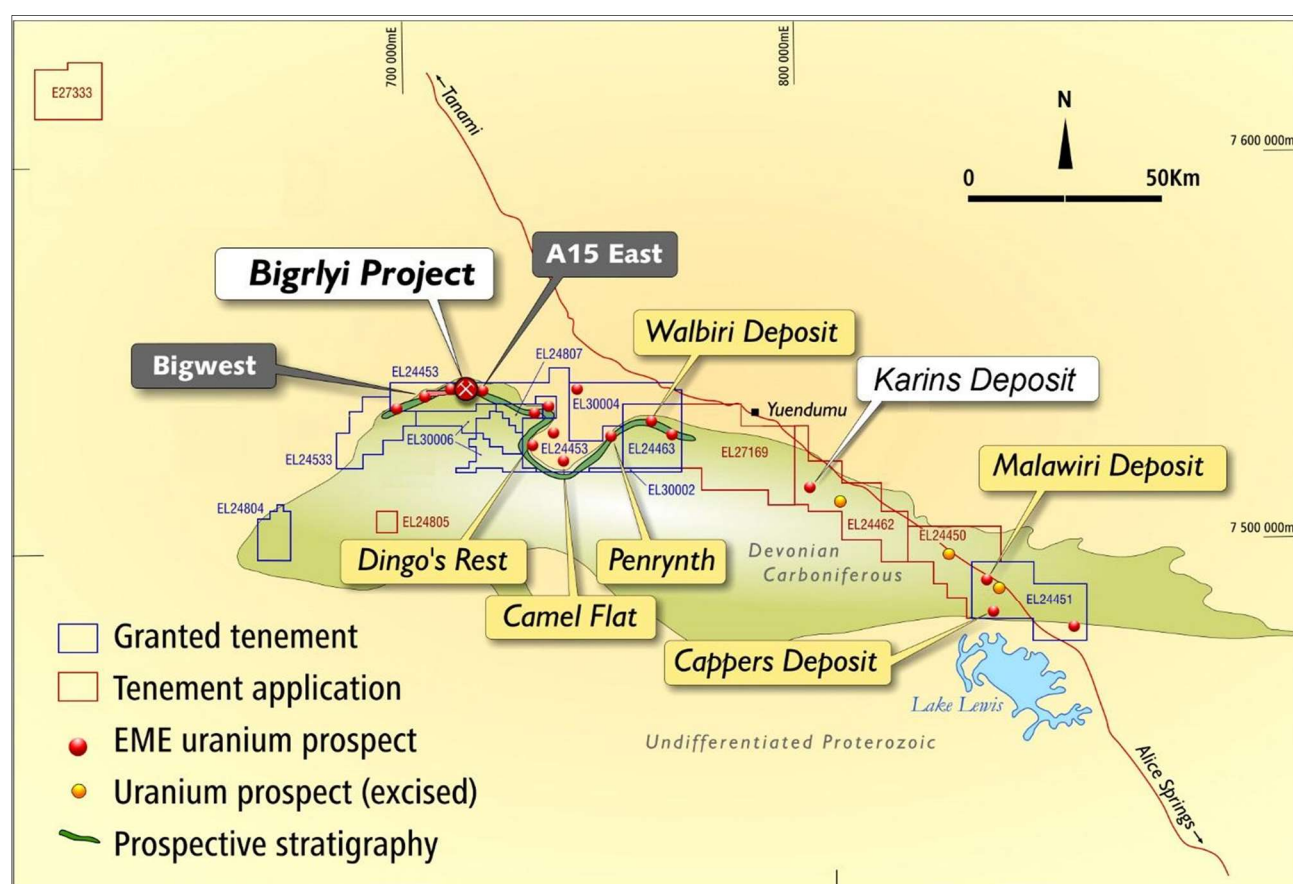


Figure 1. Map showing the location of the Karins Deposit in relation to the Ngalia Basin (in green).

Land tenure and site access

Joint venture tenements MLN1952 (formerly SML85) and MCS318-328 (formerly MC699H-709H) were applications made by CPM in 1977 to cover the Karins prospect following cessation of the underlying EL453. Although Mineral Claims (such as MCS318-328) are considered *non-compliant titles* under the NT's current *Mineral Titles Act* (the **Act**), such applications remain in force under transitional provisions until they are transitioned to an alternative suitable title under the Act. The exact areas of Mineral Leases and Mineral Claims in the NT are subject to survey of the boundary

and datum pegs, and this is the case with MLN1952 and MCS318-328. Therefore the exact tenement locations and geometry may differ from those displayed on the NT Department of Mines and Energy mineral titles system or in Figure 2 below. EME holds all the relevant historical records associated with the original tenement applications.

The area outside MLN1952 and MCS318-328, on which a number of un-mineralised holes are situated and on which potential strike extensions of the deposit may occur, lies within EL24462 (Figure 2). This is an application owned 100% by EME. The land underlying EL24462 was formerly part of the Mount Allan pastoral lease but in 1988 it was converted to Aboriginal Freehold land under the *Aboriginal Land Rights (Northern Territory) Act 1976* (the **ALRA**). The land is currently held by the Yalpirakinu Aboriginal Land Trust. Under the ALRA, access to and future grant of titles encroaching on Aboriginal Freehold land (including MLN1952, MCS318-328 and EL24462) requires an agreement with traditional owners and their representatives, in this instance, the Central Land Council (CLC). EME next has an opportunity to negotiate an exploration agreement for EL24462 on 7 December 2015 when the tenement is released from ALRA moratorium. Additionally, grant of Mineral Leases for uranium in the NT (such as MLN1952) require Federal Government approval.

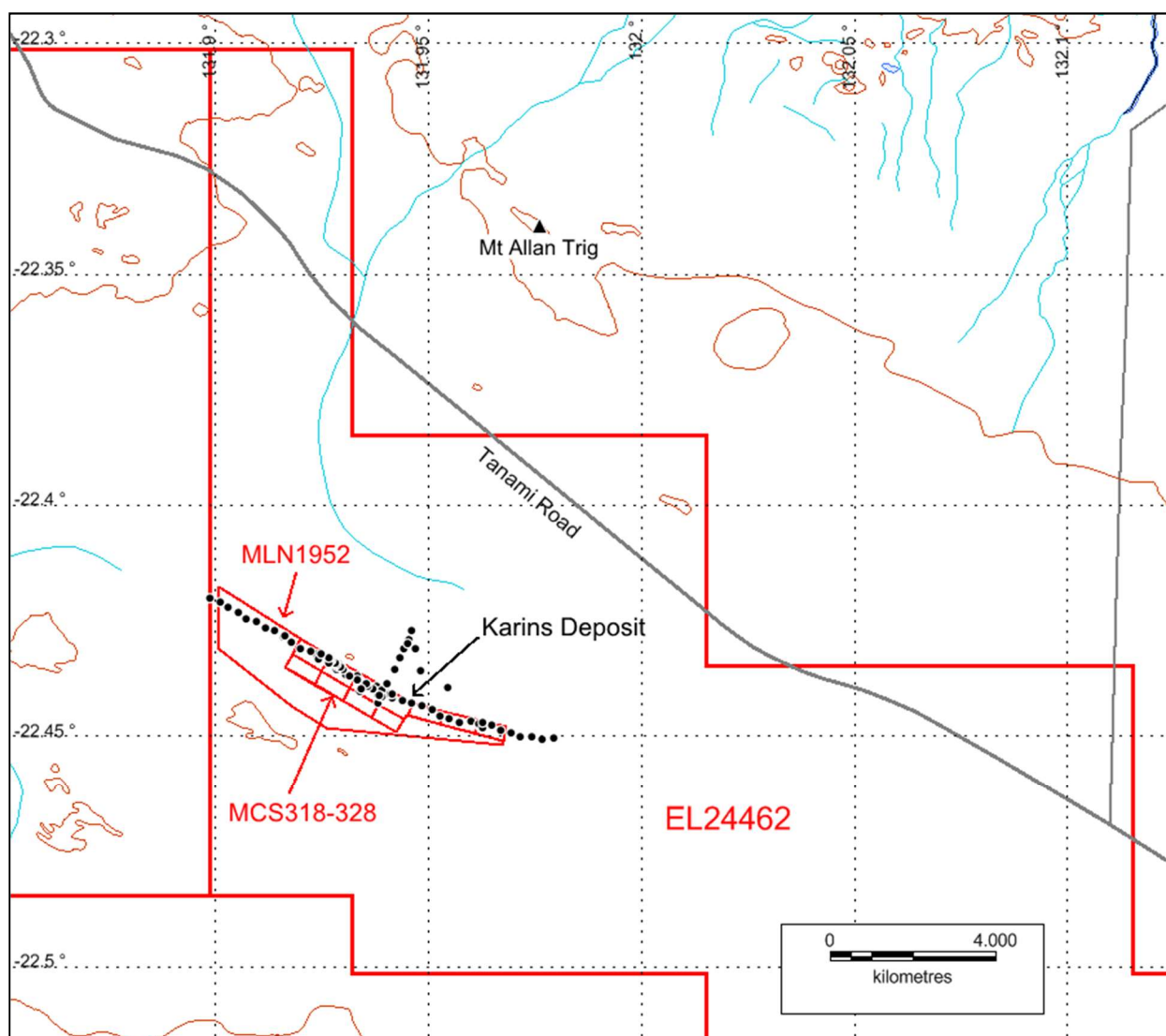


Figure 2. Map showing the location of Karins Deposit exploration drill collars (black dots) in relation to tenement boundaries, the Tanami Road and the Mt Allan trigonometric station (refer to the discussion above for further information). Topographic contour lines (brown) and drainages (blue) are shown.

Resource Estimation Procedure

Mineralised envelopes at a 100ppm eU_3O_8 cut-off grade were interpreted and wireframed (Figures 3 & 4). The wireframes were constructed on the basis of a sectional interpretation in which the boundaries were extrapolated to half the nominal section spacing beyond the extents of current drilling. For profiles containing only one drill hole, an average bedding dip of 20 degrees was assumed. Using the digital lithological logs, digital models were generated for the shale horizons, base of alluvial cover, and boundary between oxidised sandstone (predominance of carnotite mineralisation) and reduced sandstone (predominance of uraninite mineralisation).

The Karins downhole eU_3O_8 data were composited over mineralised intervals using the following parameters: minimum thickness 0.3m, 100ppm eU_3O_8 cut-off grade, 0.3m maximum width of internal waste, no external dilution, and minimum grade-thickness of 30 ppm·m. Statistical and geostatistical analysis were then performed. The block model was created and filled following application of a coordinate transformation to provide a constant orientation of mineralisation for interpolation purposes. The Inverse Distance Weighted Squared method was used for interpolation of grades in the block model. The dimensions of the parent blocks were set at 5x5x0.5m with sub-celling applied at the boundaries of the model. Modelled cells located above the alluvial cover surface were removed. An average bulk density of 2.48t/m^3 , as measured from Karins core samples held in EME's core storage facility, was used. The distribution of grades obtained is shown in Figure 5 and the resulting resource estimate, which is classified as inferred, is provided in Annexure 3 for various cut-off grades.

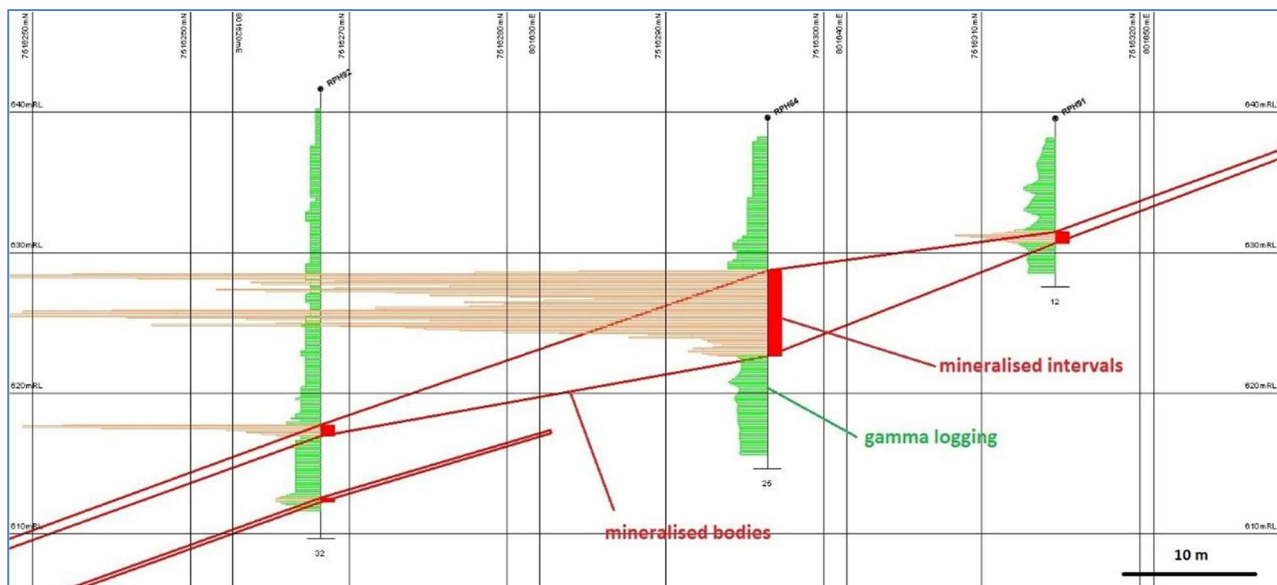


Figure 3. Example of the Interpretation of Mineralised Bodies along the RPH92, RPH64, RPH91 section.

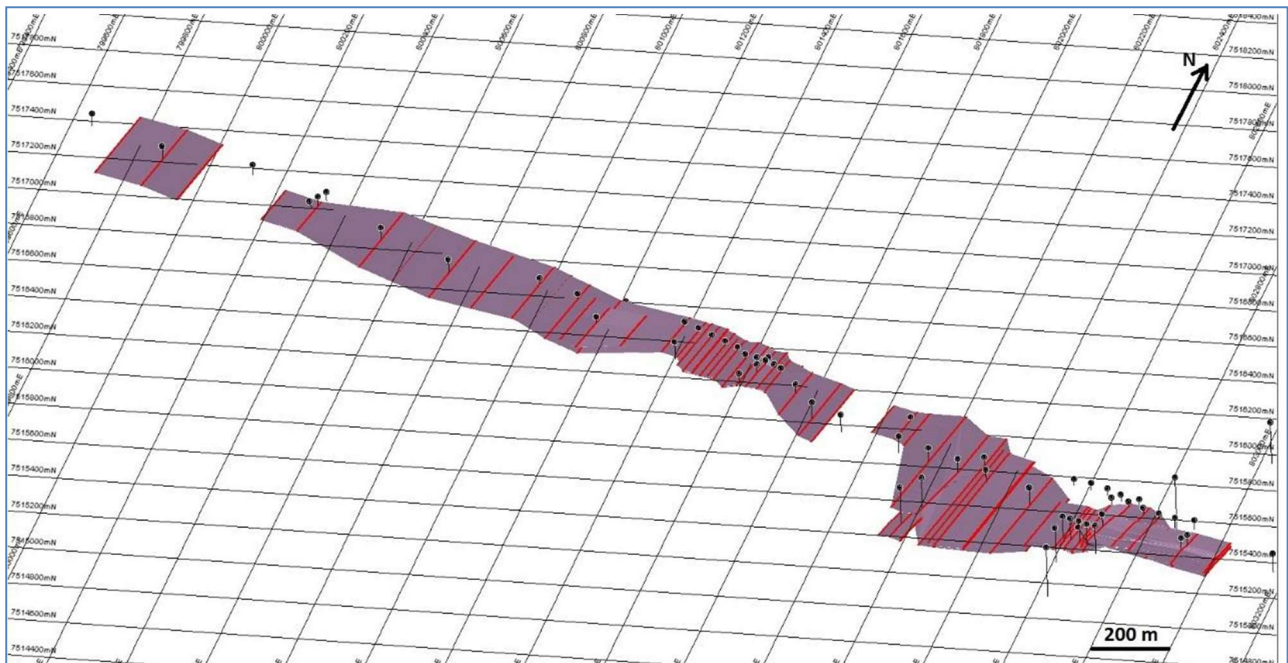


Figure 4. Wireframe models of the mineralised bodies.

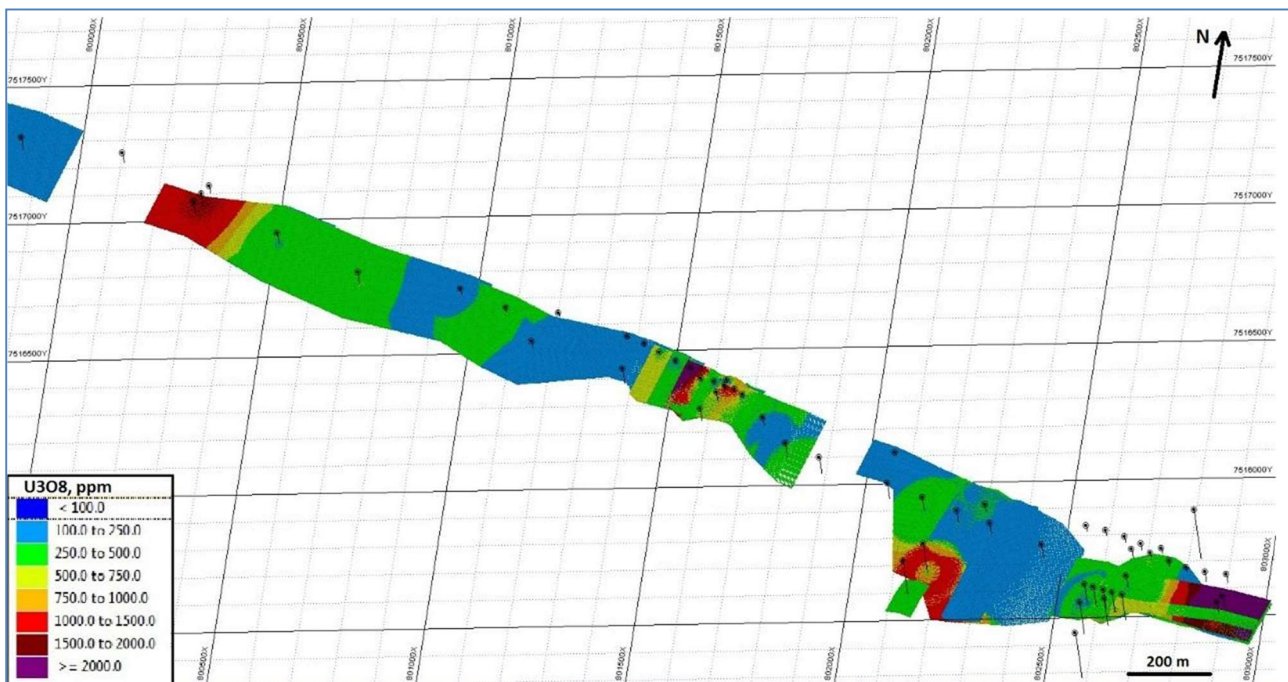


Figure 5. View showing grade distribution within mineralised bodies.

Summary

The Mineral Resources are summarised in Table 2 for a 200ppm U₃O₈ cut-off grade:

Table 2: Estimate of Mineral Resources for the Karins Deposit (Ngalia Basin)

Category	Type	Volume '000 m ³	Tonnes '000 t	Grade		Mineral Resources	
				U ₃ O ₈ ppm	U %	U ₃ O ₈ tonnes	U ₃ O ₈ M lb
Inferred	Oxidised	290	719	526	0.045	379	0.83
Inferred	Primary	211	524	597	0.051	312	0.69
Inferred	Total	501	1,243	556	0.047	691	1.52

Notes:

1. The Mineral Resources are for a 100% interest in the joint venture and not the Mineral Resources attributable to the individual joint venture partners.
2. Mineral Resources are based on 200 ppm cut-off grade per resource block.
3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
4. Mineral Resources are based on JORC-2012 definitions.
5. Mineral Resources are based on a bulk density of 2.48 t/m³.
6. Rows and columns may not add up exactly due to rounding.

Competent Persons Statement

The information in this report that relates to Mineral Resource estimation is based on information compiled by Mr Dmitry Pertel, Principal Consultant Geologist, CSA Global Ltd and Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Information in this report relating to the interpretation and determination of gamma probe results is based on information compiled by Mr Evgeny Sirotenko, consultant geophysicist, under supervision of Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Mr Pertel is a member of the Australian Institute of Geoscientists (MAIG) and is an employee of CSA Global. Dr Seredkin is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), a member of the Australian Institute of Geoscientists (MAIG), and is an employee of CSA Global. Mr Pertel and Dr Seredkin have 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 Competent Persons as defined by the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)", and Mr Pertel and Dr Seredkin both consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Annexure 1. Collar coordinates for historical drilling at the Karins Deposit, GDA94 datum, Zone 52.

HOLE NUMBER	EASTING (m)	NORTHING (m)	ELEVATION (m)	DRILL TYPE*	DIP (degrees)	TRUE AZIMUTH (degrees)	TOTAL DEPTH (m)	Completion Date
RPH01	802720	7515665	633	PH	-90	5	100.0	13/09/1974
RPH02A	803619	7516114	633	PH	-90	5	85.0	16/09/1974
RPH03	804262	7515714	636	PH	-90	5	86.0	18/09/1974
RPH04	802621	7515534	634	PH	-90	5	86.0	19/09/1974
RPH05	802571	7515375	635	PH	-90	5	139.0	20/09/1974
RPH06	802744	7515683	633	PH	-90	5	17.0	29/10/1974
RPH07	802693	7515700	633	PH	-90	5	21.0	28/10/1974
RPH08	802651	7515728	633	PH	-90	5	19.0	28/10/1974
RPH09	802604	7515752	633	PH	-90	5	19.0	28/10/1974
RPH10	802556	7515770	633	PH	-90	5	20.0	29/10/1974
RPH11	802766	7515634	634	PH	-90	5	29.0	29/10/1974
RPH12	802810	7515610	634	PH	-90	5	30.0	29/10/1974
RPH13	802857	7515591	634	PH	-90	5	30.0	03/11/1974
RPH14	802909	7515583	634	PH	-90	5	27.0	04/11/1974
RPH15	802673	7515681	633	PH	-90	5	30.0	04/11/1974
RPH16	802666	7515515	634	PH	-90	5	80.0	08/11/1974
RPH17	802573	7515554	634	PH	-90	5	81.0	11/11/1974
RPH18	802596	7515544	634	PH	-90	5	79.0	15/11/1974
RPH19	802642	7515523	634	PH	-90	5	82.0	18/11/1974
RPH20	802670	7515584	634	PH	-90	5	59.0	03/09/1975
RPH21	802569	7515488	635	PH	-90	5	99.0	03/09/1975
RPH22	828505	7504045	610	PH	-90	5	37.0	02/09/1975
RPH23	828468	7503817	609	PH	-90	5	61.0	04/09/1975
RPH24	828698	7503901	610	PH	-90	5	50.0	05/09/1975
RPH25	828990	7504099	611	PH	-90	5	50.0	05/09/1975
RPH25A	828992	7504099	611	PH	-90	5	100.0	14/09/1975
RPH26	829849	7504679	613	PH	-90	5	43.0	09/09/1975
RPH27	830213	7505802	617	PH	-90	5	50.0	09/09/1975
RPH28	829671	7505124	615	PH	-90	5	38.0	09/09/1975
RPH29	829537	7505748	616	PH	-90	5	38.0	10/09/1975
RPH30	831880	7501712	600	PH	-90	5	26.0	10/09/1975
RPH31	831632	7501490	599	PH	-90	5	44.0	10/09/1975
RPH32	831853	7501091	598	PH	-90	5	44.0	10/09/1975
RPH33	802241	7515830	635	PH	-90	5	60.0	04/05/1976
RPH34	801807	7516082	639	PH	-90	5	61.0	05/05/1976
RPH35	801391	7516361	642	PH	-90	5	50.0	05/05/1976
RPH36	800974	7516658	644	PH	-90	5	64.0	05/05/1976
RPH37	800516	7516870	647	PH	-90	5	48.0	06/05/1976
RPH38	800117	7517168	650	PH	-90	5	31.0	06/05/1976
RPH39	803147	7515423	636	PH	-90	5	54.0	06/05/1976
RPH40	803626	7515273	639	PH	-90	5	38.0	06/05/1976

RPH41	804049	7515029	636	PH	-90	5	48.0	07/05/1976
RPH42	804525	7514872	630	PH	-90	5	52.0	07/05/1976
RPH43	805053	7514811	625	PH	-90	5	53.0	07/05/1976
RPH44	805532	7514654	621	PH	-90	5	50.0	07/05/1976
RPH45	805304	7514773	624	PH	-90	5	35.0	07/05/1976
RPD46	805077	7514854	625	DD	-90	5	55.6	07/05/1976
RPH47	805032	7514764	625	PH	-90	5	55.0	08/07/1976
RPH48	804814	7514884	627	PH	-90	5	34.0	08/05/1976
RPH49	804287	7514954	633	PH	-90	5	41.0	08/05/1976
RPH50	803862	7515197	639	PH	-90	5	33.0	09/05/1976
RPH51	804985	7514782	625	PH	-90	5	44.0	09/05/1976
RPH52	805008	7514827	625	PH	-90	5	41.0	09/05/1976
RPH53	805079	7514745	625	PH	-90	5	48.0	09/05/1976
RPH54	805103	7514790	625	PH	-90	5	62.0	10/05/1976
RPD55	805097	7514845	625	DD	-90	5	32.0	10/05/1976
RPH56	802072	7516042	636	PH	-90	5	55.0	11/05/1976
RPH57	802153	7515879	636	PH	-90	5	44.0	11/05/1976
RPH58	801894	7516028	638	PH	-90	5	49.0	11/05/1976
RPH59	801744	7516179	639	PH	-90	5	35.0	11/05/1976
RPH60	802065	7515932	637	PH	-90	5	47.0	12/05/1976
RPH61	802325	7515781	635	PH	-90	5	51.0	12/05/1976
RPH62	802455	7515704	634	PH	-90	5	53.0	12/05/1976
RPH63	802306	7515851	635	PH	-90	5	34.0	12/05/1976
RPH64	801639	7516296	640	PH	-90	5	25.0	13/05/1976
RPH65	801591	7516210	641	PH	-90	5	38.0	13/05/1976
RPH66	802908	7515501	634	PH	-90	5	52.0	13/05/1976
RPH67	802132	7515646	638	PH	-90	5	128.0	14/05/1976
RPD68	802897	7515479	634	PH	-90	5	58.7	13/07/1976
RPH69	803388	7515348	639	PH	-90	5	42.0	14/07/1976
RPH70	805757	7514590	620	PH	-90	5	45.0	15/07/1976
RPH71	805989	7514492	619	PH	-90	5	61.0	15/07/1976
RPH72	806276	7514503	619	PH	-90	5	35.0	16/07/1976
RPH73	806515	7514425	619	PH	-90	5	22.0	16/07/1976
RPH74	806801	7514439	619	PH	-90	5	12.0	16/07/1976
RPH75	801164	7516465	643	PH	-90	5	45.0	17/07/1976
RPH76	800723	7516725	646	PH	-90	5	45.0	17/07/1976
RPH77	800319	7517017	648	PH	-90	5	33.0	17/07/1976
RPH78	799869	7517231	651	PH	-90	5	46.0	18/07/1976
RPH79	799653	7517386	652	PH	-90	5	37.0	18/07/1976
RPD80	799408	7517438	654	PH	-90	5	59.6	22/07/1976
RPD81	801665	7516283	638	DD	-90	5	20.4	23/07/1976
RPD82	801613	7516311	640	DD	-90	5	19.0	23/07/1976
RPD83	802173	7515709	638	DD	-90	5	106.8	09/08/1976
RPD84	802625	7515502	634	DD	-59	26	84.5	27/07/1976
RPD85	800304	7516989	648	DD	-59	6	36.7	28/07/1976

RPH86	799227	7517624	655	PH	-90	5	33.0	07/08/1976
RPH87	799002	7517730	656	PH	-90	5	39.0	07/08/1976
RPH88	798798	7517874	658	PH	-90	5	27.0	07/08/1976
RPH89	798568	7517980	659	PH	-90	5	42.0	07/08/1976
RPH90	800336	7517045	648	PH	-90	5	24.0	07/08/1976
RPH91	801643	7516317	640	PH	-90	5	12.0	08/08/1976
RPH92	801624	7516268	642	PH	-90	5	32.0	08/08/1976
RPH93	801686	7516263	638	PH	-90	5	20.0	09/08/1976
RPH94	801581	7516322	640	PH	-90	5	20.0	09/08/1976
RPH95	801554	7516359	640	PH	-90	5	17.0	10/08/1976
RPH96	801514	7516387	641	PH	-90	5	16.0	10/08/1976
RPH97	801473	7516417	641	PH	-90	5	14.0	10/08/1976
RPH98	801433	7516449	642	PH	-90	5	12.0	10/08/1976
RPH99	801391	7516478	642	PH	-90	5	10.0	10/08/1976
RPH100	801218	7516566	643	PH	-90	5	13.0	10/08/1976
RPH101	801089	7516589	644	PH	-90	5	26.0	10/08/1976
RPH102	802807	7515820	632	PH	-90	5	150.0	18/08/1979
RPH103	802979	7516163	630	PH	-90	5	117.0	19/08/1979
RPH104	803116	7516451	629	PH	-90	5	96.0	05/10/1980
RPH105	803229	7516673	628	PH	-90	5	133.0	06/10/1980
RPH106	803333	7516877	626	PH	-90	5	90.0	13/06/1981
RPH107	803409	7517104	625	PH	-90	5	90.0	14/06/1981
RPH108	803299	7516770	627	PH	-90	5	120.0	15/06/1981
RPH109	803498	7516653	628	PH	-75	35	102.0	15/06/1981

*PH = Percussion Hole; DD = Diamond Drill Core

Annexure 2. Significant eU₃O₈ (Deconvolved Gamma Log) intercepts from the Karins Deposit based on the criteria: minimum width 0.3m, maximum internal dilution 0.3m, 100ppm eU₃O₈ cut-off grade. Grade x Thickness values >1000 are highlighted in bold italics.

HOLE NUMBER	FROM (m)	TO (m)	WIDTH (m)	Gamma Probe*	GRADE eU ₃ O ₈ (ppm)	Grade x Thickness
RPH01	16.0	16.8	0.8	O-1	444	355
RPH04	58.6	58.9	0.3	O-1	322	97
and	61.9	66.8	4.9	O-1	1,240	6075
RPH11	18.7	19.2	0.5	O-1	457	228
RPH12	13.1	13.6	0.5	L-1	115	57
RPH17	58.8	59.9	1.1	L-1	156	172
RPH18	58.6	59.0	0.4	O-1	494	198
and	62.6	64.1	1.5	O-1	722	1082
and	65.6	67.2	1.6	O-1	282	452
RPH19	60.9	61.5	0.6	O-1	1,086	651
and	65.7	66.3	0.6	O-1	264	159
RPH20	35.4	36.5	1.1	O-1	333	366
and	47.5	48.5	1.0	O-1	282	282
and	53.6	55.8	2.2	O-1	275	606
RPH25A	36.2	37.7	1.5	L-1	110	166
RPH33	38.7	39.5	0.8	O-1	238	191
and	40.3	40.6	0.3	O-1	204	61
RPH34	46.1	46.4	0.3	O-1	274	82
RPH36	17.6	18.0	0.4	L-1	120	48
and	21.1	21.4	0.3	L-1	104	31
and	21.7	22.3	0.6	L-1	104	62
RPH37	33.4	34.6	1.2	O-1	297	356
and	35.2	35.6	0.4	O-1	123	49
RPH43	42.6	44.2	1.6	O-1	916	1466
RPH51	43.6	43.9	0.3	L-1	131	39
RPH56	8.5	9.2	0.7	L-1	120	84
RPH57	39.4	40.3	0.9	O-1	215	193
RPH59	25.9	26.6	0.7	O-1	190	133
RPH61	31.4	32.0	0.6	L-1	154	93
and	36.9	37.2	0.3	L-1	121	36
and	37.8	38.7	0.9	L-1	120	108
RPH62	49.9	50.2	0.3	L-1	106	32
RPH63	22.8	23.6	0.8	O-1	331	265
and	23.9	24.4	0.5	O-1	106	53
RPH64	10.9	17.0	6.1	O-1	830	5066
RPH66	29.9	30.5	0.6	O-1	2,547	1528
and	31.4	31.7	0.3	O-1	106	32
and	41.4	42.1	0.7	O-1	348	243
RPH67	102.7	103.1	0.4	O-1	476	190

and	104.6	105.1	0.5	O-1	469	234
RPD68	33.5	33.8	0.3	O-1	318	95
and	35.2	35.5	0.3	O-1	298	89
and	38.8	39.3	0.5	O-1	435	218
and	47.4	48.0	0.6	O-1	277	166
RPH75	15.0	15.6	0.6	L-1	139	84
and	34.4	36.4	2.0	L-1	113	225
RPH76	38.8	39.6	0.8	O-1	362	289
RPH77	27.2	28.2	1.0	O-1	1,489	1489
and	29.5	29.9	0.4	O-1	123	49
RPH78	36.9	37.7	0.8	L-1	109	87
and	38.3	38.6	0.3	L-1	102	30
RPD81	10.4	12.7	2.3	O-1	756	1738
RPD82	10.1	15.3	5.2	O-1	408	2122
RPD83	87.0	88.9	1.9	O-1	1,200	2280
RPD84	63.8	66.5	2.7	O-1	515	1389
and	67.0	68.2	1.2	O-1	373	447
and	73.1	74.1	1.0	O-1	281	281
RPH91	8.1	8.9	0.8	L-1	151	121
RPH92	23.9	24.7	0.8	O-1	332	266
and	29.1	29.4	0.3	O-1	106	32
RPH93	10.5	12.8	2.3	O-1	326	749
and	14.0	14.3	0.3	O-1	118	35
and	14.6	16.5	1.9	O-1	450	854
and	17.4	18.0	0.6	O-1	145	87
RPH94	13.5	15.1	1.6	O-1	351	561
and	16.6	16.9	0.3	O-1	106	32
RPH95	7.7	9.0	1.3	O-1	4,092	5320
and	9.4	9.7	0.3	O-1	133	40
and	11.2	11.6	0.4	O-1	314	126
and	13.6	14.1	0.5	O-1	228	114
RPH96	12.2	13.2	1.0	O-1	273	273
and	14.4	14.7	0.3	O-1	106	32
RPH97	5.6	8.2	2.6	O-1	580	1507
and	10.6	11.1	0.5	O-1	228	114
and	11.8	12.2	0.4	O-1	121	48
RPH98	8.8	9.2	0.4	L-1	115	46
RPH99	6.3	7.2	0.9	L-1	129	116
RPH101	15.9	17.2	1.3	O-1	459	597

**Gamma probe: O-1 = Ore-Probe; L-1 = Lithology Probe.*

Annexure 3. Karins Deposit Resource Report.

Cut off grade	Category	Type	Volume '000 m ³	Tonnes '000 t	Grade		Mineral Resources	
					U ₃ O ₈ ppm	U %	U ₃ O ₈ tonnes	U ₃ O ₈ M lb
0	Inferred	Oxidised	438	1,087	391	0.033	425	0.94
		Primary	335	831	420	0.036	349	0.77
		Total	773	1,918	404	0.034	775	1.71
100	Inferred	Oxidised	438	1,087	391	0.033	425	0.94
		Primary	335	831	420	0.036	349	0.77
		Total	773	1,918	404	0.034	775	1.71
200	Inferred	Oxidised	290	719	526	0.045	379	0.83
		Primary	211	524	597	0.051	312	0.69
		Total	501	1,243	556	0.047	691	1.52
300	Inferred	Oxidised	178	441	693	0.059	305	0.67
		Primary	143	354	754	0.064	268	0.59
		Total	321	795	721	0.061	573	1.26
400	Inferred	Oxidised	107	265	937	0.079	249	0.55
		Primary	108	268	892	0.076	239	0.53
		Total	215	534	914	0.078	488	1.08
500	Inferred	Oxidised	75	187	1,139	0.097	213	0.47
		Primary	85	212	1,008	0.085	213	0.47
		Total	161	399	1,069	0.091	426	0.94
600	Inferred	Oxidised	58	143	1,321	0.112	189	0.42
		Primary	65	161	1,144	0.097	184	0.41
		Total	123	304	1,227	0.104	373	0.82
700	Inferred	Oxidised	48	118	1,466	0.124	173	0.38
		Primary	58	144	1,203	0.102	173	0.38
		Total	106	262	1,321	0.112	347	0.76
800	Inferred	Oxidised	42	103	1,568	0.133	162	0.36
		Primary	53	131	1,248	0.106	164	0.36
		Total	95	234	1,389	0.118	325	0.72
900	Inferred	Oxidised	36	90	1,670	0.142	151	0.33
		Primary	47	117	1,295	0.11	152	0.33
		Total	84	208	1,458	0.124	303	0.67
1,000	Inferred	Oxidised	33	81	1,756	0.149	142	0.31
		Primary	43	105	1,334	0.113	140	0.31
		Total	75	186	1,517	0.129	283	0.62

Note: All figures in the tables are rounded, and therefore the total sums might not be the direct sum of the input figures

Annexure 4: JORC Table 1:

The following commentary is provided to ensure compliance with the JORC (2012) requirements for the reporting of Mineral Resource Estimates as discussed above for the Karins Deposit located on tenements MLN1952 and MCS318-328.

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>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.</i> 	<ul style="list-style-type: none"> The primary sampling instrument at the Karins Deposit was the downhole gamma tool (or 'probe') which was used to obtain a total gamma count reading with depth down each drill hole. Drilling was by rotary percussion (PH) or diamond core drilling (DD) methods and drill lines were on a nominal 250m spacing (eastings) with closer spacing (50 to 25m) within mineralised zones. Drill holes were mostly vertical to optimally intersect shallow-dipping mineralisation. Original analogue gamma log data was digitised at 10cm intervals downhole and converted to standard format LAS files followed by calculation of equivalent U_3O_8 (eU_3O_8) grades (see below for further information on gamma log processing procedures). The total count gamma logging method used here is a common method used to estimate uranium grade where the radiation contribution from thorium and potassium is small (as is the case for sandstone-hosted deposits of the Bigirlyi-type considered here). Gamma radiation is measured from a volume surrounding the drill hole that has a radius of approximately 35cm. Therefore the gamma probe samples a much larger volume than drill spoil or drill core samples recovered from a drill hole of normal diameter; gamma logging is considered to provide a more representative sample of the ore body and is preferred over geochemical assay of drill samples. Estimates of uranium concentration determined from gamma ray measurements are based on the commonly accepted initial assumption that the uranium is in secular equilibrium with its daughter products (radionuclides), which are the principal gamma ray emitters along the U-series decay chain. If uranium is in disequilibrium as a result of the redistribution (depletion or enhancement) of uranium relative to its daughter radionuclides, then the true uranium concentration in the holes logged using the gamma probe will be higher or lower than those reported. Closed can gamma measurements and chemical assay data from 17 samples from both the carnotite and uraninite zones of the Karins Deposit confirm that there is no systematic deviation from equilibrium and a correction for

Criteria	JORC Code explanation	Commentary
		disequilibrium has not been made. i.e. the Radioactive Equilibrium Factor (REF) = $U_3O_8/eU_3O_8 = 1$. This is consistent with current knowledge of other Ngalia Basin uranium deposits such as Bigirlyi.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Most of the drilling was by the rotary percussion (PH) method using tricone roller bits and an air hammer. Hole sizes ranged from 4.5 to 6.5 inches and were not cased except for PVC collars in the top 2-4m. Seven NQ-size diamond core holes were drilled and the core is archived in EME's Bigirlyi core yard. As part of data validation procedures, four drill core holes were re-logged by EME geologists.
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Drill spoil recovery is not relevant to the sampling method used (i.e. downhole gamma logging).
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Resource estimation, mining studies and metallurgical recorded digitally and the core was photographed. Scintillometer and Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> Four historical diamond core holes were re-logged by EME geologists for lithology, colour, grain-size, stratigraphic unit, oxidation state, <i>Mineral</i> alteration, cementation, weathering and other features; data was <i>studies</i>. <p>Niton portable XRF measurements were undertaken at 20cm intervals through ore zones to confirm the width of mineralisation. The coded data was verified according to Energy Metals' standard logging look-up tables. The re-logs were found to be in good agreement with previous logging records, which provided confidence in the quality of original CPM logging, and permitted EME to proceed with digitisation of the remaining CPM historical drill core logs.</p> <ul style="list-style-type: none"> PH drill chip samples were logged at the time of drilling by CPM geologists and the hard copy lithological logs were converted to digital format by EME geologists using EME's standard codes.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>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.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • Samples of half core were submitted for uranium (and vanadium) assay work historically by CPM, however, these data were not used for the present resource estimation work as they are not considered sufficiently robust nor representative in comparison with the gamma log measurements.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>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.</i> 	<ul style="list-style-type: none"> • The gamma tools used for downhole gamma ray measurements were calibrated and operated by geophysical contractors McPhar Geophysics Pty Ltd until 1975 and after this time by Geoex Pty Ltd of South Australia who acquired the assets of McPhar. Calibration information including k-factors and deadtime corrections and hole information including hole diameter and fluid levels/type were recorded for each hole. The accuracy and reproducibility of the probe data were monitored using two on-site standard radioactive sources (a low-level and a high-level source) and the monitoring data was included on each paper log and deemed satisfactory. • All drill holes were probed open-hole with the L1 or lithology gamma probe which employed a sensitive 4 x 1 inch detector crystal. Intervals of significant mineralisation (off-scale on the L1 probe) were re-probed with the O1 or ore gamma probe which employed a less sensitive 1 x ¾ inch detector crystal. • Approximately half the drill holes (i.e. those with a standing water level) were logged electrically to provide downhole electric potential and resistivity information. One hole was logged with a neutron probe to provide porosity information. This data has not been digitised nor used for the present resource estimation purposes. • The counts per second (cps) downhole gamma data were recorded on paper charts with an analogue pen recorder; for some holes the cps data was also recorded in digital printout form for the O1 probe. • Logging parameters including the time constant, logging speed and chart scale were recorded. Both L1 and O1 paper logs were digitised

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<p>by EME's geophysical contractor and converted into digital standard-format LAS files.</p> <ul style="list-style-type: none"> LAS file data were converted to equivalent U_3O_8 values (eU_3O_8 in ppm) using the specified probe calibration factors and taking into account drill-hole size, fluid levels and other parameters. The eU_3O_8 data was filtered (deconvolved) to correct for smearing of the gamma signal at mineralised interfaces so that true grades and thicknesses more closely reproduce actual grade. The eU_3O_8 grades were calculated by consultant geophysicist Mr Evgeny Sirotenko under the supervision of Dr Maxim Seredkin using the well-established methodology of Khaikovich and Shashkin, widely tested and upheld in the evaluation of uranium deposits in Kazakhstan and the former USSR. Good agreement, better than 10 percent, was found for eU_3O_8 grade composites calculated by CPM from the O1 digital printouts and grade-composites calculated by Sirotenko for the same intervals. This provides confidence in the quality of gamma log data. <ul style="list-style-type: none"> Significant uranium intersections for the four re-logged NQ holes were verified by geological personnel from the Uranium Resources Company (URC), Beijing, China; URC is the technical arm of the China General Nuclear Power Corporation (CGNPC), the major shareholder of Energy Metals Ltd. Two holes were probed twice with the O1 gamma probe as a duplicate check and one hole was probed over its entire length with both the L1 and O1 probes as a check for internal consistency. In both cases the results were found to be in good agreement No twinned holes are available from the historical data set (see comments in Section 3). Historical data including paper gamma and lithological logs were stored in a series of archive boxes in Energy Metals library. The data is a complete record of exploration works conducted in the period 1974 to 1981. No adjustments were made to eU_3O_8 assay data other than the standard reprocessing (deconvolution) discussed above.
Location of data points	<ul style="list-style-type: none"> <i>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.</i> <i>Specification of the grid system used.</i> 	<ul style="list-style-type: none"> Hole collar locations of which there are 110 were determined using three independent data-sets. The primary data-set comprised CPM's original exploration drill hole plans, which were scanned at high resolution and carefully georeferenced to allow extraction of hole

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>Quality and adequacy of topographic control.</i> 	<p>coordinates. The drill collars locations were compared with drill sites identifiable from Google Earth (GE) imagery and with the same drill sites converted from CPM's original local coordinate grid. Agreement between the three data-sets was found to be excellent and the accuracy of the collar coordinates is judged to be better than +/-10m in the horizontal plane.</p> <ul style="list-style-type: none"> The coordinates are located on the MGA94 grid, Zone 52 using the GDA94 datum (see Annexure 1). In the vertical plane topographic control was provided by a digital elevation model generated from NatMap topographic data, local benchmark data supplied by the NT DIPE, GE imagery and original CPM RL survey data. Accuracy is judged to be at least +/-1m in the vertical plane. Most holes were drilled vertically and as no surveys were undertaken were assumed to have remained vertical to the end of hole. Several angle holes were drilled but no historical downhole surveys are available; in these cases the starting azimuth was assumed to be constant until end of hole; as most holes were short, <120m, this is considered to be a reasonable assumption.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> The Karins deposit was drilled on lines with a nominal 250m spacing (eastings); within mineralised zones drilling was infilled to 25 to 50m spacing (eastings). Limited down-dip drilling was undertaken on panels with 100m step-outs. Energy Metals and consultants CSA Global consider the spacing sufficient to establish continuity of geology and grade for the purposes of estimation of an inferred mineral resource at Karins. Downhole gamma logs were measured at 10cm spacing and were composited as discussed in Annexure 2 for resource reporting purposes.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<ul style="list-style-type: none"> Several investigations have shown that Bigirlyi-style (tabular stratiform sandstone-hosted) uranium mineralisation exhibits no significant structural control. Mineralisation is controlled by physical and chemical characteristics of the host rock such as permeability and redox state and is influenced by primary depositional and sedimentological features. The deposit occurs in shallowly dipping beds and was sampled by vertical drill holes; downhole gamma probe data was subsequently corrected for mineralised zone boundary effects by deconvolution,

Criteria	JORC Code explanation	
		therefore there is no bias of sampling related to orientation of mineralised zones.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Not applicable.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No audits or reviews were conducted, however, the historical gamma probe data has been verified to an acceptable standard.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The Karins Deposit is located on tenement applications MLN1952 (Mineral Lease North) and MCS318-328 (Mineral Claim South) which are part of a joint venture between Energy Metals Ltd (72.39%), Northern Territory Uranium Pty Ltd (20.82%) and Southern Cross Exploration (6.79%). Energy Metals is the operator of the Joint Venture. Tenement application EL24462, which is 100% Energy Metals owned, surrounds the Karins Deposit and covers along-strike geological units to the east, but does not contain any known mineral resources at present. Mineral Claims (such as MCS318-328) are considered <i>non-compliant titles</i> under the Northern Territory's current <i>Mineral Titles Act</i> (the Act); such applications remain in force under transitional provisions until they are transitioned to an alternative suitable title under the Act. The exact areas of Mineral Leases and Mineral Claims in the Northern Territory, including MLN1952 and MCS318-328, are subject to survey of their boundary and datum pegs. The exploration licence applications are all located on Aboriginal freehold land granted in 1988 under the <i>Aboriginal Land Rights (Northern Territory) Act 1976</i> (the ALRA). The land was formerly part of the Mount Allan pastoral lease and is now held by the Yalpirakinu Aboriginal Land Trust. Under the ALRA, access to and future grant of titles encroaching on Aboriginal Freehold land (including MLN1952, MCS318-328 and ELA24462) requires an agreement with traditional owners and their representatives the Central Land Council. At present no agreement

Criteria	JORC Code explanation	Commentary
Exploration done by 1981. Energy Metals acquired CPM's interest in the project in 2005	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> EME next has an opportunity to negotiate an exploration agreement for EL24462 from 7 December 2015 when the tenement is released from ALRA moratorium. Grant of Mineral Leases for uranium in the NT (such as MLN1952) are subject to Federal Government approval.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> All the exploration data reported here is the result of drilling programs undertaken by Central Pacific Minerals (CPM) in the period 1974- <i>other parties</i> together with all the historical data including historical drill core. Karins is a Bigirlyi-style, tabular, stratiform, sandstone-hosted uranium-vanadium deposit of Carboniferous age located in the north central Ngalia Basin (NT). Refer to Figure 1.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in 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. 	<ul style="list-style-type: none"> Refer to Annexure 1 and Annexure 2.
Data aggregation methods	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Exploration results, i.e. mineralised intercepts, are reported as equivalent U_3O_8 values (eU_3O_8) from processed gamma logs. For reporting purposes in Annexure 2, gamma log intersections have been composited from 10cm deconvolved eU_3O_8 values. A cut-off grade of 100ppm U_3O_8 has been used with a minimum thickness of 0.3m, a maximum internal dilution of 0.3m and no external dilution. A REF value of 1 was applied, i.e. $U_3O_8 / eU_3O_8 = 1$. Results are reported in Annexure 2.
Relationship between mineralisation	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole 	<ul style="list-style-type: none"> Based on geological mapping work by CPM geologists and structural measurements of drill core, beds are shallowly dipping between 15 and 22 degrees. Most holes have been drilled vertically and true

Criteria	JORC Code explanation	Commentary
<i>n widths and intercept lengths</i>	<p><i>angle is known, its nature should be reported.</i></p> <ul style="list-style-type: none"> <i>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').</i> 	widths of intersections are approximately 95% of the reported downhole widths.
<i>Diagrams</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Refer to Figures 2 to 5 in the body of the text.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> All results have been reported.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> The recovery of vanadium is not considered an economic proposition for Bigirlyi-style deposits at present.
<i>Further work</i>	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> No further work is planned until the mineral titles covering the deposit are granted.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i> <i>Data validation procedures used.</i> 	<ul style="list-style-type: none"> Data used in the Mineral Resource estimate was sourced from original hardcopy. Hardcopy data was converted to digital format and collated, tabulated & verified by several persons before being validated upon importation into EME's Geobank database. Resource consultants CSA were provided with a validated Micromine database by EME. Relevant tables from the database were exported to Micromine .DAT format for import into Micromine 2014 software for use in the Mineral Resource estimation procedure.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> Validation of the imported data included checks for missing, duplicated and/or incorrectly recorded collar locations, survey data, sample data, gamma log data & lithological log data. Original historical gamma logs were reprocessed and deconvolved to yield eU₃O₈ (ppm) values which correlated with historical digital print-out information stored in EME's archives. The average difference is +/-5% for eU₃O₈ grades and +/-8% for grade-thicknesses of eU₃O₈.
Site visits	<ul style="list-style-type: none"> <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i> <i>If no site visits have been undertaken indicate why this is the case.</i> 	<ul style="list-style-type: none"> No site visits were undertaken by the Competent Person (Resource Estimation) or CSA staff. CSA has relied on Energy Metals for all data regarding the deposits, and given the current stage of the project, considers this appropriate.
Geological interpretation	<ul style="list-style-type: none"> <i>Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit.</i> <i>Nature of the data used and of any assumptions made.</i> <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i> <i>The use of geology in guiding and controlling Mineral Resource estimation.</i> <i>The factors affecting continuity both of grade and geology.</i> 	<ul style="list-style-type: none"> There is a reasonable level of confidence in the geological interpretation of the Karins deposit. The geology is traceable and reasonably continuous between drill holes and sections. Geological controls such as the dip of the sedimentary rocks have been used to constrain the extrapolation of mineralisation within stratigraphic bounds. It is recommended in future exploration programs that several holes are "twinning" to validate the historical data and a more detailed estimation of the Radioactive Equilibrium Factor (REF) be undertaken. It is further recommended that the possibility of in-situ recovery of the uranium at the Karins deposit be investigated; this would include hydrogeological test work and laboratory leaching tests. More exploration work is needed along the southern flank of the deposit, i.e. down-dip of currently known mineralised bodies. Geological structure and gamma logging have formed the basis for the geological interpretation. The Radioactive Equilibrium Factor (REF) is assumed to be 1 based on comparison of closed can gamma and chemical assay measurements from 17 samples. Further work may be required to better define the geometry and limits of the mineralisation, particularly with depth, but no significant downside changes to the currently interpreted mineralised volume are anticipated. Mineralisation is primarily concentrated within sandstones between silt/claystone lenses & interlayers that form lower and upper confining layers. A zone of oxidation is developed at the upper part of the deposit. Mineralised host sedimentary rocks are covered by <5m of alluvial/aeolian sediments. Grade continuity is controlled by redox boundaries within sandstones and siltstones; regionally the deposits are hosted along the northern

Criteria	JORC Code explanation	Commentary
		margin of the Ngalia Basin, which is an elongate intracratonic depression about 300km long (east-west) and 40km wide (north-south) on average. This basin is filled with late Proterozoic to Palaeozoic aged sedimentary rocks, predominantly continental/marine arkosic sandstone, and Neoproterozoic glaciogene deposits and quartzite.
Dimensions	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> Mineralisation is stratiform in nature but is variably distributed along strike and at depth due to the probable epigenetic genesis of the deposit. The dimensions of the main Karins ore bodies are approximately 3.7km of strike length with an average plan width of 150m and maximum modelled plan width of 350m. The total strike length of the Karins deposit is some 5.8km overall. Stratigraphy & mineralisation dips between 15 and 22 degrees. The mineralised interval varies between 0.2m to 6.1m averaging 1.0m. The model extends from 2m below surface to 120 metres below surface.
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of significance (eg sulphur for acid mine drainage wireframes for each deposit was generally too small to establish what In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	<ul style="list-style-type: none"> Gamma logging has been used for the definition of mineralised intervals and interpretation (wireframing) of mineralised bodies. The REF is assumed to be 1. The deposit has been separated into zones of predominantly oxidised mineralisation (carnotite) and primary reduced mineralisation (uraninite). The model consists of 23 mineralised domains as defined by the wireframe model. Grade estimation was calculated by the Inverse Distance Weighted Squared method (IDW2) using Micromine 2014 software in a <i>appropriate</i> flattened model to horizontal surface. Omni directions and downhole semivariograms have been used for the definition of the distance of interpolation. No top cutting of extreme grade values was <i>economic</i> undertaken. The number of samples within the mineralised <i>characterisation</i>). constitutes an extreme grade value. No previous estimates have been completed for this deposit and no mining has taken place. No assumptions have been made regarding recovery of by-products. No other elements were estimated. The block model was constructed using a 5mE x 5mN x 0.5mRL parent block size, with sub-celling to 4mE x 4mN x 2mRL for domain volume resolution. The parent cell size was chosen on the basis of the general morphology of mineralised bodies and in order to avoid the generation of unrealistically large blocks. The sub-celling

Criteria	JORC Code explanation	Commentary
		<p>size was chosen to maintain the resolution of the mineralised bodies. The sub-cells were optimised in the models where possible to form larger cells.</p> <ul style="list-style-type: none"> The search ellipse radii were determined from evaluation of the exploration drill hole distribution due to the low ranges of semivariograms (low variable mineralisation). Omnidirectional semivariograms were generated with a range of 90m for the Northings & Eastings, and downhole semivariograms were generated with a range of 4m. The first search radii were 10 x 10 x 1m, second 25 x 25 x 2m, third 60 x 60 x 2.67m then 90 x 90 x 4m. The model cells that did not receive grades from the first runs were then estimated using radii incremented by the 90 x 90 x 4m. No selective mining units were assumed in this estimate. There is a positive correlation between eU_3O_8 and V_2O_5 for the oxidised mineralised bodies. Geological boundaries were used to guide the interpretation of mineralised lenses. Specifically, mineralisation is interpreted to occur along redox boundaries within the shallow dipping 20° Mt Eclipse Sandstone. Mineralised bodies have been separated into oxidised & primary reduced facies. Many profiles contain one drillhole only. Grade envelopes at 100ppm eU_3O_8 were defined for interpretation purposes. A 200ppm eU_3O_8 cut-off grade was applied to mineralisation inside envelopes. No top cuts have been applied at this stage. Validation of the block model consisted of a comparison between the block model volume and the wire-framed volumes. Grade estimates were validated by visual comparison with the drill data. No reconciliation data is available at this early stage of the project.
Moisture	<ul style="list-style-type: none"> Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	<ul style="list-style-type: none"> The tonnages are estimated on a dry basis.
Cut-off parameters	<ul style="list-style-type: none"> The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> A cut-off grade of 100ppm U_3O_8 has been used for interpretation and 200ppm U_3O_8 for resource estimation modelling. Based on CSA's experience with this type of deposit; this is considered a reasonable cut-off which could result in eventual economic extraction.
Mining factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider 	<ul style="list-style-type: none"> At this stage of resource development it is assumed that mining would be by open pit methods. Future hydrogeological investigations and leaching tests would be useful in determining whether solution mining may be possible.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<p><i>potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></p> <ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made reporting Mineral Resources may not always be rigorous. <i>this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i> 	<ul style="list-style-type: none"> Metallurgical testwork is required to determine if the deposit is amenable to solution mining and/or heap leaching. There is a requirement for a certain level of natural permeability and for mineralisation to occur below the watertable if in-situ recovery is to be considered. Hydrological pumping cluster tests would need to be <i>when</i> undertaken if the deposit is found to be amenable to in-situ extraction <i>Where</i> processes.
Environmental factors or determining reasonable prospects for eventual economic extraction to	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<ul style="list-style-type: none"> No detailed assumptions regarding possible waste and process residue options have been made at this early stage. assumptions
Bulk density	<ul style="list-style-type: none"> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> Bulk density testing was carried out on both mineralised & un-mineralised drill core from the Karins deposit. Energy Metals supplied CSA with a table comprising 12 bulk density determinations from two drill holes. The rock types found at Karins include sub-arkosic sandstone and shale. Density estimates were obtained using the Archimedes method on the selected core samples. The balance was calibrated using two standard weights. An oven was used to dry the core to evaporate excess moisture and hairspray was used to seal the exterior to account for natural porosity (voids) when necessary. Test work to date has shown that there are no significant density differences due to sample porosity or alteration type. The same average bulk density of 2.48 t/m³ has been applied to all material in the models.
Classification	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. 	<ul style="list-style-type: none"> CSA has considered several factors in the classification of the Mineral Resources such as search ellipse dimensions, geological

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> • <i>Whether appropriate account has been taken of all relevant factors (ie confidence in tonnage/grade estimations, reliability of input confidence in continuity of geology and metal values, quality, and distribution of the data).</i> • <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<p>data and exploration drill hole grids. The Karins deposit has been <i>relative</i> classified as Inferred-category Mineral Resources due to: limited data <i>data</i>, for REF definition, need to verify historical gamma logging by drilling <i>quantity</i> twin holes, and the fact that many exploration sections are based on single drill holes only.</p> <ul style="list-style-type: none"> • The Inferred classification has taken into account all available geological and sampling information, and the classification level is considered appropriate for the current stage of the project. • The Mineral Resource estimate appropriately reflects the views of the Competent Persons.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> • No audits of the Mineral Resource estimate has been undertaken at this time.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> • <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i> • <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> • The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource to Inferred classification as per the guidelines of the 2012 JORC Code. • The resource statement refers to global estimation of tonnes and grade. • No production data is available for comparison.

Mineral Resource Estimate Summary

Malawiri Uranium Project

Compiled 18 December 2017 Reported by Marenica Energy Limited 4 July 2019

Exploration Results

The Malawiri deposit is a tabular, sandstone-hosted, uranium deposit located in the eastern Ngalia Basin. It is broadly similar in mineralisation style to Energy Metals Limited (“EME”) Bigirlyi deposit in the western Ngalia Basin. Mineralisation is hosted in the Carboniferous Mt Eclipse Sandstone, which at Malawiri consists dominantly of coarse arkose and arkosic sandstone, with lesser conglomerate and shale. At Malawiri the Mt Eclipse Sandstone is unconformably overlain by 80 to 100m of relatively unconsolidated gravelly sands, silts and clays of the Cenozoic Whitcherry Basin (Figure 1). The Palaeozoic-Cenozoic unconformity is marked by a silcrete cap and an underlying zone of kaolinised sandstone (weathered Mt Eclipse). Mineralisation is stratiform in nature and occurs within a number of sub-vertically oriented, stacked, tabular lenses confined by conglomerate marker beds. Uranium mineralisation tends to be variably distributed along strike and at depth due in part to the effects of a late, oxidative uranium remobilisation event that also caused hematite overprinting.

The dimensions of the Malawiri mineralised domain (Figure 2) are approximately 400m along strike with an average plan width of 10-15m and a maximum modelled plan width of 35m. Stratigraphy and mineralisation dips sub-vertically and the width of the mineralised intervals varies from 0.3m to 12.6m, averaging 3.2m thickness. The mineralisation model extends from beneath the kaolinised sandstone unit at approx. 100m depth to 250m below surface. Drill-hole collar locations and other drilling details for historical Central Pacific Minerals N.L. (“CPM”) drill-holes are provided in Annexure 1.

Uraninite is the dominant uranium mineral in the sub-surface and it occurs in close association with pyrite and detrital-origin phyllosilicate minerals including biotite, clays and chlorite. Carbonate cement is pervasive in mineralised zones.

All historic CPM drill-holes were logged by independent geophysical contractors Geoex, Adelaide, using downhole gamma probe tools (for further details see the commentary regarding JORC reporting in Appendix 1). The downhole gamma probe was used as the primary analytical tool to measure eU_3O_8 grade. Drill core samples were assayed for uranium, however, these data were not considered to be sufficiently representative to be used in the resource estimation.

Open file data from two historical AGIP holes were used to help constrain the along strike extension of mineralisation to the east.

Historically over 100 core samples were assayed by the so-called ‘closed can’ method at AMDEL laboratories, Adelaide, to determine the extent of possible radiometric disequilibrium; the results provide evidence for the existence of radium mobility relative to uranium and indicate the deposit is not in radiochemical equilibrium. This observation has been confirmed by examination of comparative assay U_3O_8 data and gamma log eU_3O_8 data. Application of a disequilibrium correction (known as the Radioactive Equilibrium Factor or REF) is considered necessary to convert measured

eU₃O₈ to actual U₃O₈ values (refer to JORC reporting commentary in Appendix 1 for further details).

Drill-hole information and gamma log data for all drill holes, including associated metadata and probe calibration records, were compiled from EME's archives. Historical gamma logs were archived as a compilation of analogue printouts on paper charts; these were scanned at high resolution, digitised and converted to counts per second (cps) data at 10 cm intervals downhole. Using the calibration data and hole information the cps data were reprocessed to yield deconvolved eU₃O₈ values according to well established methods. Significant intercepts (minimum width 0.3m, maximum internal dilution 0.3m, cut-off grade 100ppm eU₃O₈, and grade x thickness value >100) are detailed in Annexure 2. Intercepts from EME's 2016 drill-hole MARD004 have previously been reported. All relevant drilling data, gamma logging data and geological data including lithological logs have been converted to digital format, verified and loaded into EME's database (a summary of the information is provided in Table 1 below).

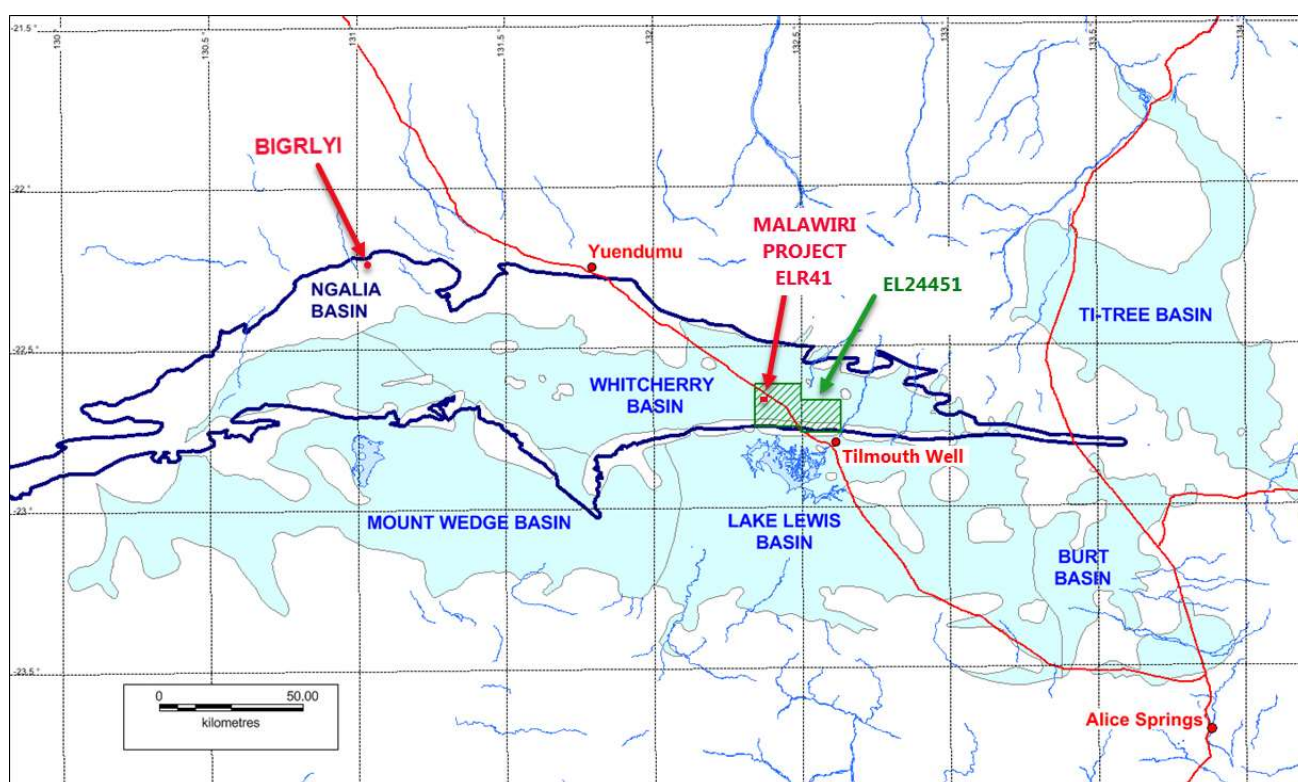


Figure 1. Map showing the location of the Malawiri Project on ELR41 in relation to EME's surrounding exploration licence 24451 (green hatch), Ngalia Basin outline (dark blue), overlying Cenozoic basins (light blue). The Bigrlyi uranium deposit, towns, main roads (red) and drainages (blue) are also shown.

Table 1. Database Summary of information used in the Resource Estimation

Category	Total
Number of drill holes	25*
Total metres drilled	5,550.05
Number of downhole survey records	106
Number of gamma logged intervals (at 10 cm)	50,289
Number of mineralised intervals based on 10 cm gamma-logging	36
Number of closed can assays used for REF estimation purposes	102
Number of intervals with lithological data	671
Number of samples with measured bulk density	217

*22 CPM drill-holes, 2 AGIP drill-holes and 1 EME drill-hole. The AGIP holes, drilled to the east of Malawiri, do not have available gamma logs and were used to constrain lithological continuity and the extent of mineralisation only.

Land Tenure

The Malawiri deposit is located on granted joint venture tenement ELR41 (EME: 76.03%, NTU: 23.97%). ELR applications 27 to 32 adjoin ELR41 and are owned 100% by NTU; they largely cover the adjacent Minerva prospect which lies about 1 km to the ESE. However, a small proportion of the Malawiri deposit extends on to neighbouring tenement ELR28 to the immediate south of ELR41; accordingly, the resource has been truncated at the boundary so that only the portion of the resource residing on ELR41 is reported here. The ELRs are embedded within surrounding Exploration Licence 24451, which is part of EME's 100% owned Ngalia Regional Project (Figure 1).

The Malawiri deposit is located on the Napperby pastoral lease over which a Native Title claim was determined by consent in 2013. Currently, resource areas are not affected by any Aboriginal heritage or cultural sites.

Resource Estimation Procedure

Mineralised envelopes were interpreted and wireframed using downhole gamma log data. The downhole eU_3O_8 data was converted to U_3O_8 grade by application of REF corrections to account for radiochemical disequilibrium associated with radium mobility. The wireframes were constructed on the basis of a sectional interpretation in which the boundaries were extrapolated to half the nominal section spacing beyond the extents of current drilling. Using the digital lithological logs, digital models were also generated for the unconformity surfaces (Figure 2).

The downhole U_3O_8 data were composited over mineralised intervals of 0.5 m width; and statistical and geostatistical analyses were then performed. The block model was created and filled following application of a coordinate transformation to provide a constant orientation (flattening) of mineralised bodies for interpolation purposes. Because the distribution of uranium grades consists of several populations, the Multiple Indicator Kriging (MIK) method was used for interpolation of grades in the block model. The dimensions of the parent blocks were set at 2 x 0.125 x 2 m without sub-celling. An average bulk density of 2.45 t/m³, as measured from Malawiri core samples, was used. The distribution of U_3O_8 grade values obtained is shown in Figure 3 and the resulting resource estimate, which is classified as inferred, is provided in Table 2 for 100 ppm U_3O_8 cut-off grade.

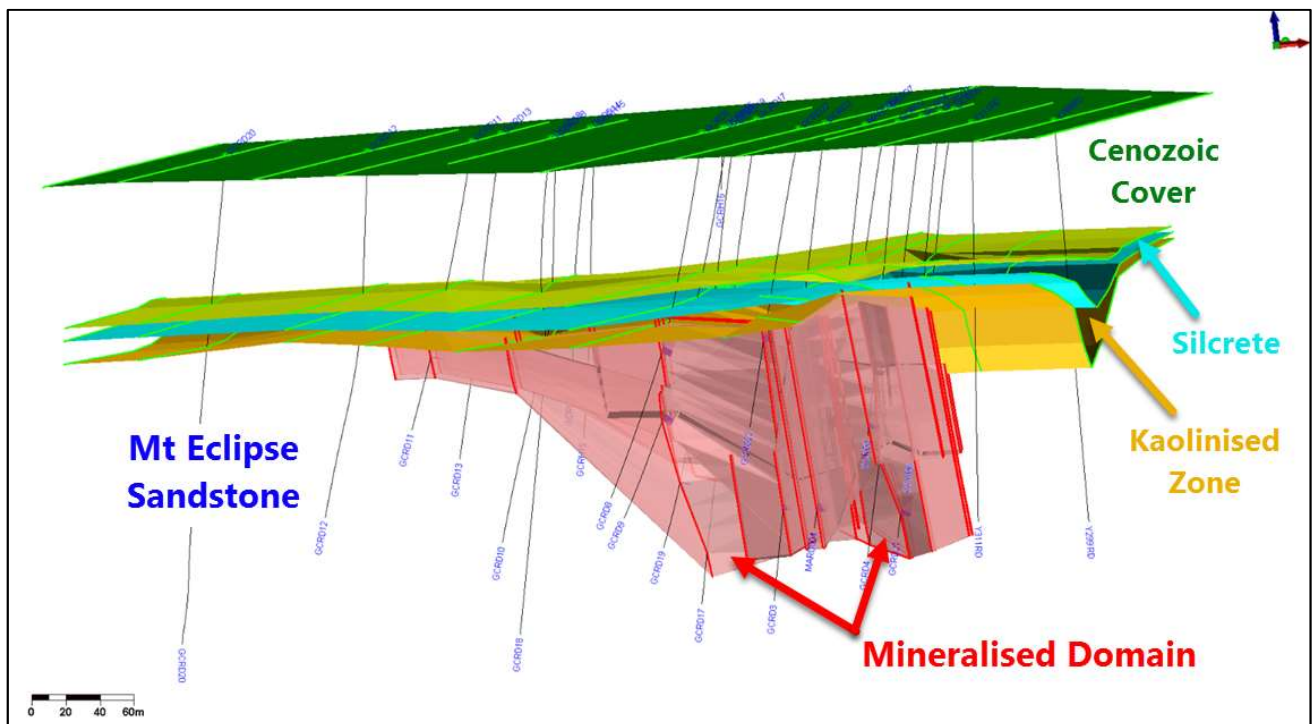


Figure 2. Wireframe models showing the mineralised domain and unconformity-related surfaces together with drill-hole traces.

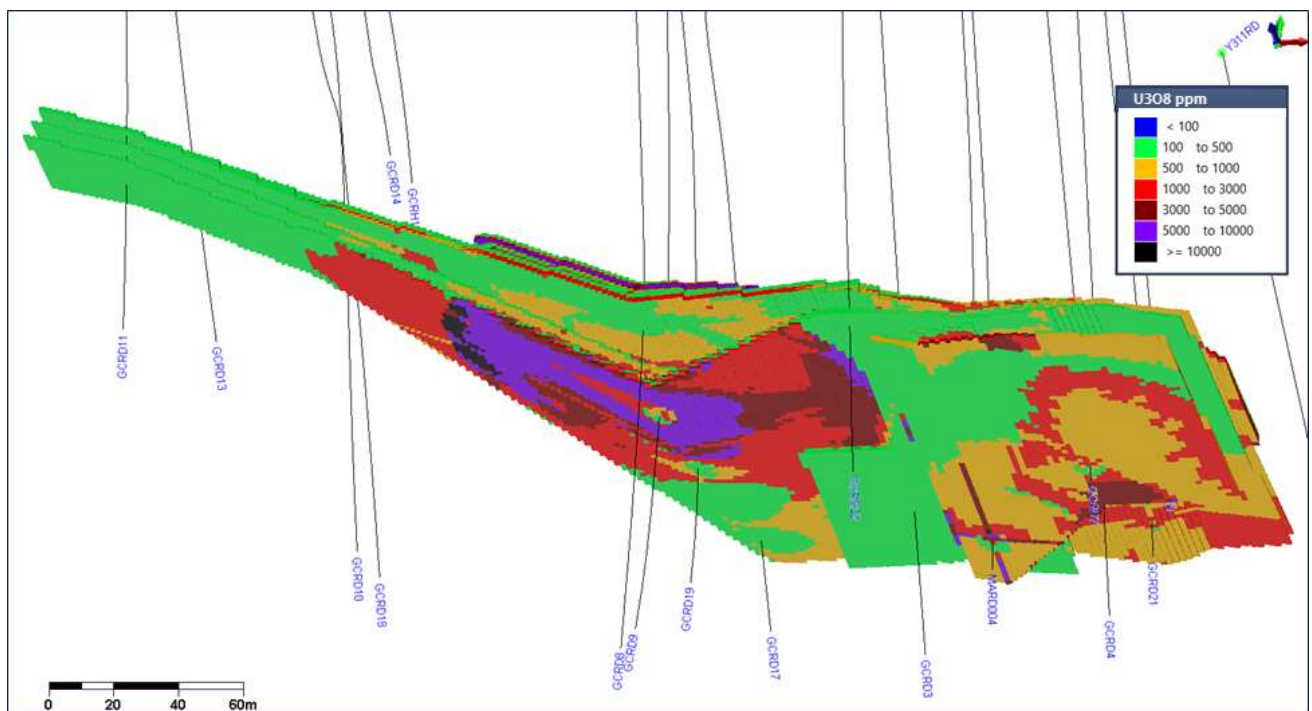


Figure 3. Distribution of U_3O_8 grade for the Malawiri deposit.

Summary

The Mineral Resources are summarised in Table 2 for a 100ppm U₃O₈ cut-off grade:

Table 2. Estimate of Mineral Resources for the Malawiri Deposit as at 14 December 2017

Category	Volume, '000 m ³	Kilotonnes	Bulk Density, t/m ³	Grade U ₃ O ₈ ppm	U ₃ O ₈ tonnes	U ₃ O ₈ Mlb	U%	U, t
Inferred	172.0	421.3	2.45	1,288	542	1.20	0.109	460

Notes:

- The Mineral Resources are for a 100% interest in the associated joint venture and not the Mineral Resources attributable to the individual joint venture partners.*
- Mineral Resources are based on 100 ppm cut-off grade per resource block.*
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.*
- Mineral Resources are based on JORC-2012 definitions.*
- Mineral Resources are based on a bulk density of 2.45 t/m³.*
- Calculations and unit conversions may not yield exact figures due to rounding.*

The Mineral Resources have been classified and reported in accordance with JORC (2012) requirements. The resource classification is based on the assessed level of confidence in sample methods used, geological interpretation, drill spacing and geostatistical measures.

Competent Persons Statement

The information in this report that relates to Mineral Resource estimation is based on information compiled by Mr Dmitry Pertel, Principal Consultant Geologist, CSA Global Ltd and Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Information in this report relating to the interpretation and determination of gamma probe results is based on information compiled by Mr Evgeny Sirotenko, consultant geophysicist, under supervision of Dr Maxim Seredkin, Principal Consultant Geologist, CSA Global Ltd. Mr Pertel is a member of the Australian Institute of Geoscientists (MAIG) and is an employee of CSA Global. Dr Seredkin is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), a member of the Australian Institute of Geoscientists (MAIG), and is an employee of CSA Global. Mr Pertel and Dr Seredkin have 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 Competent Persons as defined by the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)", and Mr Pertel and Dr Seredkin both consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Annexure 1. Collar coordinates and drill-hole details for historical CPM drilling at the Malawiri deposit, GDA94 datum, Zone 53.

HOLE ID	DRILL TYPE*	PRE-COLLAR DEPTH (m)	TOTAL DEPTH (m)	DIP Degrees	AZI-MUTH Magnetic	NORTHING (MGA53)	EASTING (MGA53)	HEIGHT (RL) m
GCRD1	RM/DH	110.87	219.15	-90	180	7,491,689.89	232,429.36	569.36
GCRD2	RM/DH	147.00	188.40	-69	189	7,491,238.81	231,320.09	568.95
GCRD3	RM/DH	151.00	284.20	-70	197	7,491,265.57	231,264.12	569.06
GCRD4	RM/DH	156.00	263.30	-70	197	7,491,259.14	231,327.48	569.05
GCRH5	RM	88.00	88.00	-90	180	7,491,459.20	230,061.75	568.11
GCRD6	RM/DH	150.00	216.80	-65	197	7,491,285.72	231,337.97	569.13
GCRD7	RM/DH	156.00	250.70	-65	197	7,491,319.39	231,283.47	569.16
GCRD8	RM/DH	150.00	240.00	-65	190	7,491,265.00	231,187.00	569.16
GCRD9	RM/DH	171.00	257.00	-65	190	7,491,290.56	231,193.65	569.03
GCRD10	RM/DH	123.00	255.00	-65	190	7,491,308.51	231,075.08	568.86
GCRD11	RM/DH	162.00	183.00	-65	190	7,491,328.05	231,017.66	568.68
GCRD12	RM/DH	156.00	219.00	-75	190	7,491,321.86	230,953.96	568.54
GCRD13	RM/DH	144.00	211.50	-65	190	7,491,357.23	231,025.04	568.79
GCRD14	RM/DH	150.00	156.80	-65	190	7,491,347.35	231,084.96	568.91
GCRH15	RM	184.00	184.00	-75	190	7,491,352.20	231,086.03	568.89
GCRH16	RM	36.00	36.00	-75	190	7,491,285.95	231,192.17	568.82
GCRD17	RM/DH	157.00	298.20	-65	190	7,491,319.41	231,200.64	569.04
GCRD18	RM/DH	150.00	294.80	-75	190	7,491,313.56	231,076.35	568.88
GCRD19	RM/DH	148.00	261.00	-65	190	7,491,298.42	231,195.19	568.93
GCRD20	RM/DH	143.40	292.80	-70	190	7,491,362.13	230,849.10	568.46
GCRD21	RM/DH	138.40	255.00	-70	197	7,491,276.08	231,333.03	569.18
GCRD22	RM/DH	136.30	181.60	-65	197	7,491,244.48	231,255.76	569.03

*RM/DH = Rotary Mud/Diamond Core

Annexure 2. Significant eU₃O₈ (Deconvolved Gamma Log) intercepts from the Malawiri deposit based on the criteria: Minimum width 0.3m, maximum internal dilution 0.3m, 100ppm eU₃O₈ cut-off grade; Grade x Thickness >100. Grade x Thickness (GT) values >1000 are highlighted in bold italics.

Hole ID	From	To	Width (m) *	Grade eU ₃ O ₈ (ppm)	Cut-off (ppm)	Grade x Thickness
GCRD2	137.40	139.20	1.80	1,514	100	2,726
<i>incl.</i>	<i>138.20</i>	<i>139.20</i>	<i>1.00</i>	<i>2,498</i>	<i>500</i>	<i>2,498</i>
GCRD2	140.80	141.50	0.70	150	100	105
GCRD2	142.40	147.00	4.60	460	100	2,114
<i>incl.</i>	<i>144.20</i>	<i>145.30</i>	<i>1.10</i>	<i>1,267</i>	<i>500</i>	<i>1,394</i>
GCRD2	148.60	151.50	2.90	395	100	1,145
<i>incl.</i>	<i>150.60</i>	<i>151.20</i>	<i>0.60</i>	<i>1,100</i>	<i>500</i>	<i>660</i>
GCRD2	180.50	183.40	2.90	605	100	1,755
<i>incl.</i>	<i>181.20</i>	<i>182.30</i>	<i>1.10</i>	<i>1,264</i>	<i>500</i>	<i>1,391</i>
GCRD3	183.90	185.10	1.20	135	100	162
GCRD3	189.20	201.60	12.40	577	100	7,158
<i>incl.</i>	<i>191.40</i>	<i>193.50</i>	<i>2.10</i>	<i>1,036</i>	<i>500</i>	<i>2,175</i>
<i>incl.</i>	<i>199.60</i>	<i>200.90</i>	<i>1.30</i>	<i>2,099</i>	<i>500</i>	<i>2,728</i>
GCRD3	214.70	216.50	1.80	182	100	328
GCRD3	218.60	224.10	5.50	695	100	3,824
<i>incl.</i>	<i>219.30</i>	<i>221.50</i>	<i>2.20</i>	<i>1,525</i>	<i>500</i>	<i>3,355</i>
GCRD3	226.40	230.00	3.60	143	100	516
GCRD4	172.80	177.50	4.70	1,231	100	5,787
<i>incl.</i>	<i>173.80</i>	<i>177.10</i>	<i>3.30</i>	<i>1,631</i>	<i>500</i>	<i>5,384</i>
GCRD4	190.80	192.30	1.50	342	100	513
<i>incl.</i>	<i>191.50</i>	<i>191.90</i>	<i>0.40</i>	<i>1,035</i>	<i>500</i>	<i>414</i>
GCRD4	202.50	205.20	2.70	505	100	1,363
<i>incl.</i>	<i>203.30</i>	<i>204.50</i>	<i>1.20</i>	<i>797</i>	<i>500</i>	<i>956</i>
GCRD6	189.00	193.70	4.70	1,594	100	7,493
<i>incl.</i>	<i>190.40</i>	<i>193.40</i>	<i>3.00</i>	<i>2,380</i>	<i>500</i>	<i>7,141</i>
GCRD6	207.60	209.00	1.40	254	100	356
GCRD8	122.90	123.90	1.00	105	100	105
GCRD8	126.20	139.00	12.80	583	100	7,467
<i>incl.</i>	<i>126.70</i>	<i>127.20</i>	<i>0.50</i>	<i>595</i>	<i>500</i>	<i>298</i>
<i>incl.</i>	<i>127.30</i>	<i>131.90</i>	<i>4.60</i>	<i>1,058</i>	<i>500</i>	<i>4,869</i>
<i>incl.</i>	<i>136.50</i>	<i>137.80</i>	<i>1.30</i>	<i>797</i>	<i>500</i>	<i>1,036</i>
GCRD9	164.60	176.70	12.10	3,409	100	41,243
<i>incl.</i>	<i>165.90</i>	<i>168.90</i>	<i>3.00</i>	<i>11,774</i>	<i>500</i>	<i>35,322</i>
<i>incl.</i>	<i>174.20</i>	<i>176.30</i>	<i>2.10</i>	<i>2,343</i>	<i>500</i>	<i>4,921</i>
GCRD9	179.40	181.30	1.90	153	100	290
GCRD9	183.10	189.20	6.10	2,105	100	12,838
<i>incl.</i>	<i>186.20</i>	<i>188.70</i>	<i>2.50</i>	<i>4,792</i>	<i>500</i>	<i>11,979</i>
GCRD11	116.70	118.90	2.20	190	100	419
GCRD11	125.40	126.80	1.40	123	100	172
GCRD11	134.30	135.40	1.10	137	100	150

GCRD19	219.70	220.50	0.80	170	100	136
GCRD21	229.80	241.70	11.90	946	100	11,261
<i>incl.</i>	<i>231.60</i>	<i>237.50</i>	<i>5.90</i>	<i>1,154</i>	<i>500</i>	<i>6,807</i>
<i>incl.</i>	<i>239.00</i>	<i>241.00</i>	<i>2.00</i>	<i>1,751</i>	<i>500</i>	<i>3,502</i>
GCRD22	123.90	129.40	5.50	210	100	1,155

*Note: true widths of mineralised zones are approximately 30-50% of intercept width depending on inclination of hole.

Annexure 4: JORC Table 1

The following commentary is provided to ensure compliance with the JORC (2012) requirements for the reporting of Mineral Resource Estimates as discussed above for the Malawiri Deposit located on tenement ELR41.

- JORC Table 1 Section 1 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information</i></p>	<p>The primary sampling instrument at the Malawiri was the downhole gamma tool (or 'probe') which was used to obtain a total gamma count reading down each drill-hole. Drilling was by rotary mud (RM) and diamond core (DD) drilling methods with NNE-SSW oriented drill lines on 60 - 120 m spacing and closer 30 m spacing within the primary mineralised zones. Drill holes were sub-vertical (due to unconsolidated overburden & unconformity at 100m depth) to optimally intersect steeply-dipping mineralisation. Original analogue gamma log data was digitised at 10 cm intervals downhole and converted to standard format LAS files followed by calculation of equivalent U_3O_8 (eU_3O_8) grades (see below for further information on gamma log processing procedures).</p> <p>The total count gamma logging method used here is a common method used to estimate uranium grade where the radiation contribution from thorium and potassium is small (as is the case for sandstone-hosted deposits of the Biglryi-type considered here). Gamma radiation is measured from a volume surrounding the drill hole that has a radius of approximately 35 cm. Therefore the gamma probe samples a much larger volume than drill spoil or drill core samples recovered from a drill-hole of normal diameter; gamma logging is considered to provide a more representative sample of the mineralised body and is preferred over geochemical assay of drill samples for resource estimation purposes.</p> <p>Estimates of uranium concentration determined from gamma ray measurements are based on the initial assumption that the uranium is in secular equilibrium with its daughter products (radionuclides), which are the principal gamma ray emitters along the U-series decay chain. If uranium is in disequilibrium as a result of the redistribution (depletion or enhancement) of uranium relative to its daughter radionuclides, then the true uranium concentration in the holes logged using the gamma probe will differ from that reported by gamma measurements. For the present resource estimation work at Malawiri an analysis of historical closed can measurements indicates that a disequilibrium correction (known as the Radioactive Equilibrium Factor or REF) is necessary (see below).</p>
Drilling techniques	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).</i></p>	<p>Rotary mud (RM) and diamond drilling (DD) methods were used by Central Pacific Minerals (CPM) between the years 1979 – 1982. The programs primarily consisted of RM pre-collars to approximately 150m depth (unconformity) with BQ and/or NQ DD tails. Three pure RM holes were drilled from surface to target depth one of which included a water bore. RM drilling used blade & tri-cone roller bits. Holes were cased with 100-150mm PVC as well as NQ and or NW casing to pre-collar depths. NQ, BW & BQ casing was run >150 m depths. No orientation marks were observed on historical core, however, geotechnical features were logged and recorded by CPM.</p> <p>Modern drilling by EME used the RM method to the unconformity followed by NQ2 DD coring. RM pre-collar was drilled with 4 3/4" roller bits, 3 7/8" PCD bits and cased off with HQ casing. NQ2 DD tails were drilled to target depth. All DD cores were orientated using a NQ2 orientation tool set.</p>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>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.</i></p>	<p>Drill spoil & core recovery is not relevant to the sampling method used (i.e. downhole gamma logging). However, pre-collar RM drill cuttings were collected by a timed interval method factoring in mud density & viscosity, annulus size and up-hole velocity of the fluids from depth. It should be noted that the RM drilling method does not necessarily provide an accurate sample due to loss of fines and potential for up-hole contamination.</p> <p>Core sampling recoveries in the DD tails were determined by comparison of recovered core to the run drilled and this information was recorded on the geological logging sheets. CPM recorded core recoveries of >94% whilst EME's modern drill core recoveries were 100%.</p> <p>To achieve maximum core recoveries CPM and EME both cased off the pre-collars to avoid collapse of the overlying unconsolidated Cenozoic units.</p> <p>No relationship exists between sample recovery and grade due to the type of sampling method applied (i.e. downhole gamma logging).</p>
Logging	<p><i>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.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>RM drill cuttings were logged at the time of drilling by CPM geologists and the hard copy lithological logs were converted to digital format by EME geologists using EME's standard codes.</p> <p>Seventeen historical DD core holes were re-logged by EME geologists for lithology, colour, grain-size, stratigraphic unit, oxidation state, alteration, cementation, weathering and other features; data was recorded digitally and core was photographed. Additionally core was logged for structure using a goniometer to obtain alpha/beta measurements, dip & dip direction of varying structure types where possible. The coded data was verified according to EME's standard logging look-up tables. The re-logs were found to be in good agreement with previous logging records, which provided confidence in the quality of original CPM logging.</p> <p>Scintillometer and Niton portable XRF measurements were undertaken on historical and modern core at 20 cm intervals through mineralised zones to confirm the width of mineralisation.</p> <p>EME geologists logged the modern RM cuttings and drill core from hole MARD004 using in-house lithological and structural templates. In addition, core was photographed and mineralised intervals were later scanned by the hylog method to determine spectral mineralogy. Scintillometer measurements were undertaken over mineralised zones to confirm the width of mineralisation. The coded data was verified according to EME's standard logging look-up tables</p> <p>100% of relevant intersections have been logged.</p>
Subsampling techniques and sample preparation	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</i></p>	<p>For historical holes core was originally split into samples of half core for assay work. Half core was quartered for duplicate checks. Historically, CPM assayed for uranium as well as V, Cu, Cr and Au. The uranium assay data were not used for the resource estimation work as they are not considered sufficiently robust nor representative in comparison with the gamma logging measurements.</p> <p>Historical closed can assay data undertaken by AMDEL on 102 samples was used to evaluate uranium series disequilibrium and determine the Radioactive Equilibrium Factor (i.e. the disequilibrium correction).</p> <p>For modern hole MARD004, mineralised intervals were sampled at 0.4m spacing and assayed for a complete range of elements at ALS laboratories, Perth. Standard EME and laboratory QAQC procedures were applied. Interval matched uranium assay data was used to confirm the Radioactive Equilibrium Factor but this data was not used directly for mineral resource estimation purposes.</p>

Criteria	JORC Code explanation	Commentary
	<p><i>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.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	
Quality of assay data and laboratory tests	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></p>	<p>The gamma tools used for downhole gamma ray measurements were calibrated and operated by geophysical contractors Geoex Pty Ltd of South Australia during the period 1980-1982. Calibration information including k-factors and deadtime corrections and hole information including hole diameter, casing depths/type and fluid levels/type were recorded for each hole. The accuracy and reproducibility of the probe data were monitored using two on-site standard radioactive sources (a low-level and a high-level source) and the monitoring data was included on each paper log and deemed satisfactory.</p> <p>Historic drill holes were logged with two different gamma ray tools depending on grade. The initial run was undertaken with the L1 or lithology gamma probe which employed a sensitive 4 x 1 inch NaI detector crystal. Intervals of significant mineralisation (off-scale on the L1 probe) were re-probed with the O1 or 'ore' gamma probe which employed the less sensitive 1 x ¾ inch NaI detector crystal.</p> <p>Eight of the 22 drill holes were logged with a neutron probe for the purposes of downhole stratigraphic comparison. This data has not been digitised or used for resource estimation purposes.</p> <p>The counts per second (cps) downhole gamma data were recorded on paper charts with an analogue pen recorder; for some holes the cps data was also recorded in digital printout form for the O1 probe and CPM determined eU₃O₈ values using a polynomial calibration equation. This data however was not used for the present resource estimation work, instead the original paper logs were scanned, digitised and re-processed.</p> <p>Logging parameters including the time constant, logging speed and chart scale were recorded. Both L1 and O1 paper logs were digitised by EME's geophysical contractor and converted into digital standard-format LAS files.</p> <p>LAS file data were converted to equivalent U₃O₈ values (eU₃O₈ in ppm) using the specified probe calibration factors and taking into account drill hole size, fluid levels and other parameters. The eU₃O₈ data was filtered (deconvolved) to correct for smearing of the gamma signal at mineralised interfaces so that true grades and thicknesses more closely reproduce actual grade. The eU₃O₈ grades were calculated by consultant geophysicist Mr Evgeny Sirotenko under the supervision of Dr Maxim Seredkin using the well-established methodology of Khaikovich and Shashkin, widely tested and upheld in the evaluation of uranium deposits in Kazakhstan and the former USSR.</p> <p>Modern downhole gamma measurements on hole MARD004 were performed with a 33mm Auslog probe, serial number S937. The probe was calibrated at the Adelaide test pits, South Australia. The calibration data were evaluated by consultant geophysicist Mr David Wilson of 3D Exploration Pty Ltd and judged to be satisfactory.</p> <p>The MARD004 downhole gamma log was recorded by EME staff using Auslog equipment and software, and employing standard, documented procedures. Hole information including hole diameter, casing depths and type, and fluid levels were recorded. The gamma log was output as a standard-format LAS file, which was processed to yield eU₃O₈ values by consultant geophysicist Mr David Wilson of 3D Exploration Pty Ltd.</p>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<p>A LAS file from one historical hole with significant uranium intersections was independently reprocessed by consultant geophysicist Mr David Wilson of 3D Exploration Pty Ltd. Comparison of eU₃O₈ grade composites between the Wilson and Sirotenko datasets indicates that agreement is within 1% which is deemed more than satisfactory.</p> <p>No twinned holes are available from the historical dataset. However, hole MARD004 was sited between two lines of historical drill holes spaced 65m apart and provides confirmation of the continuity and grade of historically defined mineralised zones.</p> <p>Historical data including paper gamma logs, assay certificates and lithological logs were stored in archive boxes in EME's library. The data is a complete record of CPM's exploration works conducted from 1979 through 1983.</p> <p>Historically, CPM undertook 'closed can' eU₃O₈ and uranium assay measurements at The Australian Mineral Development Laboratories (AMDEL), Adelaide, on 96 core samples (plus additional repeats) in order to investigate potential uranium series disequilibrium in the prospect. An evaluation of this data, combined with check data from interval-matched assay and eU₃O₈ values from hole MARD004, indicates mineralised zones are affected by radium mobility and REF corrections are deemed necessary. Relative to eU₃O₈ grade the following REF corrections have been determined: 50-250 ppm – 0.86, 250-500 ppm – 1.08, >500 ppm – 1.27. The correction results in an increase in U₃O₈ grade relative to the eU₃O₈ measurements for all mineralisation >250ppm eU₃O₈.</p> <p>The eU₃O₈ assay data was deconvolved and corrected for radiochemical disequilibrium by application of a REF value as discussed above.</p>
Location of data points	<p><i>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>Historical hole collar locations were determined using three independent datasets. The primary dataset comprised CPM's original exploration drill hole plans, which were scanned at high resolution and carefully geo-referenced to allow extraction of MGA hole coordinates. Drill collars locations were compared with drill sites identifiable from Google Earth imagery, with the same drill sites converted from CPM's original local coordinate grid. Agreement between the three data-sets was found to be excellent and historic drillhole locations were accurately identified.</p> <p>After initial identification Energy Metals technicians surveyed all drill holes at the deposit as well as the ERL corner boundary pegs using an Altus APS-3 RTK base receiver & rover (RTK DGPS). The precision quoted by Altus is 0.6cm in the horizontal plane and 1cm in the vertical plane. A local base station was established at a Survey Control Point via the AUSPOS system. Elevations are derived AHD heights computed using the AUSGeoid09. The centre of the drill collar was measured.</p> <p>The coordinates are located on the MGA94 grid, Zone 53 using the GDA94 datum (refer Annexure 2).</p> <p>All holes were drilled sub-vertically between -65° & -75° inclination with downhole deviation surveys undertaken in the diamond tails at 30 m to 50 m intervals. Dip and azimuth measurements were attained using a Pajari single shot tool or occasionally by acid etch. Surveys of modern drillholes were conducted using a Pathfinder multishot tool at 50 m intervals. Magnetic declination is 005° NNW and this value was applied to azimuths to convert to Grid North for modelling.</p> <p>Topographic control was provided by a digital terrain model (DTM) generated from radiometric and magnetic helicopter survey data flown in 2014. Since surface relief is subdued and the deposit is buried at an unconformity below 80 - 100 m of cover sequences, the topography has a negligible effect on the deposit modelling.</p>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<p>The Malawiri deposit was drilled on NNE (010-020°) panels spaced at 60 - 120 m. Within strongly mineralised zones infill drilling was conducted on 30 m spaced panels with 10 – 20 m step-outs (due to sub vertical body) to test down dip continuity.</p> <p>EME and CSA Global consider the spacing sufficient to establish continuity of geology and grade for the purposes of estimation of an inferred mineral resource.</p> <p>Historical downhole gamma logs were digitised at 10 cm intervals and were composited for resource reporting purposes.</p>
Orientation of data in relation to geological structure	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>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.</i></p>	<p>In general, Bigirlyi-style (tabular stratiform sandstone-hosted) uranium mineralisation, of which Malawiri is an example, exhibit no significant structural control. Mineralisation is controlled by physical and chemical characteristics of the host rock such as permeability and redox state and is influenced by primary depositional and sedimentological features. In the case of Malawiri a late oxidative overprint has affected the distribution of mineralisation.</p> <p>The deposit occurs in steeply dipping beds and was sampled by mostly sub-vertical drill holes. The downhole gamma probe data was subsequently corrected for mineralised zone boundary effects by deconvolution. There is therefore no bias of sampling related to orientation of the mineralised zones.</p>
Sample security	<p><i>The measures taken to ensure sample security.</i></p>	<p>Historic drill-core was geologically logged and sampled by CPM geologists and field technicians in the period 1979 and 1982. Historical core was archived at the NTGS core storage facility, Alice Springs, before being transported and securely stored at EME's Bigirlyi core storage facility in 2006. EME geologists have verified the completeness of core materials for each hole. EME has ensured that historically sampled intervals match the lithological logs, and that core taken from those intervals, match historical sample tables, dispatches and receipts. Since 2005 EME has securely maintained a complete set of CPM documentation from this period in its archives including original gamma log traces. EME geologists managed the chain of custody of samples using well established internal procedures: sample preparation, dispatch and tracking is managed by the project geologist, the Radiation Safety Officer and database administrator. The secure transport of all samples is documented according to the company's Radiation Management Plan.</p>
Audits or reviews	<p><i>The results of any audits or reviews of sampling techniques and data.</i></p>	<p>A review of gamma-ray logging reprocessing procedure was undertaken by a third party consultant. The aim was to check if there was a difference between modern and reprocessed historical gamma-ray log results using the different processing techniques. The results are in agreement with less than 1% difference in the outcomes providing a high level of confidence in the data.</p>

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- **JORC 2012 Table 1 Section 2 – Key Classification Criteria**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>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.</i></p>	<p>Granted joint venture tenement ELR41 covers the Malawiri deposit which is a joint venture between EME (76.03%) and Northern Territory Uranium Pty Ltd (NTU: 23.97%). EME is the operator of the joint venture. ELR applications 27 to 32 adjoin ELR41 and are owned 100% by NTU; they largely cover the adjacent Minerva prospect, however a small proportion of the Malawiri resource extends on to ELR28 which is located immediately to the south of ELR41. The ELRs are embedded within surrounding EL24451 which is part of EME's 100% owned Ngalia Regional Project.</p> <p>A Native Title Claim covering the Napperby pastoral lease on which the Malawiri deposit is located, was granted by consent on 2-July-2013. The Alherramp llewerr Mamp Arrangkey Tywerl Aboriginal Corporation is the relevant Registered Native Title Body Corporate and holds the native title interests on behalf of the traditional owners.</p> <p>ELR41 is covered by AAPA Authority Certificate C2014/116 issued on 29th August 2014. No significant heritage or sacred site issues were identified on ELR41.</p> <p>ELR41 is located on the northern margin of the Lake Lewis Site of Conservation Significance (SOCS Site No. 54).</p> <p>At the time of reporting there are no known impediments which could affect an application for a licence to operate in the area.</p>
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Most of the exploration data used for resource estimation purposes is the result of drilling programs undertaken by CPM over the period 1979 to 1982. EME acquired CPM's interest in the project in 2005 including all historical data and archived drill core
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	The Malawiri deposit is a Bigrlyi-style, tabular, stratiform, sub vertical, sandstone-hosted uranium deposit of Carboniferous age located within the Ngalia Basin in the Northern Territory. The deposit is unconformably overlain by Cenozoic cover sequences of between 80-100m thickness

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Drillhole Information	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</i></p> <ul style="list-style-type: none"> • <i>Easting and northing of the drillhole collar</i> • <i>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</i> • <i>Dip and azimuth of the hole</i> • <i>Downhole length and interception depth</i> • <i>Hole length.</i> <p><i>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.</i></p>	<p>Refer to Annexure 1. All information relevant to hole MARD004 has previously been reported to the ASX (see announcement of 27-Sept-2016).</p>
Data aggregation methods	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>Exploration results, i.e. mineralised intercepts, are reported as equivalent U₃O₈ values (eU₃O₈) from processed gamma logs. For reporting purposes (see Annexure 2) significant gamma log intersections have been composited from 10 cm deconvolved eU₃O₈ values using the following criteria: a cut-off grade of 100 ppm U₃O₈, a minimum thickness of 0.3 m, a maximum internal dilution of 0.3 m, no external dilution and a grade x thickness value of >100.</p>

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		Measurements of Pb-isotope ratios in mineralised core from MARD004 indicate substantial disturbance of the Pb-U isotopic system likely reflecting mobility and re-distribution of U and Pb on the metre to decimetre scale within the deposit.
Further work	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	Subject to economic conditions, future exploration activities are proposed to test for extensions of mineralisation along strike to the west and within potential stratigraphic repeats associated with adjacent folded units of the Mt Eclipse Sandstone.

• **JORC 2012 Table 1 Section 3 – Key Classification Criteria**

Criteria	JORC Code explanation	Commentary
Database integrity	<p><i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i></p> <p><i>Data validation procedures used.</i></p>	<p>Historical data used in the Mineral Resource estimate was sourced from the original hardcopy. Hardcopy data was converted to digital format and collated, tabulated and verified before being validated upon importation into EME's Geobank database. CSA Global were provided with a validated Micromine database by EME. Relevant tables from the database were exported to Micromine .DAT format for import into Micromine 2013 software prior to use in the Mineral Resource estimation.</p> <p>Validation of all imported data included checks for missing, duplicated and/or incorrectly recorded collar locations, survey data, sample data, gamma log data and lithological log data.</p> <p>Original historical gamma logs were reprocessed to yield eU₃O₈ (ppm) values which correlated well with the historical information stored in EME's archives.</p>
Site visits	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></p> <p><i>If no site visits have been undertaken, indicate why this is the case.</i></p>	<p>No site visits were undertaken by the Competent Person (Mineral Resource Estimation) or CSA Global staff.</p> <p>CSA has relied on EME for all data regarding the deposits, and given the current stage of the project, considers this appropriate.</p>

Criteria	JORC Code explanation	Commentary
Geological interpretation	<p><i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></p> <p><i>Nature of the data used and of any assumptions made.</i></p> <p><i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></p> <p><i>The use of geology in guiding and controlling Mineral Resource estimation.</i></p> <p><i>The factors affecting continuity both of grade and geology.</i></p>	<p>There is a reasonable level of confidence in the geological interpretation of the Malawiri deposit. Although steeply dipping, the host sandstone stratigraphy is traceable and continuity between drill holes and sections can be demonstrated. Geological controls such as the dip of the sedimentary units and the identified conglomerate and siltstone marker beds have been used to constrain the extrapolation of mineralisation within stratigraphic bounds.</p> <p>Geological structure and gamma logging have formed the basis for the geological interpretation. REF corrections have been determined and applied as discussed above.</p> <p>Further work may be required to better define the limits of the mineralisation, particularly along strike, but no significant downside changes to the currently interpreted mineralised volume are anticipated.</p> <p>Mineralisation is mainly hosted in partially oxidised coarse to very coarse (sometimes pebbly) arkose and arkosic sandstone. A common characteristic is that uranium mineralisation is closely associated with a late hematitic (oxidative) overprint. The hematitic mineralised zones are often carbonate rich.</p> <p>Grade continuity is controlled by redox zonation within the partially oxidised sandstones and siltstones.</p> <p>The deposit is hosted along the southern margin of the Ngalia Basin, which is a deformed, elongate intracratonic depression about 300 km long (east-west) and 40 km wide (north- south) on average. This basin is filled with late Proterozoic to Palaeozoic aged sedimentary rocks, predominantly continental-marine arkosic sandstone, and Neoproterozoic glaciogene deposits and quartzite.</p>
Dimensions	<p><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></p>	<p>Mineralisation is present in a series of multiply stacked lenses that are variably distributed along strike and at depth due to probable epigenetic modification. The dimensions of the Malawiri mineralised domain is approximately 400 m along-strike with an average plan width of 10-15 m and maximum modelled plan width of 35 m.. The mineralised interval varies from 0.3 m to 12.6 m, averaging 3.2 m. The model extends from the unconformity surface at approx. 80m depth to 250 m below surface.</p>
Estimation and modelling techniques	<p><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen, include a description of computer software and parameters used</i></p> <p><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></p> <p><i>The assumptions made regarding recovery of by-products.</i></p> <p><i>Estimation of deleterious elements or other non-grade variables of economic</i></p>	<p>Gamma logging has been used for the definition of mineralised intervals and interpretation (wireframing) of mineralisation. The model consists of 36 mineralised domains defined by wireframe models.</p> <p>Grade estimation was carried out using the Multiple Indicator Kriging (MIK) method using Micromine 2013 software. Downhole and directional indicator semivariograms have been used to define the distance of interpolation. No top cut of extreme grade values was undertaken.</p> <p>No previous resource estimation has been undertaken for the Malawiri deposit.</p> <p>No assumptions have been made regarding recovery of by-products.</p> <p>No other elements were estimated.</p> <p>The block model was constructed using a 2 m E by 0.125 m N by 2 m RL parent block size, without sub-celling for domain volume resolution. The parent cell size was chosen on the basis of the morphology of mineralised lenses and in order to avoid the generation of unrealistically large blocks.</p> <p>The search ellipse radii were determined from the ranges of semivariograms: the main direction being along strike of mineralised bodies (range 44 m), the second direction being down dip of mineralised bodies (range 20 m) and the range of the third direction was set at 12 m. Search ellipsoid parameters are in the table</p>

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	<p><i>significance (e.g. sulphur for acid mine drainage characterisation).</i></p> <p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p> <p><i>Any assumptions behind modelling of selective mining units.</i></p> <p><i>Any assumptions about correlation between variables</i></p> <p><i>Description of how the geological interpretation was used to control the resource estimates.</i></p> <p><i>Discussion of basis for using or not using grade cutting or capping.</i></p> <p><i>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</i></p>	<table><tr><th>Runs</th><th>Search radius</th><th>Coefficient to search radius</th><th>Minimum no. of points</th><th>Maximum no. of points</th><th>Minimum no. of drillholes</th></tr><tr><td>1</td><td>5 x 5 x 1</td><td>1</td><td>1</td><td>20</td><td>1</td></tr><tr><td>2</td><td>35 x 35 x 1</td><td>0.667</td><td>3</td><td>20</td><td>2</td></tr><tr><td>3</td><td>70 x 70 x 1</td><td>0.667</td><td>3</td><td>20</td><td>2</td></tr><tr><td>4</td><td>70 x 70 x 1</td><td>1</td><td>3</td><td>20</td><td>2</td></tr><tr><td>5</td><td>140 x 140 x 2</td><td>1</td><td>1</td><td>20</td><td>1</td></tr><tr><td>6</td><td>210 x 210 x 3</td><td>2</td><td>1</td><td>20</td><td>1</td></tr><tr><td>7</td><td>280 x 280 x 4</td><td>3</td><td>1</td><td>20</td><td>1</td></tr><tr><td>8</td><td>350 x 350 x 5</td><td>4</td><td>1</td><td>20</td><td>1</td></tr><tr><td>9</td><td>700 x 700 x 10</td><td>5</td><td>1</td><td>20</td><td>1</td></tr></table> <p>No selective mining units were assumed in this estimate.</p> <p>Geological boundaries were used to guide the interpretation of mineralised lenses. Specifically, mineralisation is hosted by steeply dipping (approx. 80°) Mt Eclipse Sandstone. Grade envelopes at 100 ppm U₃O₈ were defined for interpretative purposes.</p> <p>A 100 ppm U₃O₈ cut-off grade was applied to mineralisation inside envelopes. No top cut has been applied.</p> <p>Validation of the block model consisted of a comparison between the block model volume and the wireframed volumes. Grade estimates were validated by visual comparison with the drill data. Grade estimation was verified by IDW2 without a top cut applied and with a top cut of 10,000 ppm U₃O₈ applied. The block model compared favourably with grade composites for a series of sections in different directions (east).</p> <p>No reconciliation data is available at this early stage of the project.</p>	Runs	Search radius	Coefficient to search radius	Minimum no. of points	Maximum no. of points	Minimum no. of drillholes	1	5 x 5 x 1	1	1	20	1	2	35 x 35 x 1	0.667	3	20	2	3	70 x 70 x 1	0.667	3	20	2	4	70 x 70 x 1	1	3	20	2	5	140 x 140 x 2	1	1	20	1	6	210 x 210 x 3	2	1	20	1	7	280 x 280 x 4	3	1	20	1	8	350 x 350 x 5	4	1	20	1	9	700 x 700 x 10	5	1	20	1
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Moisture	<p><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></p>	<p>The tonnages are estimated on a dry basis.</p>																																																												
Cut-off parameters	<p><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></p>	<p>A cut-off grade of 100 ppm U₃O₈ (116 ppm eU₃O₈) has been used for interpretation and a cut-off grade of 100 ppm U₃O₈ has been used for resource reporting. Based on CSA's experience with this type of deposit, this is considered a reasonable cut-off grade which could result in eventual economic extraction.</p>																																																												
Mining factors or assumptions	<p><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></p>	<p>At this stage of resource development it is assumed that mining would be by underground methods. Future hydrogeological investigations and leaching tests would be useful in determining whether solution mining may be possible.</p>																																																												

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Metallurgical factors or assumptions	<i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i>	Metallurgical and hydrological test work is required to determine if the deposit is amenable to solution mining. There is a requirement for a certain level of natural permeability and for mineralisation to occur below the water table if in-situ recovery is to be considered. Hydrological pumping cluster tests would need to be undertaken if the deposit is found to be amenable to in-situ extraction processes.
Environmental factors or assumptions	<i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered, this should be reported with an explanation of the environmental assumptions made.</i>	No detailed assumptions regarding possible waste and process residue options have been made at this early stage.

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Bulk density	<p><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <p><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</i></p> <p><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></p>	<p>Bulk density testing was carried out on both mineralised and un-mineralised drill core. The dataset comprises 146 in-house bulk density measurements of historical core from 16 holes and 38 bulk density measurements of mineralised core from hole MARD004 undertaken by ALS laboratories, Perth. The main rock types found at Malawiri are pebble conglomerate, arkose, arkosic sandstone and shale, all of which may be mineralised.</p> <p>Density estimates were obtained using the Archimedes method. For the in-house measurements the balance was calibrated using two standard weights. Hairspray was used to seal the exterior to account for natural porosity (voids) when necessary.</p> <p>Average bulk densities are as follows: pebble conglomerate: 2.48 +/- 0.07; arkose: 2.42 +/- 0.06; mineralised arkose: 2.45 +/- 0.06; arkosic sandstone 2.44 +/- 0.06; shale: 2.52 +/- 0.06 (1sd) t/m3</p> <p>The average bulk density of mineralised core is 2.45 t/m3 and this value has been applied to all material in the models.</p>
Classification	<p><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></p> <p><i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></p> <p><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></p>	<p>CSA Global has considered several factors in the classification of the Mineral Resources such as search ellipse dimensions, geological data and exploration drill-hole grids. The Malawiri deposit has been classified as Inferred due to consideration of: exploration grid density; structural disposition of ore bodies relative to host units; variability of mineralised lenses; search ellipse dimensions relative to semi-variogram ranges; and radiochemical disequilibrium.</p> <p>The Inferred classification has taken into account all available geological and sampling information, and the classification level is considered appropriate.</p> <p>The Mineral Resource estimate appropriately reflects the views of the Competent Persons.</p>
Audits or reviews	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	Internal audits were completed by CSA Global which verified the technical inputs, methodology, parameters and results of the estimate. No external audit of the MRE has been undertaken

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Discussion of relative accuracy/ confidence	<p><i>Where appropriate, a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></p> <p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <p><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></p>	<p>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as Inferred as per the guidelines contained in the 2012 JORC Code.</p> <p>The resource statement refers to global estimation of tonnes and grade.</p> <p>No production data is available for comparison.</p>