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ASX ANNOUNCEMENT

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UPGRADED MINERAL RESOURCE ESTIMATE FOR BIGRLYI INCLUDING MEASURED RESOURCE

HIGHLIGHTS

- **Mineral Resource Estimate (MRE) upgraded for the Bigrlyi Uranium and Vanadium Deposit.**
- **The average mineral resource grade has increased by 19% to 1,530ppm U_3O_8, while 18% of the resource now reports to the Measured Category with a further 54% of the mineral resource reporting to the Indicated Category.**
- **The upgraded MRE increases confidence in the resource as Energy Metals undertakes resource extension drilling to grow the deposit.**
- **Through deposit-wide reinterpretation and improved modelling, the contained resource has increased to 9.66kt U_3O_8 (21.3Mlbs).**
- **The MRE is now compliant with JORC (2012) guidelines.**

Australian uranium exploration company **Energy Metals Limited** (**ASX**: **EME; Energy Metals** or **the Company**) is pleased to announce an upgrade to the Mineral Resource Estimate (MRE) for its flagship Bigrlyi Uranium Deposit.

Located in the Ngalia Basin – approximately 350km northwest of Alice Springs, the Project is classified as a sandstone-hosted uranium and vanadium deposit, occurring within the sub-vertical Mt Eclipse sandstone, which contains a sequence of medium-to-coarse grained felspathic sandstones.

The Project is a joint venture (JV) between Energy Metals (72.4%), NT Uranium (20.8%), and Noble Investments (6.8%).

The upgraded MRE – as set out in Table 1 – signifies the first time the Company has updated its resource model since 2011, bringing the MRE into compliance with JORC Code 2012 guidelines. The new MRE includes 130 holes drilled in 2011 which were not included in the previous estimation. This combined with improved geological modelling has seen the average grade increase from 1,283ppm U_3O_8 in 2011 to 1,530ppm U_3O_8 in 2024, while the contained metal rose marginally from 9.57Kt U_3O_8 in 2011 to 9.66Kt U_3O_8 in 2024. The company also carried out a migration and large-scale validation of its geological database in the interim period, with the data now hosted in the Geobank SQL format.

The upgraded MRE and improved geological modelling provided the basis for the Company's ongoing resource extension drilling, which commenced in July 2024 and is expected to conclude in Q4 CY24, as per the ASX announcement dated 15 July 2024.[1] The upgraded MRE was provided by Sydney-based geological consultants H&S Consultants Pty Ltd (HSC), who have been providing MRE consulting services to the Project since 2007. The Project's Mineral Resources were estimated at various cut-off grades using Multiple Indicator Kriging (MIK) to estimate uranium resources, while Ordinary Kriging (OK) was used to estimate vanadium resources.

At a cut-off grade of 500ppm U_3O_8, the Bigrlyi Mineral Resource totals 6.32Mt at an average grade of 1530ppm for 9.66Kt (21.3 Mlbs) contained U_3O_8. With respect to vanadium, the Mineral Resource contains 6.32Mt at an average grade of 960ppm V_2O_5 for 6.0Kt (13.3 Mlbs) contained V_2O_5. In terms of resource categories, 18.2% of the contained uranium metal (or 1,760t U_3O_8) reports to the Measured Resource category, and a further 54.3% (or 5,250t U3O8) is classified as Indicated Resource, with the remainder falling into the Inferred Resource category.

Resource Category	Tonnes (Millions)	U_3O_8 (ppm)	V_2O_5 (ppm)	U_3O_8 (t)	V_2O_5 (t)	U_3O_8 (Mlb)	V_2O_5 (Mlb)
Measured	1.09	1,610	1,040	1,760	1,130	3.9	2.5
Indicated	3.14	1,670	1,140	5,250	3,570	11.6	7.9
Inferred	2.08	1,280	640	2,650	1,340	5.8	2.9
Total	6.32	1,530	960	9,660	6,040	21.3	13.3

Table 1: *Bigrlyi Mineral Resource Estimate at a 500ppm U_3O_8 cut-off grade*

**Tonnes are metric (2204.62 pounds); figures may not total exactly due to rounding.*

[1] [1] **ASX announcement:** *'Bigrlyi Resource Extension Drilling Begins', 15th July 2024*

Improved geological modelling has resulted in a decrease in the overall tonnage and an increase in the U_3O_8 grade. Subsequently, a minor increase has occurred in the contained U_3O_8 resource from 9.57Kt U_3O_8 in 2011 to 9.66Kt U_3O_8 in 2024.

Due to the diffuse halo nature of the vanadium mineralisation, the improved modelling has had the opposite effect on the modelled vanadium content, which has decreased from a total of 8.9Kt in 2011 to 6.0Kt in 2024. Moreover, a significant proportion of the total vanadium content exists outside of the 500ppm U_3O_8 cut-off and is not included in this MRE.

The MRE and supporting resource model, which was reviewed in detail by Energy Metals, has informed the design parameters for the ongoing resource extension drilling at the Project. The Company has identified significant opportunities to grow the resource base, including the incremental growth of known mineralised domains and the testing of newly identified targets.

The Project – as displayed in Figure 1 – is currently undertaking resource extension drilling, with further drilling anticipated in CY2025.

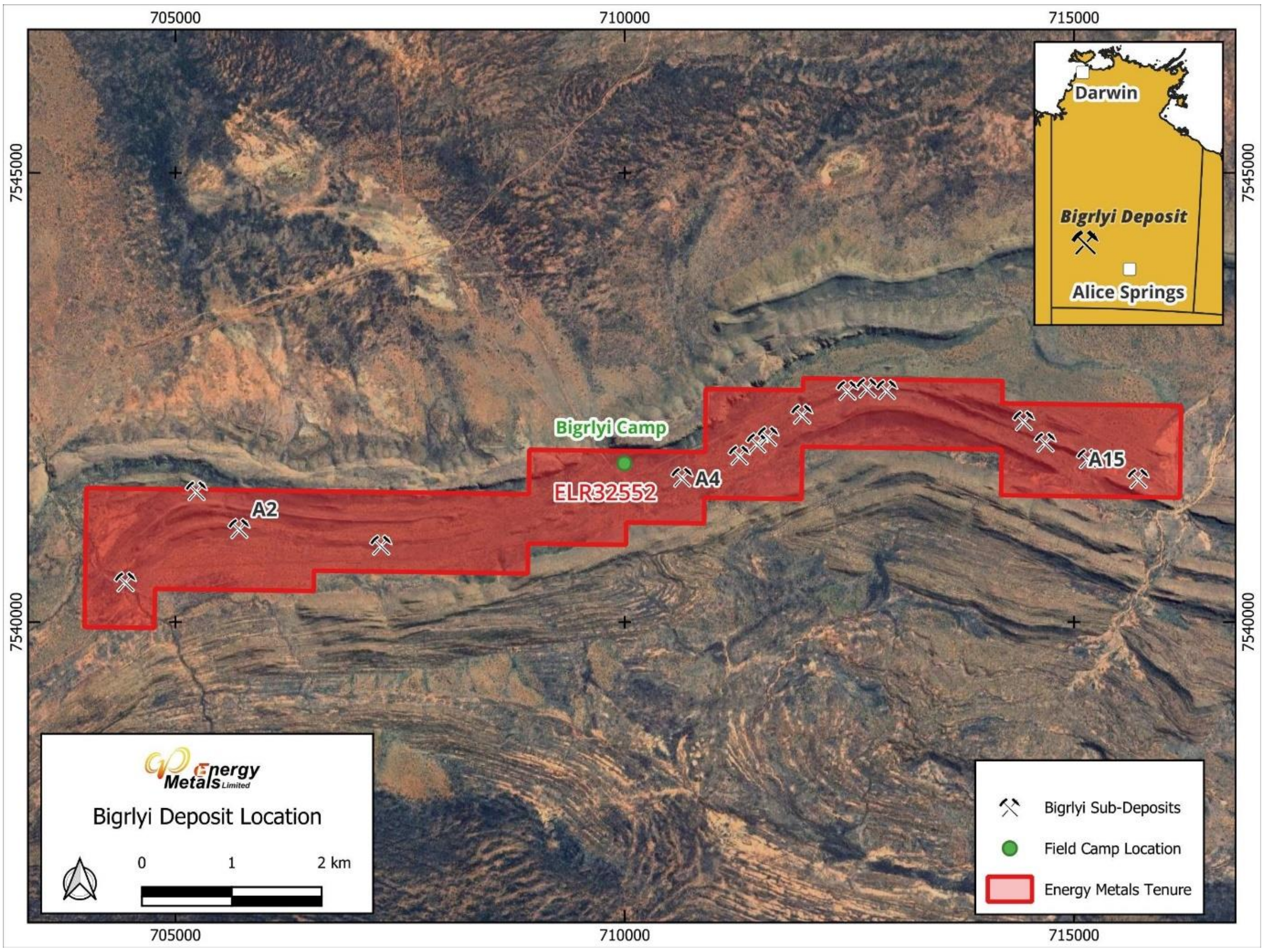

Figure 1: *Deposit Location Map showing sub-deposits A2, A4, and A15 which will be targeted with new drilling*

Mineralisation at the Project occurs over a strike length of approximately 11km within a series of sub-deposits, which are known from west to east as Anomaly-2/3, Anomaly-4, Anomaly-7/9, and Anomaly-15. The uranium is associated with specific redox-controlled horizons within the stratigraphic sequence – particularly at the upper and lower contacts between a reduced, grey sandstone, known as Unit C – and overlying and underlying red-bed sandstones, known as Units B and D.

Vanadium mineralisation is associated with uranium but commonly forms a broader halo around uranium mineralisation. There are additional thin zones of mineralisation within Units B and D. The mineralisation occurs predominantly in the form of uraninite (UO_2), coffinite ($USiO_4.H_2O$), montroseite ((V, Fe) O(OH)) and V-bearing clays when fresh, and as carnotite ($K(UO_2)_2(VO_4)_2.3H_2O$) when oxidised.

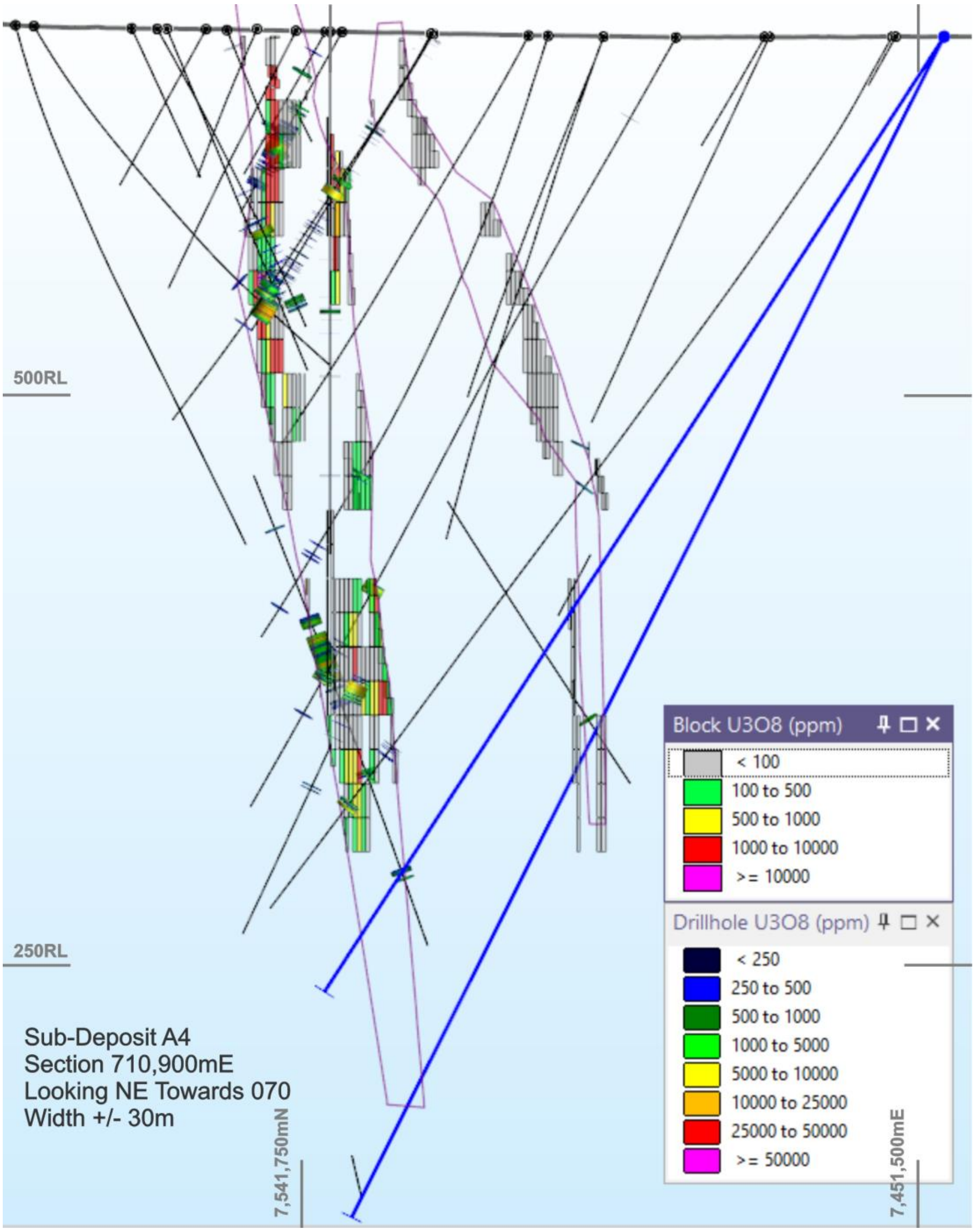

Figure 2: *Typical cross-section through Bigrlyi A4 Sub-Deposit showing existing (black) and planned (blue) drillholes, and the current block model.*

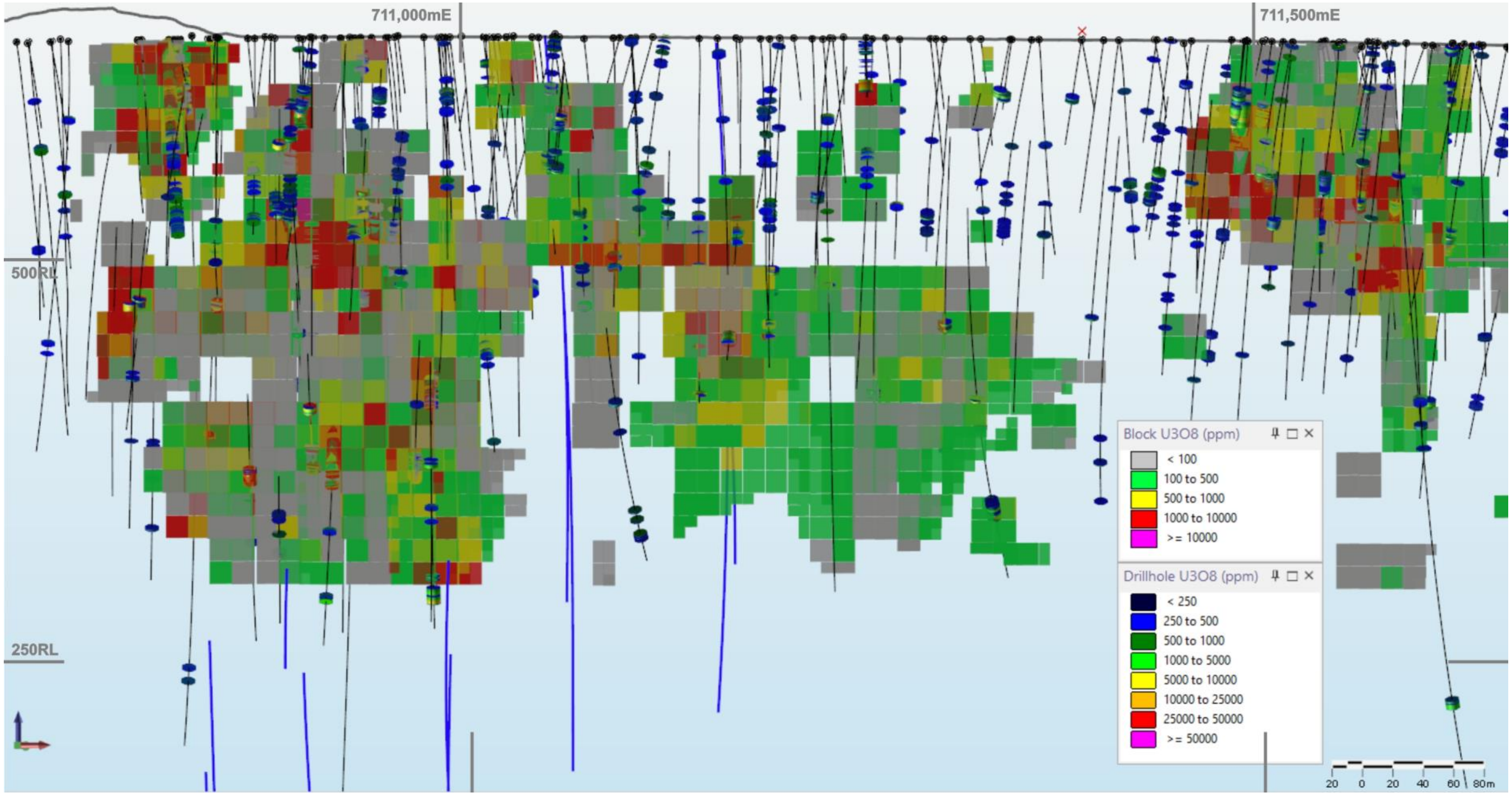

Figure 3: *Typical long section through Bigrlyi A4 Sub-Deposit (CD Contact) showing existing (black) and planned (blue) drillholes, and the current block model.*

Summary of Drill Holes Used and Mineral Resource Estimation Parameters

A summary of holes in the EME database by year and hole prefix is presented in Table 2 below. Some holes have later years than indicated by their prefix because they were later extended. The BAC holes are aircore holes, which were excluded from the MREs due to poor sample quality. The BRC holes were excluded in the past because they had no assay data available but are included now because some assays have been located and validated from original paperwork.

Table 2 – Drill Hole Summary

Prefix	1974	1975	1976	1977	1981	1982	2005	2006	2007	2008	2009	2010	2011	None	Total
BDD	8	18	1										28		**55**
BPD		63	81	34	18	16									**212**
BPH		61	55	76	8	2									**202**
BAC							13								**13**
B06								42	2						**44**
B07									271			6	2		**279**
B08										85		7	1		**93**
B09											76				**76**
B10												33			**33**
BRC								45					73		**118**
BRD													26		**26**
Other														10	**10**
Total	**8**	**142**	**137**	**110**	**26**	**18**	**13**	**87**	**273**	**85**	**76**	**46**	**130**	**10**	**1161**

A breakdown of holes by sub-deposit is presented in Table 3, which shows that around 80% of holes have at least some U_3O_8 assays (U_3O_8 Total) from either chemical or radiometric analysis. (Gamma Logs are detailed down hole geophysical data, while Old Gamma is composite data from old logs.) There are equal numbers of chemical U_3O_8 and V_2O_5 assays. There is geological logging (LITH) for 97% of holes and stratigraphic logging (UNIT) for around 80% of holes. This summary only includes sub-deposits with MREs but may also include a few holes that were subsequently excluded from those estimates for other reasons.

Table 3 – Bigrlyi Resource Database Summary – Holes by Sub-deposit

Sub-deposit	Holes	Metres	Chemical Assays	Gamma Logs	Old Gamma	LITH logged	UNIT logged	U_3O_8 Total
A2	147	14,473	95	60	30	146	84	113
A3	112	10,284	73	33	6	109	97	86
A4	512	80,520	353	307	63	492	458	417
A7	92	15,386	73	55	17	90	73	79
A15	275	36,041	183	90	43	262	172	211
Total	**1,138**	**156,704**	**777**	**545**	**159**	**1,099**	**884**	**906**

Sampling techniques vary by drilling type, with RC drillholes sampled through mineralised zones by taking an approximately 3kg subsample for laboratory analysis per metre. Diamond drillhole mineralised zones have been sampled according to geological boundaries with core cut in half longitudinally and a reference sample retained for future usage. Samples from both drilling types are then sent to a verified independent laboratory for analysis. A range of digests and methods have been used over the lifespan of the project including with the dominant method being pressed powder pellet or acid digest XRF. Downhole gamma logging has also been used to calculate equivalent U_3O_8 (eU_3O_8) and this has been used in the resource estimation although preference is given to laboratory assays where available.

Energy Metals considers the Bigrlyi database to be robust and well-validated and is satisfied that the data quality is suitable for resource estimation.

Classification of mineral resource categories for Bigrlyi is essentially based on the estimation search pass. Pass 1 blocks are generally based on a nominal 30x30m hole spacing or less in the plane of mineralisation.

Pass 2 blocks are nominally drilled at 60x60m hole spacing, while Pass 3 blocks were drilled at a spacing wider than 60x60m in the plane of mineralisation. However, only coherent areas of Pass 1 blocks are classified as Measured Mineral Resource, above 510m elevation at Anomalies 4 and 15, and 550m elevation at Anomaly 2/3. There are no Measured resources for Anomalies 7 and 9. The remaining Pass 1 and 2 material is classified as Indicated, while Pass 3 is Inferred. This scheme is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data. The cut-off grade of 500ppm U_3O_8 is based on comparison with comparable uranium projects and is supported by the previous PFS.

A Pre-Feasibility Study (PFS) completed in mid-2011 confirmed that mining the Anomaly 4, Anomaly 15, and Anomaly 2 deposits using a combination of open pit and underground mining and processing ore through a relatively simple acid leach circuit would produce around 10 Mlb U_3O_8 and positive cash flow of around $120M over a mine life of approximately 8 years. The project economics are based on an assumed average uranium oxide price of $US80/lb and an $US/AUS exchange rate of 0.85. However, one key finding was that a substantial increase in the resource base that underpins the project would have a positive impact on the economics of the project, especially if those resources are amenable to open-pit mining. The economic model has yet to be updated for current economic conditions.

More recent studies have confirmed that a hydrometallurgical process to remove acid-consuming carbonate gangue together with modern ore-sorting technologies to enhance run-of-mine grade has the potential to substantially improve project economics. The recoverable MIK and OK methods implicitly incorporate internal mining dilution at the scale of the assumed SMU. No specific assumptions were made about external mining dilution in the MRE. Detailed metallurgical test work undertaken by EME confirmed that the major uranium bearing minerals are uraninite and coffinite, and the major vanadium bearing minerals are montroseite and vanadian clays. This work has also confirmed the very high acid dissolution characteristics of the Bigrlyi ore with extraction levels of up to 98% uranium and 74% vanadium recorded from optimised acid leach tests. Physical grinding (comminution) testing and ‘front-end’ processing test work has also produced encouraging results.

It is currently assumed that all process residue and waste rock disposal will take place on-site in purpose-built and licensed facilities. All waste rock and process residue disposal will be done in a responsible manner and in accordance with any mining and environmental license conditions.

ENDS

This announcement dated 1st August 2024 has been authorised for release to the ASX by the Board of Energy Metals Limited.

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Competent Persons Statement

The information in this report that relates to Mineral Exploration is based on information compiled by Mr David Nelson, a Competent Person who is a Member of The Australian Institute of Geoscientists ("AIG") (Member #4172). Mr Nelson is a full-time employee of Energy Metals Ltd where he holds the position of Exploration Manager. Mr Nelson has sufficient experience that is relevant to the 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)'. Mr Nelson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Competent Person for the 2024 Bigrlyi Mineral Resource Estimates is Mr Arnold van der Heyden of H&S Consultants Pty Limited. The information in the report to which this statement is attached that relates to the 2024 Mineral Resource Estimate is based on information compiled by Mr van der Heyden, who has sufficient experience that is relevant to the resource estimation to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr van der Heyden is an employee of H&S Consultants Pty Limited, a Sydney based geological consulting firm, and is a Member and Chartered Professional of The Australasian Institute of Mining and Metallurgy ("AusIMM"). Mr van der Heyden consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Disclaimer

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to *obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.*

JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *The 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 representativity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay').* • *In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The Bigrlyi deposit was sampled by reverse circulation (RC) and diamond core drilling methods. Drill holes were angled at a nominal 60 degrees to the north or south to optimally intersect the mineralisation in steeply dipping or sub-vertically oriented beds. • Drill holes were probed by a calibrated Auslog downhole gamma tool to obtain a total gamma count reading and processed to yield equivalent U_3O_8 values (eU_3O_8) with depth at 5 cm intervals. Generally, intervals from 3 m above to 3 m below significant eU_3O_8 intercepts (>100 ppm) were sampled for routine chemical assay. • Routine chemical assays for uranium, vanadium, and calcium were carried out on approx. 3 kg size, metre-sample RC drill spoils split from the cyclone or on half-metre-length, cut half-core from mineralised intervals. • Sampling was undertaken using industry-standard methods and QAQC practices. Chemical assays for uranium and vanadium were obtained by pressed powder pellet XRF or acid-digest/ICP-OES methods (see below for further details).
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other types, whether core is oriented and if so, by what method, etc).*	• Drilling for exploration purposes was typically reverse circulation (RC) drilling to between 100 and 250 m depth or NQ/HQ diamond core (DD) drilling with a 50-100 m RC pre-collar for deeper holes. PQ or HQ DD holes, drilled from the surface, were utilised for metallurgical test-work. • Core was oriented, loaded into trays, marked up, and checked for depth against core blocks; alpha/beta angle measurements on bedding planes and other features were undertaken on selected intervals using a goniometer orientation tool. • Historical drilling in the period 1974-1981 was undertaken by percussion drilling and HQ, NQ & BQ DD methods. Except for

		some metallurgical samples, Energy Metals holds all current and historical core in its core yard archive on-site at Bigrlyi.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Assessment of RC drill spoil or DD core recovery was made either as a visual estimate or from core length measurements and this information was entered into the Energy Metals' database. With the exception of some deeply weathered, water-saturated zones, estimated sample recoveries were high (>90%). Appropriate drilling techniques were used to maximize sample recovery. No relationship has been identified between sample recovery and grade of mineralisation.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• RC and DD holes were geologically logged with information on lithology, colour, grain-size, stratigraphic unit, oxidation state, alteration, cementation, weathering and other features recorded digitally. All coded data was verified according to Energy Metals' standard logging look-up tables. • Chip trays or core trays were archived at the Bigrlyi camp sample storage facility. Core was photographed prior to being archived. Historical paper-based core logs were re-coded and selected cores were re-logged. • In 2010 approx. 60,000 metres of drill chips and drill core from the 2006-2010 programs and from historical holes (1974-1981) were scanned on-site by the Hylog or Hychips method to provide an extensive down-hole spectral mineralogical dataset.

Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn, and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *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.*	• Sawn half-core samples of 0.5m interval drill-cores were submitted for chemical assay. • RC drill spoils were sampled off the cyclone via a cone splitter to yield a 3-5 kg sub-sample and 40kg of bulk material which was collected in a large bag. Predominantly dry material was sampled. The bulk material was sampled by random spearing or by on-site riffle splitting to provide a sample for duplicate assay. • Field QC procedures involved the insertion of a set of QC samples comprising a field standard, a blank, and a duplicate at the approx. frequency of 1 QC set per 25 samples. • Laboratory sample preparation of RC drill spoils involved riffle splitting the sample to a maximum sub-sample size of 3 kg; this was followed by pulverization in a low-Cr steel ring mill so that 85% passed 75 microns grain size. • The unpulverised remainder was bagged and retained. Core samples (ca 2kg size) were jaw crushed to 70% nominal passing - 6mm and then pulverized as for the RC drill spoils. • Sample sizes of 3-5 kg are considered to be appropriate for the style of mineralisation found here (tabular sandstone-hosted uranium) taking into consideration the nature and fine-grained mineralogy of mineralised intersections.
Quality of assay data and laboratory tests	• *The nature, quality, and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Uranium and vanadium were assayed by XRF using the pressed powder pellet (PPP-XRF) method for samples containing <1% U or <0.1% V, respectively. This method gives total uranium, and vanadium content with detection limits of 4 ppm and 10 ppm, respectively. • In addition to normal laboratory QC procedures, two certified reference materials with chemical matrices matching the sandstone-deposit-type were run as laboratory standards at a frequency of approx. 1 standard per 25 samples for PPP-XRF assay work. • At levels equal to or above 0.1% V (i.e. beyond the calibration limit of the PPP-XRF method), vanadium was assayed by a 4-acid digest/ICP-OES method with a 1 ppm V detection limit. Calcium was assayed by the 4-acid digest/ICP-OES method (100 ppm Ca detection limit).

		Assays from historical exploration in the period 1974-1981 were undertaken either by PPP-XRF (20 ppm V detection limit) or by an acid digest/spectro-photometric method (10 ppm V detection limit). Energy Metals holds paper copies of all analytical certificates from historical assay work.
Verification of sampling and assaying	• *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.*	• Significant mineralised intersections were verified on-site during the course of a 60,000 metre Hylog and Hychips scanning campaign as part of the CSIRO JSU Ngalia Basin uranium study (2010-2012). • Several high-grade holes were twinned as part of routine exploration procedures; gamma probe and assay measurements over mineralised intersections yielded comparable results with acceptable agreement achieved between the primary and twinned holes. • Primary data was collected in the field using either paper logs (2006-2010) or a Micromine Field Marshal template operating on a Toughbook computer (post-2010). The information was validated and then dispatched to Perth office for compilation into an SQL database. • In the cases where uranium was reported as U ppm or %, a factor of 1.1792 was applied to convert metal to oxide value (U to U_3O_8). Similarly, where vanadium was reported as V ppm or %, a factor of 1.79 was applied to convert metal to the oxide value (V to V_2O_5).
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Hole collar locations (including historical holes) were surveyed by Brian Blackman Surveys of Alice Springs. Measurements were carried out using RTK DGPS equipment with an accuracy of +/-30 mm for eastings, northings and elevation data. • All measurements are based on existing site control points which were previously occupied by a GPS base station and resolved using the Geoscience Australia GPS processing service AUSPOS. • Elevations are Derived AHD heights computed using the AUSGeoid09. The centre of the drill collar cap was measured for modern holes. For the historical holes, the location of a tagged star picket marker was measured. • Coordinates are located on the MGA94 grid, Zone 52 using the

		GDA94 datum. • Down-hole surveys were primarily undertaken with a single-shot or multi-shot tool (Reflex EZ-Shot or Globaltech) every 30m or 3m, respectively, and at EOH depth. Initial collar orientations were aligned by compass and inclinometer. • For QC purposes a sub-sample of holes were re-surveyed using a gyroscopic tool or a magnetic deviation tool. Historical holes were surveyed by acid-etch or single-shot methods.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The Bigrlyi sub-deposits were drilled on lines with nominal line spacing (Eastings) as follows: A2-3 C-D Contact 25-100m, B-C Contact 100m; A4 C-D & B-C Contacts 25-50m; A7-9 C-D & B-C Contacts 25-50m, A12-15 C-D & B-C Contacts 12-100m. • Energy Metals considers the spacing sufficient to establish continuity of geological units and grade. • The sample data is stored in Energy Metals database on an uncomposited basis.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Several investigations have shown that Bigrlyi style (tabular stratiform sandstone-hosted) uranium-vanadium 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. • Drilling has mostly been conducted perpendicular to bedding planes that host the mineralised zones and no bias of sampling related to orientation of these zones has been identified.
Sample security	• *The measures taken to ensure sample security.*	• The chain of custody of samples including dispatch and tracking is managed by Energy Metals staff. Samples are stored in a fenced yard at site prior to transport to the assay laboratory by Energy Metals personnel or by professional haulage contractors. Sample pulps are returned to site for storage and archive on completion of assay work.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Geochemical sampling procedures were reviewed at various times in the period 2006-2013 with tests conducted to ensure optimal sampling methods were in place.

		• Following an audit and review by external Geobank consultants in 2017, Energy Metals' exploration database was upgraded and re-built in 2018 with re-loaded data subject to strict verification procedures. • Energy Metals considers its current exploration database to be of a quality and standard sufficient to carry out tasks related to resource estimation.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location, and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national parks, and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Bigrlyi deposit is located on an exploration licence with retention status (ELR32552) which is 72.4% owned by Energy Metals under the Bigrlyi Joint Venture (BJV). Energy Metals is the operator of the JV. • The exploration licence is located within the Mt Doreen Perpetual Pastoral Lease Native Title Claim (NTD39/2011) which was determined by consent on 3/7/2013. • The exploration licence is held in good standing with no known impediments.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration work and drilling programs at the Bigrlyi project were conducted by Central Pacific Minerals NL (CPM) in the period 1974 to 1981. Energy Metals retains all CPM's historical exploration information in its data archive and relevant historical data has been verified and incorporated into EME's exploration database.
Geology	• *Deposit type, geological setting, and style of mineralisation.*	• Bigrlyi and associated satellite deposits are tabular, stratiform, sandstone-hosted uranium-vanadium deposits of Carboniferous age located on the northern margin of the Ngalia Basin (NT).
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in 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.*	• Refer to previous ASX announcements by Energy Metals Ltd for tabulations of drill hole information and results (2006-2012). • Statutory exploration technical reports, containing full details of exploration drilling and assay results for the Bigrlyi Joint Venture (ELRs 46-55 and formerly ERLs 46-55) in the period 2006-2012 are now in the public domain and may be downloaded from the Northern Territory Geological Survey (NTGS) GEMIS website. • Historical drill hole and exploration information from the period 1974-1981, when the project was operated by CPM, is publicly available by download of open file reports from the NTGS GEMIS website.
Data	• *In reporting Exploration Results, weighting averaging techniques,*	• Exploration results, i.e. mineralised intercepts, are reported as either

aggregation methods	*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.*	equivalent U_3O_8 values (eU_3O_8) from processed gamma logs or as chemical assay U_3O_8 values in parts per million (ppm) by weight. • Vanadium chemical assays are reported as V_2O_5 values in parts per million (ppm) by weight. Chemical assaying for U_3O_8 and V_2O_5 were undertaken on metre samples of RC drill spoils or 0.5m core samples. • In the period 2006-2012, significant intercepts were reported at a cut-off level of 100ppm U_3O_8 with a minimum thickness of 1m and a maximum internal dilution of 3m and no external dilution.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation concerning 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').*	• Based on geological mapping and structural measurements of drill core, beds have been upturned and are steeply dipping or sub-vertically oriented, typically at 70 to 85 degrees. • Most holes have been drilled at -60 degrees perpendicular to bedding planes and true widths of intersections are estimated to be 75% to 80% of the reported downhole widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Refer to figures in the body of the text.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All significant drilling intercepts have previously been reported to the market by Energy Metals (2006-2012) based on a cut-off value of 100ppm U_3O_8 with a minimum thickness of 1m and a maximum internal dilution of 3m and no external dilution. • Mineral exploration reports (ex Energy Metals 2006-2012) and historical exploration reports (ex CPM), which include compilations of assay and processed gamma log data for drillholes used in this study, are publicly available as open-file company reports and may be downloaded from the NTGS GEMIS website.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Refer to body of the announcement for metallurgical test results regarding the recovery of vanadium. Bulk density measurements on 946 core samples covering a range of host lithologies give an average bulk density of 2.60 t/m^3.
Further	• *The nature and scale of planned further work (eg tests for lateral*	• Resource extension drilling has commenced at four key target areas

work	*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.*	of the deposit. The drilling will comprise at least 10,000m of RC and diamond drilling and aims to grow the uranium resource at Bigrlyi by targeting extensions of known mineralisation in high-grade areas of the deposit. • Should the drilling be successful, it is expected that the MRE will be revised and the Company will consider initiating a mining scoping study. • Relevant diagrams are included in the body of the document.

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
Database integrity	• *Measures were 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.*	• All geological data for Bigrlyi is stored electronically by EME in a Micromine Geobank 2018 SQL database that was completely rebuilt and validated in 2018-2019. This database is administered by the EME Database Manager. • Basic checks were performed by HSC to ensure data consistency, including checks for FROM_TO interval errors, missing or duplicate collar surveys, excessive downhole deviation, and extreme or unusual assay values. • Some issues were identified by HSC, including missing assays and potentially excessive downhole deviation, which EME is investigating.
Site visits	• *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.*	• The Competent Person for the MRE visited the site for three days in 2006 to inspect surface outcrops and core samples. No drilling was in progress at that time.
Geological interpretation	• *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 use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• There is a reasonable degree of confidence in the interpreted stratigraphy of the Mt Eclipse Sandstone, which controls the distribution of uranium and vanadium mineralisation. There is some uncertainty locally due to faulting, which is not always well defined by drilling. • Individual mineralisation lenses were interpreted using nominal grade thresholds of 10ppm U_3O_8 and 100ppm V_2O_5, which are generally coincident. • Surfaces for the base of complete oxidation and the top of fresh rock were interpreted, based on geological logging. Only a small proportion of mineralisation occurs within the relatively thin oxide zone, and there is no obvious evidence of depletion or enrichment of uranium due to oxidation. There is also a thin surficial layer of sand or soil locally, which was also modelled. • The geological logging defines the location of the different stratigraphic units, although this data is missing for some of the holes. This allows a consistent and coherent interpretation to be generated for each deposit. • There is limited scope for alternative interpretations, which are unlikely to have a significant impact on the MRE.

		• Geology is a primary control on the MRE, with mineralisation constrained to specific horizons within the stratigraphic units, primarily the B-C and C-D unit boundaries. • While the continuity of stratigraphy is reasonably well defined by drilling, the uranium mineralisation is less continuous and confined to specific horizons within the stratigraphic units. Faulting can potentially affect the continuity of grade and geology locally.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below the surface to the upper and lower limits of the Mineral Resource.*	• At 500ppm U_3O_8 cut-off grade, the Anomaly 4 MRE consists of lenses of mineralisation with an overall ENE strike length of 2.4km. Mineralisation extends from surface to 360m depth and is up to 40m thick locally. • The Anomaly 15 MRE consists of lenses of mineralisation with an overall ESE strike length of 1.4km at 500ppm U_3O_8 cut-off grade. Mineralisation extends from surface to 380m depth and is up to 20m thick locally. • The Anomaly 2/3 MRE consists of discontinuous lenses of mineralisation with an overall E-W strike length of 3.1km at 500ppm U_3O_8 cut-off grade. Mineralisation extends from surface to 255m depth and is up to 18m thick locally. • The Anomaly 7 MRE consists of lenses of mineralisation with an overall ENE strike length of 0.72km at 500ppm U_3O_8 cut-off grade. Mineralisation extends from surface to 290m depth and is up to 16m thick locally. • The Anomaly 9 MRE consists of discontinuous lenses of mineralisation with an overall ESE strike length of 0.62km at 500ppm U_3O_8 cut-off grade. Mineralisation extends from 40 to 200m below the surface and is up to 11m thick locally.
Estimation and modelling techniques	• *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 appropriate account of such data.*	• Samples were composited to 1.0m intervals for analysis and estimation, with a minimum length of 0.49m. A combination of chemical and radiometric U_3O_8 assays were used for estimation, with chemical assays preferred where available. Intervals with U_3O_8 values but missing V_2O_5 were assigned a V_2O_5 value based on a revised global regression of U_3O_8 versus V_2O_5. • Five separate models were generated with different azimuth rotations to account for the changing orientation of mineralisation at each prospect. • Uranium grades were estimated by recoverable MIK because the grade distributions are moderately skewed (CV ranges from 1.02 to 11.72 depending on subdeposit and mineralised contact). MIK estimates were made into 30x4x30m panels, with an assumed SMU of 5x1x5m and a nominal grade control of spacing 12.5x5.0x2.0m on a staggered pattern. The indirect log-normal method was used for the MIK change of support correction for Anomaly 4, while the other deposits used the direct log-normal method.

	• *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.*	• Vanadium grades were estimated by OK because the grade distributions are less skewed than uranium; 15x2x15m blocks were used. • Limited grade cutting has been applied to the estimates. The OK estimates had sample grades cut to the 99.5th percentile, while MIK estimates used the average of the mean and median values in the top indicator class. • MIK estimates were generated using GS3 software, while OK estimates were produced in Datamine software. • It is assumed that vanadium is a potential by-product to uranium. • There are no known deleterious elements or other non-grade variables of economic significance at this stage of the project. • No assumptions were made regarding the correlation of variables during estimation because each element was estimated independently. Uranium and vanadium do show some correlation in the drill hole samples, and similarity in variogram models effectively guarantees that this correlation will be preserved in the estimates. • A three-pass search strategy was used for the MIK grade estimates: 1) 30x5x30m search, 16-48 samples, a minimum of 4 octants 2) 60x10x60m search, 16-48 samples, a minimum of 4 octants 3) 120x20x120m search, 16-48 samples, minimum of 2 octants The OK estimates used a maximum of 32 samples; search radii and octant constraints were identical to the MIK estimates. • The partial and complete oxide zones were estimated together with the fresh mineralisation. • The maximum extrapolation distance will be close to the maximum search radius of 120m. • The geological interpretation controlled the resource estimates by restricting the mineralisation to specific horizons within the stratigraphic sequence. • The recoverable MIK estimates assume a minimum SMU of 5x1x5m in the change of support correction. The OK estimates have an effective SMU equivalent to the minimum sub-block size, which is 7.5x1.0x7.5m. • All models were validated through visual and statistical comparison of block and drill hole grades, and comparison with previous estimates. No reconciliation data is available as the deposits remain unmined.

		• This MRE takes appropriate account of previous estimates and is broadly comparable to these alternative estimates.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages are estimated on a dry basis, and moisture content has not been determined.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The cut-off grade of 500ppm U_3O_8 is based on comparison with comparable uranium projects.
Mining factors or assumptions	• *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.*	• A Pre-Feasibility Study (PFS) completed in mid-2011 confirmed that mining the Anomaly 4, Anomaly 15, and Anomaly 2 deposits using a combination of open pit and underground mining and processing ore through a relatively simple acid leach circuit would produce around 10 Mlb U_3O_8 and positive cash flow of around $120M over a mine life of approximately 8 years. • The project economics are based on an assumed average uranium oxide price of $US80/lb and an $US/AUS exchange rate of 0.85. However, one key finding was that a substantial increase in the resource base that underpins the project would have a positive impact on the economics of the project, especially if those resources are amenable to open-pit mining. The economic model has yet to be updated for current economic conditions. • More recent studies have confirmed that a hydrometallurgical process to remove acid-consuming carbonate gangue together with modern ore-sorting technologies to enhance run-of-mine grade has the potential to substantially improve project economics. • The recoverable MIK and OK methods implicitly incorporate internal mining dilution at the scale of the assumed SMU. No specific assumptions were made about external mining dilution in the MRE.
Metallurgical factors or assumptions	• *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.*	• Detailed metallurgical test work undertaken by EME confirmed that the major uranium bearing minerals are uraninite and coffinite, and the major vanadium bearing minerals are montroseite and vanadian clays. • This work has also confirmed the very high acid dissolution characteristics of the Bigrlyi ore with extraction levels of up to 98% uranium and 74% vanadium recorded from optimised acid leach tests. Physical grinding (comminution) testing and 'front-end' processing test work has also produced encouraging results.

	• *Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	
Environmental factors or assumptions	• *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.*	• It is currently assumed that all process residue and waste rock disposal will take place on-site in purpose-built and licensed facilities. • All waste rock and process residue disposal will be done in a responsible manner and in accordance with any mining and environmental license conditions.
Bulk density	• *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.*	• The earliest density data for Bigrlyi is referenced in a WH Bryan Mining Geology Research Centre report dated November 1998, which reports average values for oxidised and fresh rock of 2.40 and 2.65 g/cm3 respectively. • These values were "provided by CPM" and "These specific gravity measurements are the average of a small number of selected samples for which pycnometer density determinations were obtained." No further details are provided. The pycnometer method tends to overestimate dry bulk density because it does not account for porosity. • EME has determined the density for 995 fresh core samples from 25 holes; 3 holes were tested in 2006, one in 2012, and 21 in 2013. These were all performed using a water immersion method and a hairspray coating was used for the 2006 and 2012 measurements. • The 2013 measurements were not oven-dried and it is not known if the earlier samples were oven-dried. The average density for the EME-determined samples is 2.60 g/cm3.

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Based on analysis of the available information, HSC adopted the following values to apply the current MRE:
<table>
<tr><th>Material</th><th>Density (t/m³)</th></tr>
<tr><td>Surficial Sands</td><td>2.00</td></tr>
<tr><td>Fully Oxidised Sandstone</td><td>2.40</td></tr>
<tr><td>Partially Oxidised Sandstone</td><td>2.50</td></tr>
<tr><td>Fresh Sandstone</td><td>2.60</td></tr>
</table>
The value for fresh sandstone is based on the EME measurements; fresh rock comprises over 95% of the MRE, so any uncertainty in the density for oxidised sample will have minimal impact on the MRE.
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<tr>
<td>Classification</td>
<td>
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.
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<td>
The resource classification for Bigrlyi is essentially based on the estimation search pass. Pass 1 blocks are generally based on a nominal 30x30m hole spacing or less in the plane of mineralisation. Pass 2 blocks are nominally drilled at 60x60m hole spacing, while Pass 3 blocks were drilled at a spacing wider than 60x60m in the plane of mineralisation.
However, only coherent areas of Pass 1 blocks are classified as Measured Mineral Resource, above 510m elevation at Anomalies 4 and 15, and 550m elevation at Anomaly 2/3. There are no Measured resources for Anomalies 7 and 9. The remaining Pass 1 and 2 material is classified as Indicated, while Pass 3 is Inferred.
This scheme is considered to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data.
The resource classification appropriately reflects the Competent Person’s view of the deposit.
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<tr>
<td>Audits or reviews</td>
<td>The results of any audits or reviews of Mineral Resource estimates.</td>
<td>No formal external audits or reviews have been completed for this MRE, but it has been the subject of internal HSC peer review.</td>
</tr>
<tr>
<td>Discussion of relative accuracy/ confidence</td>
<td>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</td>
<td>
The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of the nominated JORC Mineral Resource categories.
This has been determined on a qualitative, rather than quantitative, basis, and is based on the estimator’s experience with several similar deposits elsewhere. The main factors that affect the relative accuracy and confidence of the Mineral Resource
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	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.*	estimate is the stratigraphic correlation and drill hole spacing. • The estimates are local, in the sense that they are localised to model blocks of a size considered appropriate for local grade estimation. The tonnages relevant to technical and economic analysis are those classified as Measured and Indicated Mineral Resources. • No production data is available as the project remains undeveloped.