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**ASX Announcement**

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**15 February 2022**

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## **KAYELEKERA RESOURCE INCREASES BY 23% TO 46.3Mlbs U<sub>3</sub>O<sub>8</sub>**

**Lotus Resources Limited (ASX: LOT, OTCQB: LTSRF) (Lotus or the Company)** is pleased to announce the Mineral Resource Estimate (**MRE**) for the Kayelekera Uranium mine (**Kayelekera or the Project**) in Malawi has increased to 46.3Mlbs at 500 ppm U<sub>3</sub>O<sub>8</sub>. This is a 23% increase compared to the previous MRE. The updated MRE will form the basis of a revised mine plan to be incorporated in the Definitive Feasibility Study (**DFS**), that remains on track for mid-2022.

### **HIGHLIGHTS**

- **The Mineral Resource Estimate for the Kayelekera Project has increased to 46.3Mlbs at 500 ppm U<sub>3</sub>O<sub>8</sub>, a 23% increase compared to the previous MRE**
- **Measured and Indicated resources now account for 81% of the total MRE (31.8Mt at 530ppm U<sub>3</sub>O<sub>8</sub> for 37.4Mlbs U<sub>3</sub>O<sub>8</sub>)**
- **The increased resource was a result of recent exploration success at the Kayelekera Project (ASX Announcement 27 January 2022) in addition to a reduction in the cut-off grade to 200ppm U<sub>3</sub>O<sub>8</sub> (previously 300ppm), following positive ore sorting test work on lower grade material from the Project as well as strengthening uranium market conditions**
- **The updated MRE will be incorporated in the new mine plan for the Definitive Feasibility Study (DFS) which remains on track for mid-2022**

### **Keith Bowes, Managing Director of Lotus, commented:**

*"This is a meaningful increase with majority of material classified in the Indicated category (~6.2Mlbs U<sub>3</sub>O<sub>8</sub>), which indicates that the LOM (compared to the Re-start Study) could increase by more than two years (name plate production 3Mlb U<sub>3</sub>O<sub>8</sub>) when the new mine plan is completed in the coming months. These drill results have also given us confidence that the Kayelekera mineralised zones can still be expanded and this will be considered in future programs.*

*Whilst a portion of the updated MRE is a result of the recent exploration success at the Kayelekera Project, the majority of material was included due to decreasing the cut-off grade from 300ppm to 200ppm. We are comfortable with this revised cut-off grade given the success to date from our ore sorting test work on material from the Project, as well as the continuing strengthening of fundamentals for the sector, including higher uranium prices.*

*Whilst the majority of management time is now fully focused on the Definitive Feasibility Study, exploration results from the nearby Livingstonia uranium deposit are expected shortly. Assuming success, an inaugural JORC 2012 MRE for Livingstonia will be completed, meaning a further increase in the global MRE is likely."*



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## KAYELEKERA RESOURCE EXPANSION DRILLING

The updated MRE (Table 1, Figures 1 and 2) has been reported in accordance with the JORC Code (2012) and is based upon ongoing technical review undertaken by site geologists since the previous MRE was undertaken and includes results of the recent drilling completed in late 2021. The MRE utilised the same methodology that was undertaken in the previous MRE with modelling of individual arkose units within the deposit (Figures 3 and 5) and also included re-modelled lower arkose unit. The updated MRE also incorporates mining and processing depletion.

The updated MRE represents a 3% increase on the reported global metal content to the previous MRE (see ASX announcement 26 March 2020) when using the previous 300ppm U<sub>3</sub>O<sub>8</sub> reporting cut-off grade and a further 20% increase when using the updated cut-off grade of 200ppm U<sub>3</sub>O<sub>8</sub> and is shown in Table 2 for comparison.

The updated MRE is summarised in Table 1 below with 9% (by metal content) classified as Measured, 72% classified as Indicated and 19% classified as Inferred. The in-situ Mineral Resources have been estimated at a number of cut-off grades using Multiple Indicator Kriging with block support correction (refer Table 3 for in-situ pit resources exclusive of stockpiles). The primary model panel dimensions are 20mE x 20mN x 2mRL. The estimates assume that final grade control sampling at approximately 3.5mE x 3.2mN x 1mRL spacing will be available prior to final mining and a selective mining unit of approximately 3mE x 3mN x 2mRL. Stockpile values have been taken from surveyed stockpiles with average grades based upon grade control tracking.

In all tables where Mineral Resource estimates are detailed, metal content is based on contained metal in the ground and take no account of mining or metallurgical recoveries, mining dilution or other economic parameters.

**Table 1: Kayelekera Updated Mineral Resource – February 2022<sup>1</sup>**  
**Reported above a 200ppm U<sub>3</sub>O<sub>8</sub> lower cut-off for in-situ material and the low-grade stockpiles**

	<b>Mt</b>	<b>Grade (U<sub>3</sub>O<sub>8</sub> ppm)</b>	<b>U<sub>3</sub>O<sub>8</sub> (M kg)</b>	<b>U<sub>3</sub>O<sub>8</sub> (M Lb)</b>
Measured	0.9	830	0.7	1.6
Measured - RoM Stockpile <sup>1</sup>	1.6	760	1.2	2.6
Indicated	29.3	510	15.1	33.2
Inferred	8.3	410	3.4	7.4
<b>Total</b>	<b>40.1</b>	<b>510</b>	<b>20.4</b>	<b>44.8</b>
Inferred - LG Stockpile <sup>2</sup>	2.4	290	0.7	1.5
<b>Total All Material</b>	<b>42.5</b>	<b>500</b>	<b>21.1</b>	<b>46.3</b>

<sup>1</sup> RoM stockpile has been mined and is located near mill facility.

<sup>2</sup> Low Grade stockpiles have been mined and placed on the low-grade stockpile and are considered potentially feasible for blending or beneficiation, with studies planned to further assess this optionality.

Figures have been rounded. Grade has been determined from a combination of XRF and downhole logging derived eU<sub>3</sub>O<sub>8</sub> grades. Insitu Mineral Resources are depleted for mining to 31 December 2013 when mining ceased; Stockpiles have been depleted to the end of processing in June 2014. Metal contents are based on contained metal in the ground and take no account of mining or metallurgical recoveries, mining dilution or other economic parameters.

An insitu bulk density of 2.29g/cm<sup>3</sup> was applied for Arkose material and 2.20g/cm<sup>3</sup> for mudstone material to all blocks within the model



**Table 2: Kayelekera Previous Superseded Mineral Resource (note: JORC 2012)<sup>1</sup>**  
**Reported above a 300ppm U<sub>3</sub>O<sub>8</sub> cut-off (note: figures have been rounded)**

	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	U <sub>3</sub> O <sub>8</sub> (M kg)
Measured	0.7	1,010	0.7
Measured - RoM Stockpile	1.6	760	1.2
Indicated	18.7	660	12.3
Inferred	3.7	590	2.2
<b>Total</b>	<b>24.6</b>	<b>660</b>	<b>16.3</b>
Inferred - LG Stockpile	2.4	290	0.7
<b>Total All Material</b>	<b>27.1</b>	<b>630</b>	<b>17.0</b>

<sup>1</sup> Announced 26 March 2020 by Lotus.

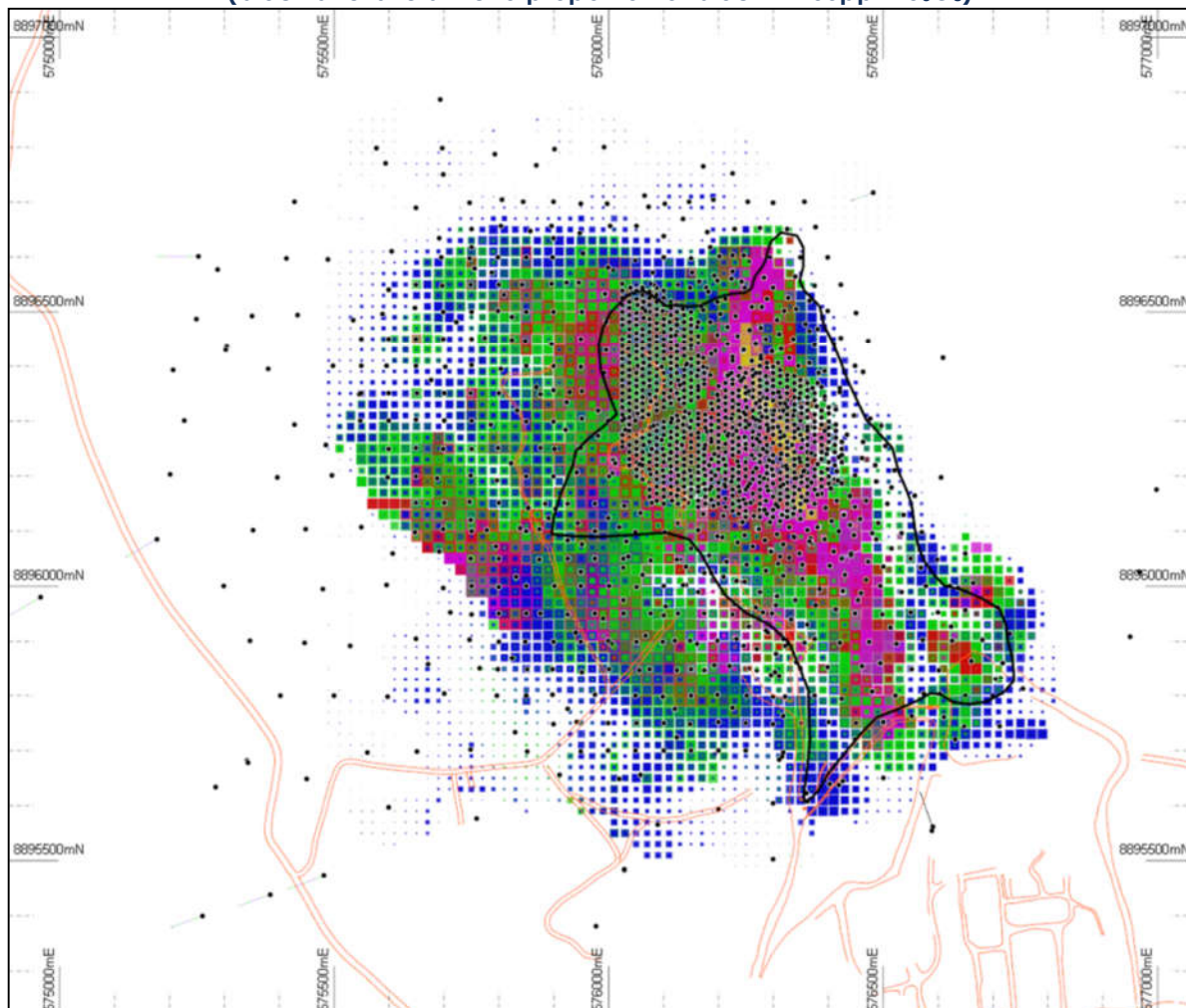
**Table 3: 2022 Kayelekera Mineral Resource In-Situ Resource<sup>1</sup>**  
**Reported above various U<sub>3</sub>O<sub>8</sub> cut-offs (note: figures have been rounded)**

cut-off ppm	Measured Mineral Resource			Indicated Mineral Resource			Inferred Mineral Resource			Total In-Situ Mineral Resource;			
	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	M kg U <sub>3</sub> O <sub>8</sub>	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	M kg U <sub>3</sub> O <sub>8</sub>	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	M kg U <sub>3</sub> O <sub>8</sub>	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	M kg U <sub>3</sub> O <sub>8</sub>	Mlb U <sub>3</sub> O <sub>8</sub>
100	1.2	650	0.8	51.4	350	18.2	24.3	230	5.6	76.9	320	24.6	54.2
200	<b>0.9</b>	<b>830</b>	<b>0.7</b>	<b>29.3</b>	<b>510</b>	<b>15.1</b>	<b>8.3</b>	<b>410</b>	<b>3.4</b>	<b>38.5</b>	<b>500</b>	<b>19.2</b>	<b>42.3</b>
<b>250</b>	0.8	920	0.7	23.5	590	13.8	5.6	490	2.8	29.9	580	17.2	38.0
300	0.7	1,010	0.7	19.2	660	12.6	4.1	570	2.4	24.0	650	15.6	34.5
400	0.6	1,090	0.7	16.0	720	11.6	3.2	640	2.0	19.8	720	14.3	31.4
500	0.5	1,170	0.6	13.5	790	10.6	2.5	720	1.8	16.6	790	13.0	28.8
600	0.5	1,300	0.6	9.9	910	9.0	1.7	840	1.4	12.1	910	11.0	24.3
700	0.4	1,430	0.6	7.5	1,030	7.7	1.2	960	1.2	9.1	1,030	9.4	20.7
800	0.3	1,550	0.5	5.8	1,140	6.6	0.9	1,060	1.0	7.0	1,150	8.0	17.7
1000	0.3	1,660	0.5	4.5	1,250	5.6	0.7	1,170	0.8	5.5	1,260	6.9	15.2
1200	0.2	1,890	0.4	2.8	1,470	4.1	0.4	1,370	0.5	3.4	1,490	5.0	11.1
1500	0.1	2,410	0.3	0.9	2,030	1.8	0.1	1,850	0.2	1.1	2,060	2.3	5.0
2000	0.1	2,820	0.2	0.3	2,600	0.8	0.0	2,350	0.0	0.4	2,630	1.1	2.4

<sup>1</sup> These figures only include in situ pit mineral resources; no existing RoM stockpiles are included. Figures have been rounded. Grade has been determined from a combination of XRF and downhole logging derived eU<sub>3</sub>O<sub>8</sub> grades. In situ Mineral Resources are depleted for mining to 31 December 2013 when mining ceased. Metal contents are based on contained metal in the ground and take no account of mining or metallurgical recoveries, mining dilution or other economic parameters.



**Figure 1: Remaining Mineral Resource showing grade distribution  
(block size is relative to proportion of block > 200ppm U<sub>3</sub>O<sub>8</sub>)**



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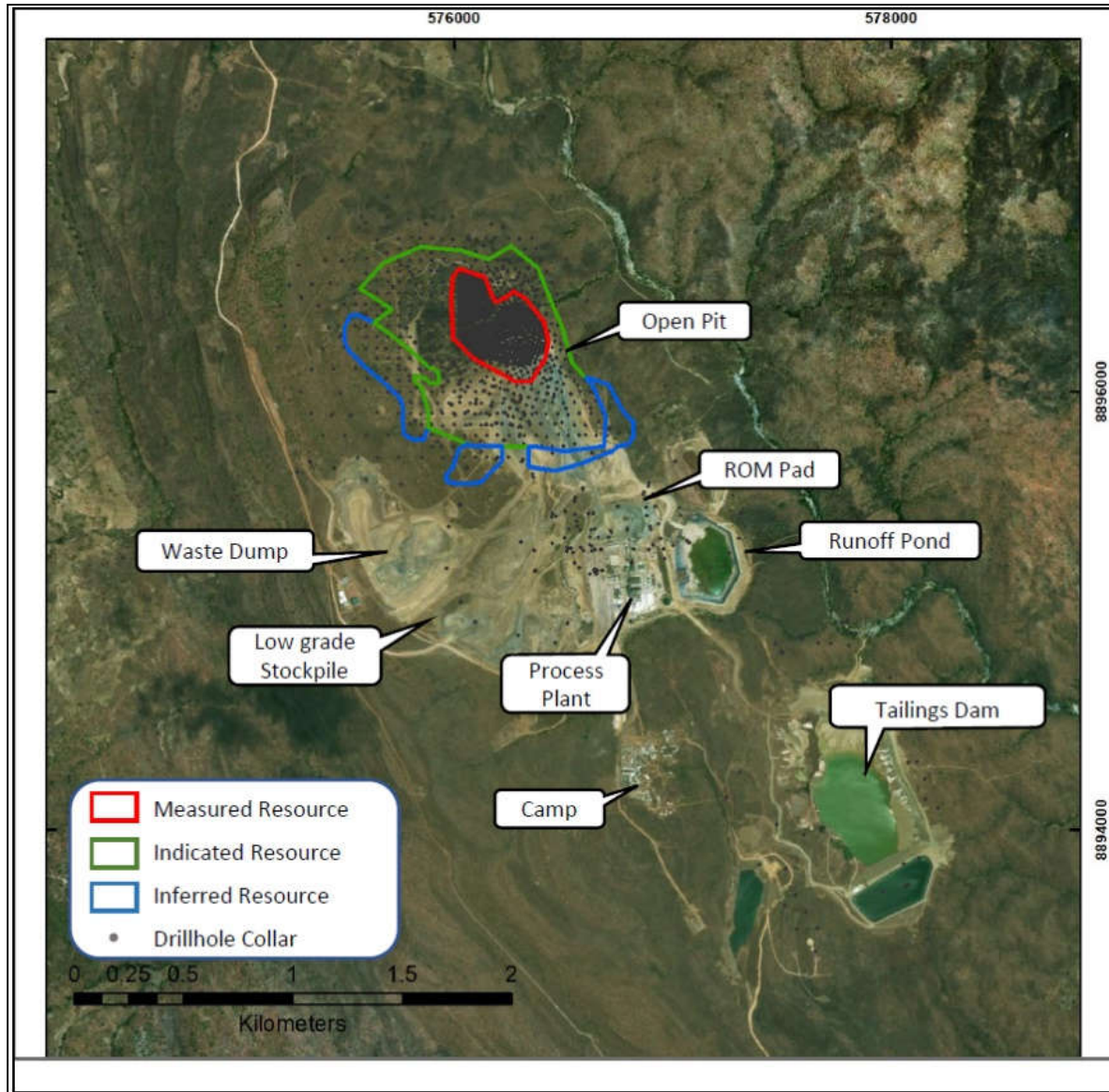
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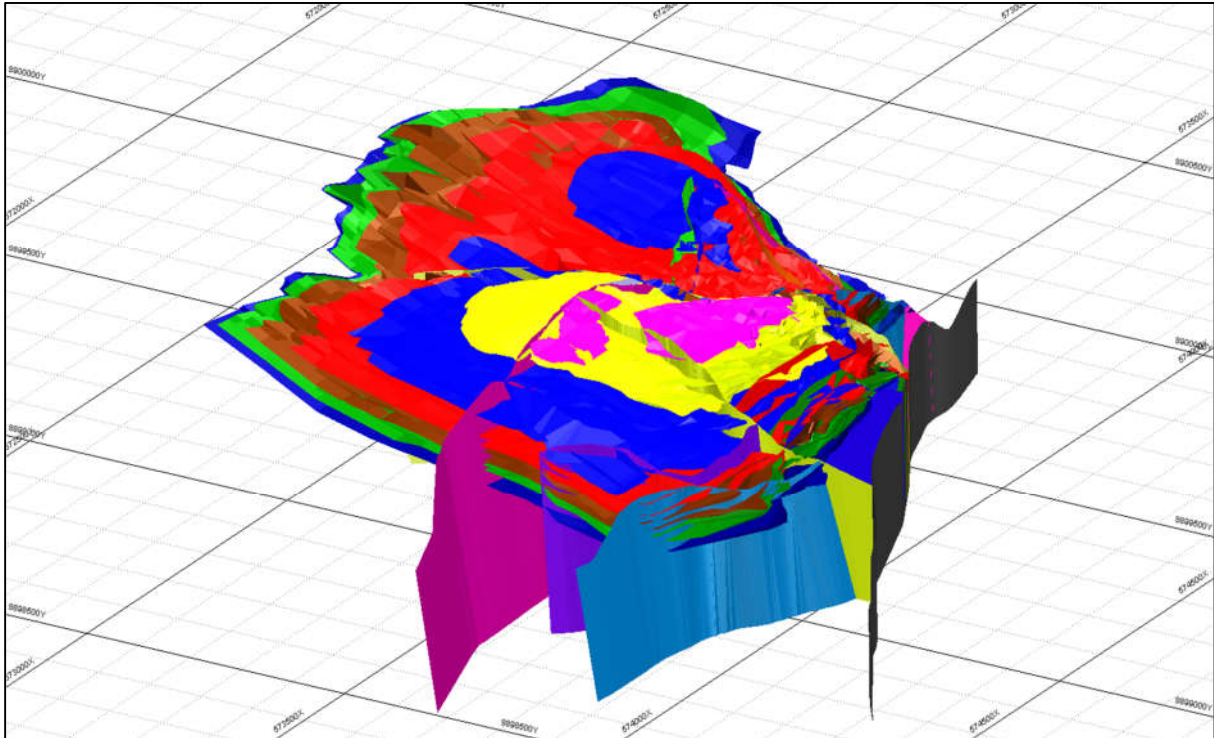
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Figure 2: Mineral Resource showing summary classification



**Figure 3: 3D Model of Arkose Layers and Faults**



### Geology and Mineralisation

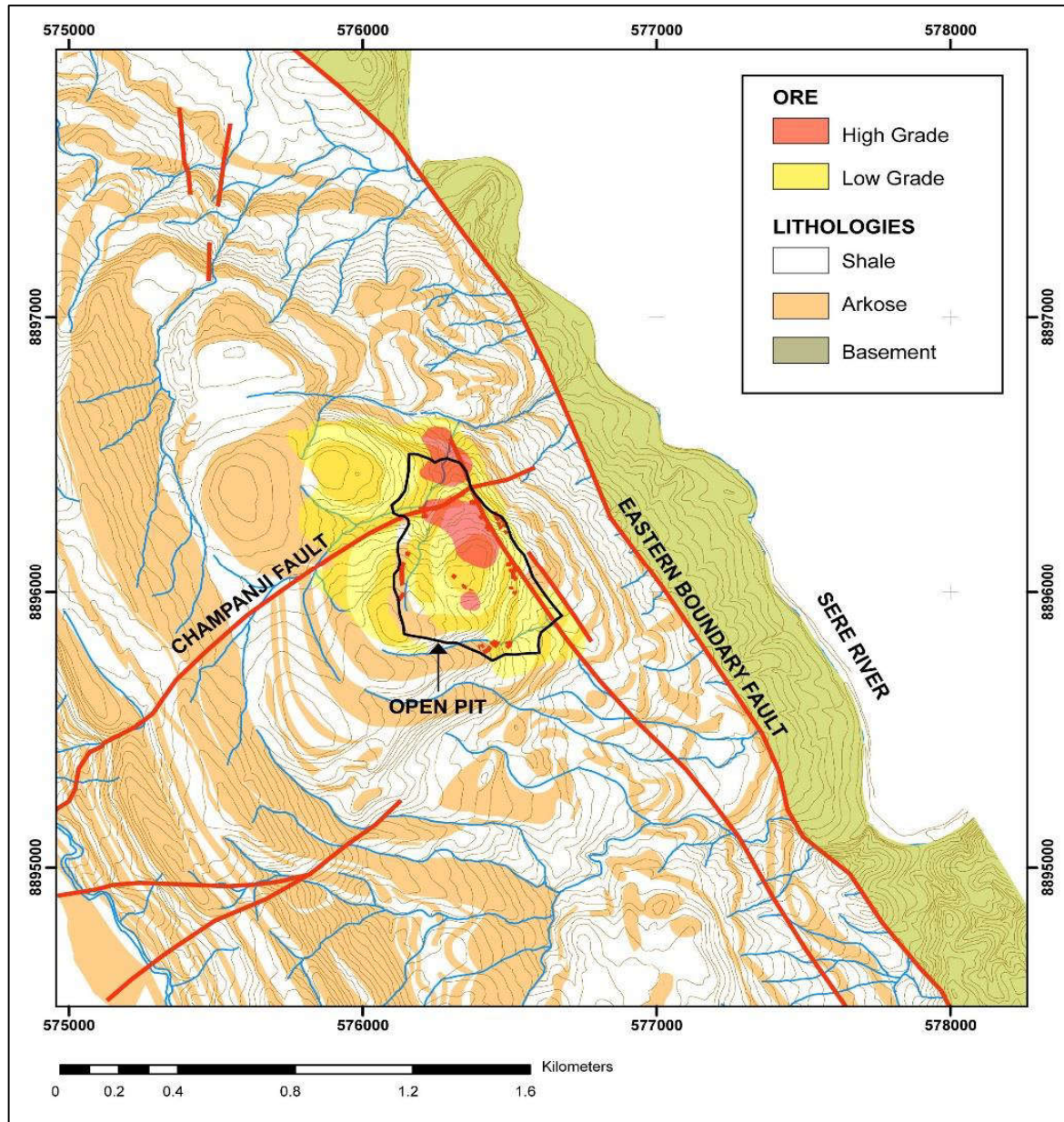
Kayelekera is situated close to a major tectonic boundary between the Ubendian and the Irumide domains. The Ubendian domain consists of medium to high-grade metamorphic rocks and intrusions cut by major NW-SE dextral shear zones and post-tectonic granitoid intrusions dated at 1.86 Ga. These shear zones may well have been reactivated during and after deposition of the Karoo sequence, since many major brittle faults that offset the Karoo-aged rocks have the same orientation.

Uranium mineralisation at Kayelekera is hosted in several arkose units which are adjacent to the Eastern Boundary Fault zone (Figure 4). The mineralisation forms more or less tabular bodies restricted to the arkoses, except where it is adjacent to the NS strand of the Eastern Boundary fault at the eastern extremity of the pit. Here, mineralisation also occurs in mudstones in the immediate vicinity of the fault. It can be seen that the highest grades correspond to the intersection of the eastern and Champanji faults. Mineralisation grade and tonnage declines with lateral distance from these faults.





Figure 4: Kayelekera Local Geology



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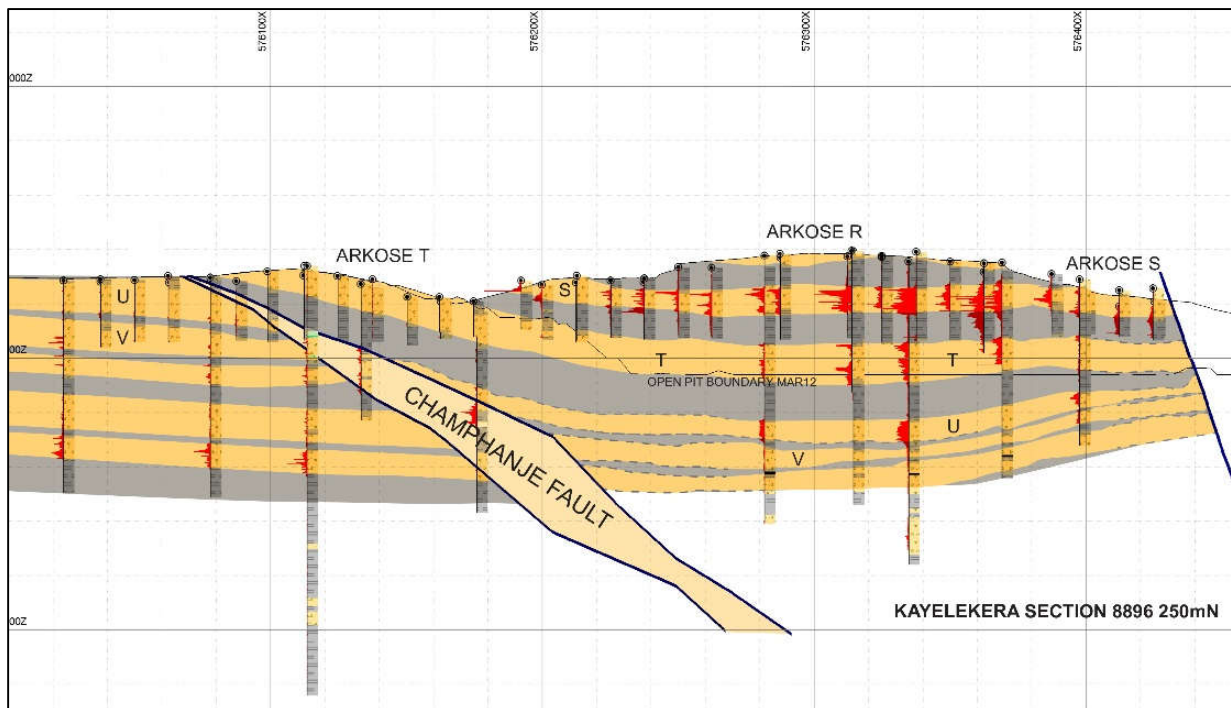
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Primary reduced (i.e. carbon and pyrite-bearing) arkose mineralisation accounts for 40% of the total mineralisation. About 30% of the mineralisation is hosted in secondary oxidised arkose (i.e. lacking carbon and pyrite), 10% of mineralisation is termed "Mixed Arkose" and exhibits characteristics of both primary and secondary arkose mineralisation types. Uranium in primary mineralisation is present as coffinite, minor uraninite and a U-Ti mineral, tentatively referred to as brannerite.

Modes of occurrence include disseminated in matrix clay, included in detrital mica grains and intimately intergrown with carbonaceous matter. Individual grains are extremely fine, typically <10 µm. Coffinite and uraninite also show an association with a TiO<sub>2</sub> phase, possibly rutile after detrital ilmenite. It is possible that uranium deposition was accompanied by leaching of Fe from detrital ilmenite and precipitation of a TiO<sub>2</sub> polymorph.

A further 20% of primary mineralisation is hosted by mudstone and is termed "mudstone mineralisation". Most uranium in mudstone mineralisation is present as coffinite with lesser uraninite in a matrix of clay minerals. Secondary mineralisation tends to be concentrated in vertical fractures and along the contacts between mudstone and arkose and is restricted to the upper parts of the orebody. Figure 5 below presents a representative cross-section of the orebody.

**Figure 5: Typical cross-section of Kayelekera showing tabular nature of mineralisation**





**Information as required under Listing Rules 5.8.1 is shown below (refer to Appendix 1 for additional details)**

#### Geology and Geological Interpretation

The Kayelekera deposit consists of a sequence of alternating arkose units (up to seven in total) and intervening mudstone units. The arkose/mudstone sequence is well defined and appears to be fault bounded on the eastern side, with an east-west trending fault intersecting the sequence within the northern portion of the package. As the mineralisation is flat lying and all drilling included in the resource estimation is vertical the mineralised intercepts can be considered to represent true widths

#### Sampling and Sub-sampling Techniques

All holes were geologically logged and down hole gamma logged. RC samples were collected via a cone splitter at 1m intervals. All samples were collected and contained in poly-weave or plastic bags. All sampling was carried out under Lotus's sampling protocols and QA/QC procedures as per industry best practice. All samples were riffle split into 80/20 proportions. Larger rejects (>20kg) were stored on site if they appeared mineralised or gave a count value of larger than 750cps on the scintillometer

#### Drilling Techniques

The entire drill hole dataset used consisted of 938 diamond, percussion and RC holes for 34,833m. The Historically Kayelekera deposit has been drilled using combination of diamond core ("DD") and percussion ("P") drill holes. Holes were drilled on a nominal 50m x 25m grid spacing for total 213 holes for 18,106m up to the end of 1990. Since then in 2004, 20 holes (2 DD and 18 P); in 2005, 11 twin holes drilled for metallurgical purposes; later in 2005, reverse circulation ("RC") drilling for a total of 120 holes; in 2007, an extensive RC program to convert Inferred Mineral Resource within the pit design for a total of 132 holes. Further grade control drilling of 620 RC holes by 12.5x12.5m pattern was drilled in 2007. In late 2021 an additional 35 RC holes were drilled by Lotus for 4,533m, results from this drilling were announced to the ASX on 27th January 2022 titled 'Drilling expands the mineralised footprint at Kayelekera'.

#### Criteria Used for Classification

The resources were classified as Measured, Indicated and Inferred on the basis of drilling density throughout the deposit as well as the validity of the underlying data. The Competent Person considered all relevant factors when determining the Mineral Resource classification.

#### Sample Analysis Methodology

All samples analysed were done using pressed powder XRF methods by ALS Laboratory in Edenvale, Johannesburg. Certified standards, duplicates and blanks were also inserted in the sample batches.

Deconvolution and disequilibrium factors for the more recent Paladin drilling were determined by Barrett Geophysical from XRF analysis of RC drill samples and radiometric down hole logging undertaken by Paladin. Disequilibrium figures utilised included 1.07 to 1.11 for oxidised arkose (e.g.  $eU_3O_8/1.07$ ); 0.83 for reduced arkose and 0.71 for mudstone (e.g.  $eU_3O_8/0.71$ ). It is the opinion of the Competent Person that these factors were acceptable and able to be applied to the current and historical radiometrically derived  $U_3O_8$  grades to produce a unified dataset with XRF derived



grades. XRF grade data was ranked above  $\text{eU}_3\text{O}_8$  grade data in the resource dataset wherever a complete XRF dataset was available and considered robust

#### Estimation Methodology

The Mineral Resource estimate is based on a combined sample dataset from original historical drilling and drilling conducted by Paladin and Lotus between 2003 and 2021. Except for a limited number of geotechnical and recent Lotus holes all holes were drilled vertical.

Individual arkose units were modelled in three dimensions utilising Micromine software to domain the estimate.

The estimate was undertaken by MIK utilising standard software with a parent cell of 20mE by 20mN and 2mRL and reported at various cut-offs utilising a SMU of 3mE x 3mN x 2mRL utilising a variance adjustment factor and information effect.

Separate variography and MIK estimates were undertaken to each modelled domain utilising 1m grade composites

An insitu bulk density of  $2.29\text{g/cm}^3$  was applied for Arkose material and  $2.20\text{g/cm}^3$  for mudstone material to all blocks within the model

#### Cut-off Grades

The reporting cut-off grade of 200ppm  $\text{U}_3\text{O}_8$  is based on processing scenarios, processing cost, recovery and pricing assumptions provided by Lotus and these are expected to be used in upcoming mining studies.

#### Mining and Metallurgical Method

The mineralisation will be extracted by open pit mining techniques as per previous mining.

The initial FS test work program was conducted by Mintek in Johannesburg under the supervision of GRD Minproc. Subsequent investigations were conducted by the Australian Nuclear Science and Technology Organisation ("ANSTO") in Sydney. Samples for metallurgical test work were sourced from throughout the ore body and separated into Oxidised Arkose, Reduced Arkose and Mudstone. A portion of the work undertaken by Mintek and ANSTO was on composite samples conforming to the expected proportions of individual rock types in the processing stream.

Based on the test work results a treatment plant was constructed comprising a single stage crushing, SAG milling, pre-leach thickening, sulphuric acid leaching, resin in pulp (RIP), resin elution, gypsum precipitation and  $\text{UO}_4$  precipitation. This is followed by washing, liquid solid separation, drying and packaging of the  $\text{UO}_4$  product for export.





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### Competent Persons' Statements

The Mineral Resource estimate for the Kayelekera deposit were prepared by David Princep of Gill Lane Consulting. David Princep has visited the Kayelekera Project on numerous occasions since 2003 with the most recent being in October 2013 just before the Project was placed on care and maintenance. Mr. Princep is a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist. Mr. Princep has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration 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 (JORC 2012). Mr. Princep approves of, and consents to, the inclusion of the information in this announcement in the form and context in which it appears.

This announcement has been authorised for release by the Company's board of directors.

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## ABOUT LOTUS

Lotus Resources Limited (**ASX: LOT, OTCQB: LTSRF**) owns an 85% interest in the Kayelekera Uranium Project in Malawi. The Project hosts a current resource of 46.3Mlbs U<sub>3</sub>O<sub>8</sub> (see table below), and historically produced ~11Mlb of uranium between 2009 and 2014. The Company completed a positive Restart Study<sup>1</sup> which demonstrated that Kayelekera can support a viable long-term operation and has the potential to be one of the first uranium projects to recommence production in the future.

### Kayelekera Mineral Resource Estimate – February 2022<sup>1</sup>

Category	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	U <sub>3</sub> O <sub>8</sub> (M kg)	U <sub>3</sub> O <sub>8</sub> (M lbs)
Measured	0.9	830	0.7	1.6
Measured – RoM Stockpile <sup>2</sup>	1.6	760	1.2	2.6
Indicated	29.3	510	15.1	33.2
Inferred	8.3	410	3.4	7.4
<b>Total</b>	<b>40.1</b>	<b>510</b>	<b>20.4</b>	<b>44.8</b>
Inferred – LG Stockpiles <sup>3</sup>	2.4	290	0.7	1.5
<b>Total All Materials</b>	<b>42.5</b>	<b>500</b>	<b>21.1</b>	<b>46.3</b>

For more information, visit [www.lotusresources.com.au](http://www.lotusresources.com.au)

<sup>1</sup> See ASX announcement dated 15 February 2022. Lotus confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 15 February 2022 and that all material assumptions and technical parameters underpinning the Mineral Resource Estimate in that announcement continue to apply and have not materially changed.

<sup>2</sup> RoM stockpile has been mined and is located near mill facility.

<sup>3</sup> Medium-grade stockpiles have been mined and placed on the medium-grade stockpile and are considered potentially feasible for blending or beneficiation, with studies planned to further assess this optionality.



## Appendix 1: JORC Code, 2012 Edition – Kayelekera Deposit

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><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></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>Drilling described in this announcement comprised wholly reverse circulation “RC” drilling.</li> <li>Holes were drilled on a nominal 50m x 25m grid spacing for total 35 holes for 4,533 m during the last half of 2021.</li> <li>All holes were geologically logged and down hole gamma logged.</li> <li>For intervals of interest, samples were collected over a sample length of 1m, each sample weighing approximately 0.5kg.</li> <li>RC samples were collected via a cone splitter at 1m intervals. All samples were collected and contained in poly-weave or plastic bags.</li> <li>The nominal drill diameter was 5 inches and all drill samples were bagged from the cyclone and weighed to provide some assessment of the average drill sample recoveries.</li> <li>All sampling was carried out under Lotus’s sampling protocols and QA/QC procedures as per industry best practice.</li> <li>All samples were riffle split into 80/20 proportions. Larger rejects (&gt;20kg) were stored on site if they appeared mineralised or gave a count value of larger than 750cps on the scintillometer</li> <li>Certified standards, duplicates and blanks were also inserted in the sample batches.</li> <li>All samples analysed using pressed powder XRF methods by ALS Laboratory in Edenvale, Johannesburg.</li> <li>Samples were driven by Lotus personnel to Lilongwe and air freighted by South African Airways to Johannesburg</li> </ul>



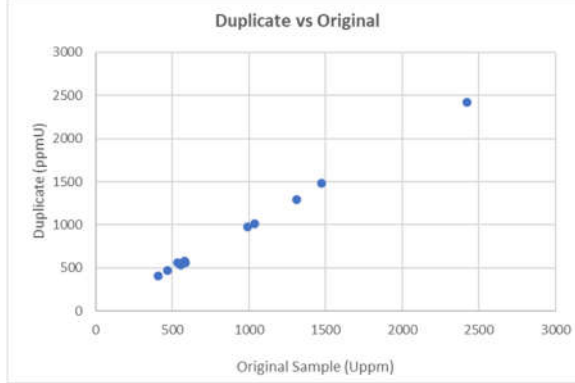
Criteria	JORC Code explanation	Commentary
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>The Kayelekera deposit has been drilled using combination of DD, P (historical) or RC drilling.</li> <li>All RC drilling has utilised a Warman 250 RC rig mounted on a Unimog truck supported by separate truck mounted Atlas Copco 3000 psi compressor to provide additional air capacity and a 9 tonne Mercedes Benz flatbed support truck with drill bit size of 5 inches.</li> <li>Diamond drilling has utilised conventional wireline drill rig with core size of HQ.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No core recovery information was available.</li> <li>For RC drilling, the nominal drill hole size was 5 inches and all drill samples were bagged from the cyclone and weighed to provide some assessment of the average drilling sample recoveries. The average weight of the 1,978 metres checked was 25.04kg per sample against an expected 29kg for 100% recovery. The majority of poor recovery samples were within the first metre of the drill hole, with these removed, the average weight was 25.25kg for an average recovery of 87%. The vast majority of drill intervals weighed achieved a better than 80% recovery and this is considered to be a very good result.</li> <li>All RC drilling is conducted to industry best practice and Lotus QA/QC protocols whereby the hole is cleaned at the end of every metre interval by raising the bit slightly and blowing out the hole before drilling the next metre and ensuring water ingress into the hole whilst drilling is minimised.</li> <li>No relationship between sample recovery and grade has been observed; studies to date show no correlation exists.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All holes have been geologically logged (RC on 1m intervals, and DD on 1m intervals or to geological contacts) with recording of lithology, grain size and distribution, sorting, roundness, alteration, oxidation state, and colour, and stored in the database. All holes were logged to a level of detail sufficient to support Mineral Resource estimation, and metallurgical investigations.</li> <li>No routine geotechnical or structural data has been logged or recorded.</li> <li>Oxidation, colour, alteration, roundness, sorting, sphericity, alteration and mineralisation are logged qualitatively. All other values are logged quantitatively.</li> <li>All holes (core and chips) have been photographed and stored in a database. All photographs are of wet samples only.</li> <li>All holes have been logged over their entire length (100%) including any mineralised intersections.</li> </ul>





Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><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></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>All sampling was carried out using Lotus sampling protocols and QA/QC procedures as per industry best practice.</li> <li>All RC samples were riffle split into 80/20 proportions. Larger rejects (&gt;20kg) samples were stored on site if they appeared mineralised or gave a count value of larger than 750cps on the scintillometer</li> <li>Certified standards, duplicates and blanks were also inserted in the sample batches.</li> <li>All samples analysed using pressed powder XRF methods by ALS Laboratory in Edenvale, Johannesburg.</li> <li>Samples were driven by Lotus personnel to Lilongwe and air freighted by South African Airways to Johannesburg.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><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></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>Laboratory assays were carried out by ALS Laboratory Edenvale, Johannesburg on selected mineralised intervals that were defined by downhole radiometric logging.</li> <li>Each sample weighed approximately 0.5kg</li> <li>Sample preparation comprised the followed procedures: <ul style="list-style-type: none"> <li>WEI-21 sample weighing</li> <li>LOG-22 barcode sample login</li> <li>SCR-41 sample screened to -180 micron</li> </ul> </li> <li>Analytical Procedures comprised: <ul style="list-style-type: none"> <li>ME-XRF05 trace level XRF analysis</li> </ul> </li> <li>Every 10<sup>th</sup> sample comprised a field duplicate</li> <li>Blank samples were inserted at frequency of 1 in 10.</li> <li>Duplicate versus original assay results are graphed below</li> </ul>



Criteria	JORC Code explanation	Commentary
		 <ul style="list-style-type: none"> <li>The CP considers the analytical data to be of a high standard with high levels of accuracy and does not exhibit any tendency for bias</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Significant intersections identified by radiometric logging (&gt;1m and &gt;200ppm U<sub>3</sub>O<sub>8</sub>) were physically sampled with laboratory analytical techniques used to verify the interval.</li> <li>Only the analytical results are quoted in this announcement</li> <li>No holes were twinned in the program</li> <li>Data verification was undertaken using specialist mining software</li> <li>No adjustments to the data were necessary</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>All drill hole collars were surveyed with DGPS equipment in the MMG Zone 36 South grid. Historical collars were also surveyed where collar identity is recognisable. All holes were drilled vertical. Down-hole probe surveys have been undertaken on most of the holes to validate the down-hole measurements.</li> <li>Topographic surveys have been carried out several times and the latest pit survey was conducted in early 2015.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral</li> </ul>	<ul style="list-style-type: none"> <li>Drill spacing within the deposit is generally 25m x 25m with an area representing the initial 12 months of mining drilled to 12.5m x 12.5m.</li> <li>The drill spacing expands to 50m x 50m and 100m x 100m on the western periphery of the mineralisation.</li> <li>The most recent drilling was completed on the eastern, southern, and western sides of the main mineralisation.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>The drill spacings completed to date support the current classifications applied to the Mineral Resource estimate.</li> <li>No compositing has been applied to assayed intervals, downhole gamma logging intervals were composited to 1m – the assay sampling interval.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling sections are orientated perpendicular to the strike of the mineralised host rocks at Kayelekera.</li> <li>All holes are drilled vertical, which is approximately perpendicular to the flat dip of the stratigraphy.</li> <li>No orientation-based sampling bias has been identified in the data.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Chain of custody was managed by Lotus.</li> <li>Samples were driven by Lotus personnel to Lilongwe and air freighted by South African Airways to Johannesburg and samples analysed at ALS Laboratory Edenvale, Johannesburg.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Data was validated by Lotus whilst loading into database. Any errors within the data are returned to site geologist for validation.</li> </ul>





## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The Kayelekera Uranium Project is located in Malawi, in East Africa. The project site is located within the Kyungu Chieftainship, in the Karonga District of Northern Malawi about 35km from the local centre of Karonga and 650km north of the national capital of Lilongwe.</li> <li>A formal and detailed Development Agreement for the Kayelekera Uranium Project was approved by the Government of Malawi and executed on 22nd February 2007. The Development Agreement provides a stable fiscal regime for at least 10 years from the commencement of production. Negotiations for the renewal of the Development Agreement are currently ongoing with the Malawian Government</li> <li>The Kayelekera deposit is covered by a single licence, Mining Licence (ML)0152, of 55.5 square kilometres which was renewed on the 1<sup>st</sup> September 2021 and valid for a further 15 years</li> <li>The tenement is in good standing and no known impediments exist.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The tenement area has been previously explored by numerous companies.</li> <li>In 1983 The Central Electricity Generating Board ("CEGB") were granted two Reconnaissance Licences, RL004 and RL005. In April 1984 RL004 was converted to an Exclusive Prospecting Licence, EPL002, which was renewed in April 1987 as EPL 002 R1, and again in 1990 for two years as EPL 002/90 R2, covering a reduced area. RL 005 was renewed in both 1984 and 1985 before being dropped due to poor results.</li> <li>In 1983 regional gamma-ray spectrometry was carried out which identified 12 anomalies for ground follow-up. Surface investigations, including geological mapping and scintillometer surveys, of the known mineralisation at Kayelekera were carried out.</li> <li>In 1984 further ground surveys were completed delineating targets for more detailed investigation. A limited drill program (510m) was undertaken at Kayelekera to investigate mineralisation at depth, whilst trenches were dug to study near surface occurrences.</li> <li>In 1985 a total of 3,994m of drilling was completed outlining a deposit containing 7,500t of U<sub>3</sub>O<sub>8</sub>. Heliborne surveys (magnetics, gamma-ray spectrometry) for U, Th and K were completed and identified some new targets and a better-defined</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>existing target areas for ground follow-up and drilling in 1986.</p> <ul style="list-style-type: none"> <li>During 1986, a further 3,821m of drilling was completed on Kayelekera, increasing the resource to 9,300t of <math>U_3O_8</math>. Seven other targets were drilled (2,503m) although no significant mineralisation was discovered.</li> <li>In 1987, 7,665m of drilling was carried out to infill the existing drilling to 50m by 50m. A number of pits were dug and some preliminary geotechnical holes drilled. Scout drilling on other targets failed to intersect any radiometrically anomalous strata but a two-metre thick coal seam was intersected 1km north of the Kayelekera village at Nhkachira.</li> <li>In 1988 no drilling was completed on the uranium deposit at Kayelekera but a total of 1,180m were drilled on various scout targets. One hundred and seventeen metres were drilled to evaluate limestone deposits in the Mwesia basin (lime is needed in the uranium extraction process). In addition, 289m were drilled to test the coal seams previously identified. During the latter part of 1988, the British Civil Uranium Procurement Organisation ("BCUPO") received competitive tenders for the execution of a detailed feasibility study for the Kayelekera project. Wright Engineers Limited ("Wright") of Vancouver, Canada was selected to produce the feasibility study which commenced in March 1989 and was completed by June 1990.</li> <li>In 1989, a further 2,017m of drilling was drilled into the deposit and its margins for structural, hydrogeological, geotechnical and metallurgical purposes. An independent evaluation confirmed an in-situ resource of &gt;9,000t of contained <math>U_3O_8</math>. A further 1,805m of drilling was completed to evaluate the Nhkachira coal deposit, which was shown to comprise several thousand tonnes of coal in a single 2m thick seam.</li> <li>Since 2002, Paladin conducted extensive drilling programs in 2004, 2005, 2008-2011. Mining at the project was commenced in 2008.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>Kayelekera is situated close to a major tectonic boundary between the Ubendian and the Irumide domains. The Ubendian domain consists of medium to high-grade metamorphic rocks and intrusions cut by major NW-SE dextral shear zones and post-tectonic granitoid intrusions dated at 1.86Ga (Lenoir et al., 1995). These shear zones may well have been reactivated during and after deposition of the Karoo sequence, since many major brittle faults that offset the Karoo-aged rocks have the same orientation.</li> <li>Mineralisation at Kayelekera is hosted in several arkose units where they are adjacent to the Eastern</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>Boundary Fault zone. The mineralisation forms more or less tabular bodies restricted to the arkoses, except adjacent to the NS strand of the Eastern Boundary fault at the eastern extremity of the pit. Here, mineralisation also occurs in mudstones in the immediate vicinity of the fault. It can be seen that the highest grades correspond to the intersection of the eastern and Champanji faults. Mineralisation grade and tonnage declines with lateral distance from these faults.</p> <ul style="list-style-type: none"> <li>Secondary mineralisation tends to be concentrated in vertical fractures and along the contacts between mudstone and arkose and is restricted to the upper parts of the orebody Primary reduced (i.e. carbon and pyrite-bearing) arkose ore accounts for 40% of the total ore. About 30% of the mineralisation is hosted in oxidised arkose (i.e. lacking carbon and pyrite) and is called oxidised ore. 10% of mineralisation is termed "Mixed Arkose" and exhibits characteristics of both primary and secondary arkose mineralisation types.</li> <li>Uranium in primary ore is present as coffinite, minor uraninite and a U-Ti mineral, tentatively referred to as brannerite. Modes of occurrence include: disseminated in matrix clay, included in detrital mica grains and intimately intergrown with carbonaceous matter. Individual grains are extremely fine, typically &lt;10µm. Coffinite and uraninite also show an association with a TiO<sub>2</sub> phase, possibly rutile after detrital ilmenite. It is possible that uranium deposition was accompanied by leaching of Fe from detrital ilmenite and precipitation of a TiO<sub>2</sub> polymorph.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>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"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and</li> </ul>	<ul style="list-style-type: none"> <li>Refer to previous announcement to the ASX on 27<sup>th</sup> January 2022 titled 'Drilling expands the mineralised footprint at Kayelekera' for complete drillhole information</li> </ul>





Criteria	JORC Code explanation	Commentary
	<i>this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><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></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>Metal equivalent values have not been used.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>Due to the use of vertical drilling and the horizontal, layered nature of the deposit all drill intercepts can be considered to represent the true width of the mineralisation.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>See diagrams in body of announcement.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to previous announcement to the ASX on 27<sup>th</sup> January 2022 titled 'Drilling expands the mineralised footprint at Kayelekera' for complete drillhole information.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The deposit has previously been the subject of extensive drilling, metallurgical, hydrogeological, pre-feasibility and definitive feasibility studies.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Additional exploration work is being planned and will be announced when appropriate.</li> </ul>



### Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The data used in this estimate is based on a combined sample dataset from the original CEEB drilling and that conducted by PDN and LOT between 2005 and 2021. This data has been validated as much as possible by reference to original CEEB graphical drill logs, sample submission sheets and analytical reports. The original CEEB drill holes have been re-surveyed where possible and those positions incorporated into the sample dataset.</li> <li>For historical, PDN and LOT drilling, geological and field data is collected using Field Marshall software on tablet computers. Historical drilling data has been captured from historical drill logs.</li> <li>The data is verified by company geologists before the data is sent for further validation and compilation into an Access database. Historic data has been verified by checking historical reports on the project.</li> <li>The drilling data was received in the form of a number of Micromine data files which were compiled into an Access database. This database was then used for data validation, checking for sample overlaps, lithological consistency etc. Due to uncertainty about the previous history of the data files and what calibrations had been applied to the data the drill holes were compared visually against the data displayed in the CEEB Ore Reserve Assessment report.</li> <li>Previous drill and sampling logs were also examined to provide a direct check on the consistency and veracity of the dataset available.</li> <li>Disequilibrium calibrations were developed using factors supplied by Barrett Geophysical and comparison to those used in the previous resource estimation</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Numerous site visits by the Competent Person from PDN have occurred during exploration and mining activities.</li> <li>The most recent site visit was in late 2013 coinciding with the site being placed on care and maintenance due to persistent low uranium prices.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> </ul>	<ul style="list-style-type: none"> <li>The confidence in the geological interpretation is considered to be good and is based on previous mining history and visual confirmation in outcrop and within the Kayelekera open pit.</li> <li>Geochemistry and geological logging has been used to assist identification of lithology and mineralisation.</li> <li>The Kayelekera deposit consists of a sequence of alternating arkose units (more than seven in total) and intervening mudstone units. The arkose/mudstone sequence is well defined and appears to be fault bounded on the eastern side, with an east-west trending fault intersecting the sequence within the northern portion of the package. As the mineralisation is relatively flat lying and the vast majority of drilling included in the resource estimation is vertical the mineralised intercepts can be considered to represent true widths.</li> <li>Infill drilling has confirmed geological and grade continuity.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The factors affecting continuity both of grade and geology.</li> </ul>	
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The Kayelekera Mineral Resource area extends over a strike length of 1,600m (from 8,895,300mN – 8,896,900mN) and includes the 300m vertical interval from 1,000mRL to 700mRL.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size</li> </ul>	<ul style="list-style-type: none"> <li>Using parameters derived from modelled variograms, Multiple Indicator Kriging ("MIK") was used to estimate average block grades using industry standard software.</li> <li>The basic unit of an Indicator Kriging block model is a large block (normally referred to as a panel) that has the dimensions of the average drill hole spacing in the horizontal plane. The panel should be large enough to contain a reasonable number of blocks, or Selective Mining Units ("SMU's"). The SMU is the smallest volume of rock that can be mined separately as ore or waste and is usually defined by a minimum mining width. At Kayelekera the dimensions of this volume have been set at 3mE x 3mN x 2mRL.</li> <li>The goal of Indicator Kriging is to estimate the tonnage and grade of mineralisation that would be recovered from each panel if the panel were mined using the block as the minimum selection criteria to distinguish between ore and waste. To achieve this goal, the following steps are performed;</li> <li>Estimate the proportion of each geological domain within each panel. This can be achieved by Kriging of indicators of domain classifications of sample data points or by passing a template model through wireframes and calculating proportions of panels inside and outside of each wireframe. A combined kriging approach was used for Kayelekera, each panel being assigned a proportion of one, or a combination, of domains. Whilst this step was completed an explicit geological model developed in Micromine was applied to the Mineral Resource estimate.</li> <li>Estimate the histogram of grades of sample-sized units within each domain within each panel using MIK. MIK actually estimates the probability of the grade within each panel being less than a series of indicator threshold grades. These probabilities are interpreted as panel proportions.</li> <li>For each domain, and for each panel that receives an estimated proportion greater than 0ppm U<sub>3</sub>O<sub>8</sub>, implement a block support correction (variance adjustment) on the estimated histogram of sample grades in order to achieve a histogram of grades for SMU-sized blocks. This step incorporates an explicit adjustment for the Information Effect. At Kayelekera the total block support correction was set at between 0.07 and 0.24 for individual domains. This is a moderate correction factor, however in the experience of the competent person these orders of adjustments are commonly seen in deposits with mineralisation styles similar to that present at Kayelekera.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>in relation to the average sample spacing and the search employed.</i></p> <ul style="list-style-type: none"> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Calculate the proportion of each panel estimated to exceed a set of selected cut-off grades, and the grades of those proportions.</li> <li>Apply to each panel, or portion of a panel below surface, an in-situ bulk density (ISBD) to achieve estimates of recoverable tonnages and grades for each panel. Apart from the consideration of adjusting Mineral Resource classification according to block proportions, completes construction of the resource model. The estimates of block support corrected resources for each panel may be combined to provide an estimate of global recoverable resources for the deposit.</li> <li>The parent block dimensions used were 20m NS by 20m EW by 2m vertical and no sub-cells were used.</li> <li>A bulk density of 2.29t/m<sup>3</sup> for Arkose and 2.20t/m<sup>3</sup> for mudstone was applied to all blocks within the model which was subsequently trimmed to a topography derived from a combination of airborne survey and mine surveyor pickup.</li> <li>A domain geometry model was constructed in Micromine using the previously created arkose unit wireframes. Panel proportions for each arkose unit were then exported and used to produce a third party geological domain model for use in estimation software as this was believed to produce a more representative geological model.</li> <li>The size of the variance adjustment needed to obtain the variance of the block grade distribution within a panel can be calculated using the rule of additivity of variances, which in the case of block support adjustments is often called Krige's Relationship: <b>Var(samples in a panel) = Var(samples in a block) + Var(blocks in a panel)</b></li> <li>The variance of sample grades in a panel and the variance of samples within a block can be directly calculated from the variogram of uranium grades for a particular domain. The ratio of <b>Var(blocks in panel) to Var(samples in panel)</b> is that required to implement the block support adjustment.</li> <li>Variance adjustment ratios applied in estimating the Kayelekera recoverable uranium resources are listed in the attached table. These ratios have been applied using a Direct Lognormal Correction method (i.e., incorporating symmetrization of block grade distributions). Selective Mining Unit (SMU) dimensions of 3mE x 3mN x 2mRI have been assumed along with grade control spacing of 3.5mE x 3.2mN x 1mRI.</li> <li>The current Mineral Resource estimate at Kayelekera reported a total of 0.9Mt at 830ppm U<sub>3</sub>O<sub>8</sub> for 1.6Mlb U<sub>3</sub>O<sub>8</sub> in the Measured Mineral Resource category and 29.3Mt at 510ppm U<sub>3</sub>O<sub>8</sub> for 33.2Mlb U<sub>3</sub>O<sub>8</sub> for Indicated and Inferred Mineral Resources of 8.3Mt at 410ppm U<sub>3</sub>O<sub>8</sub> for 7.4Mlb all at a cut-off grade of 200ppm U<sub>3</sub>O<sub>8</sub>. These Mineral Resources are depleted for mining, an additional 1.6Mt at 755ppm U<sub>3</sub>O<sub>8</sub> for 1,199 tonnes is held as ROM stockpiles and 2.4Mt at 290ppm U<sub>3</sub>O<sub>8</sub> in LG stockpiles.</li> <li>No recovery of by-products is anticipated.</li> <li>Only U<sub>3</sub>O<sub>8</sub> was interpolated into the block model. There are no known deleterious elements within the deposits.</li> <li>Selective mining unit assumptions are based on the size of the mining equipment to be used and the expected blast hole spacing.</li> <li>The deposit mineralisation was constrained by wireframes representing the different geological units. The wireframes were applied as hard boundaries in the estimate.</li> </ul>





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		<ul style="list-style-type: none"> <li>The drill hole database was intersected with the mineralisation model and the results were coded into the drill hole database. From this mineralised drill hole intercepts were produced and these were subsequently composited to 1m intervals and used in the grade estimation process.</li> <li>Statistical analysis and variogram analysis was carried out on data from various arkose units R to X along with one derived for all mudstone and deeper arkose units.</li> <li>Comparison between the current estimate and the previous Mineral Resource is very good when constrained to similar spatial extents. This Mineral Resource has been extended to the west due to additional drilling.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Tonnages and grades are estimated dry.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The Statement of Mineral Resources has been constrained by the mineralisation solids and reported above a cut-off grade of 200ppm U<sub>3</sub>O<sub>8</sub>. The cut-off grade was estimated based on parameters derived from internal mining studies and provided by Lotus.</li> <li>It should be noted that additional studies are required to confirm economic viability at current uranium prices.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>It is assumed that the mineralisation is likely to be extracted by open pit mining techniques as per previous mining. As the mineral resource estimation technique is MIK no additional dilution or recovery adjustments have been made over those contained in the original estimation. Refinement of the MIK variance adjustment have been undertaken over and above the calculated values based on mining experience since 2008.</li> </ul>



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	<i>made.</i>	
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>While mineral processing and metallurgical test studies were carried out on mineralisation from the Kayelekera deposit as part of the original CEGB feasibility study it was felt that the results from these studies were not appropriate for the current economic climate or state of uranium processing technology. As a consequence, new mineral processing and metallurgical testing studies were carried out on the deposit by Paladin and reported in their FS.</li> <li>The initial FS test work program was conducted by Mintek in Johannesburg under the supervision of GRD Minproc. Subsequent investigations were conducted by the Australian Nuclear Science and Technology Organisation ("ANSTO") in Sydney. Samples for metallurgical test work were sourced from throughout the ore body and separated into Oxidised Arkose, Reduced Arkose and Mudstone. A portion of the work undertaken by Mintek and ANSTO was on composite samples conforming to the expected proportions of individual rock types in the processing stream. It is the opinion of the author that the samples selected for metallurgical test work are representative of both the mineralisation and the anticipated feed proportions of each rock type.</li> <li>Based on the test work results a treatment plant was constructed comprising: single stage crushing, SAG milling, pre-leach thickening, sulphuric acid leaching, resin in pulp (RIP), resin elution, gypsum precipitation and UO precipitation. This is followed by washing, liquid solid separation, drying and packaging of the UO<sub>4</sub> product for export.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Historical mining has occurred at the Kayelekera deposit. Mining commenced in May 2008 and ceased in December 2013. During the operating period 9.1Mbcm of material (of which 3.0Mbcm was ore) was removed from the open pit, at an average monthly rate of nearly 130,000bcm/month, resulting in a strip ratio of 2:1.</li> <li>At the time, PDN aimed to minimise its impact on the environment through effective environmental management across all aspects of its operations; preventing, minimising, mitigating and remediating any adverse impacts of its operations on the environment; and achieving continuous improvement in environmental performance.</li> <li>Environmental Management Plans (EMP's) have been prepared for the Construction, Operational and C&amp;M phases of KM. The Environmental Management Plan currently in place is the C&amp;M EMP. However upon Restart the Operational EMP will be revised for the re-establishment of operations.</li> <li>A comprehensive environmental monitoring programme was conducted during the pre-mining, construction and operational phases and is continuing through the C&amp;M phase at the mine. The programme includes monitoring of: Surface Water, Groundwater, Dust, SO<sub>2</sub>, Environmental Radiation, Aquatic invertebrates and previously completed rehabilitation.</li> <li>The monitoring programme is regularly reviewed based on the monitoring outcome and any changes to the operations or the environment. The monitoring requirements are outlined in the EMP's and detailed monitoring schedules have been prepared for each stage of the operation.</li> <li>Environmental inspections and audits are undertaken by KM site personnel on a regular basis.</li> </ul>



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	<i>explanation of the environmental assumptions made.</i>	<ul style="list-style-type: none"> <li>Environmental inspections of the component areas of the site are conducted in accordance with the EMP and the Environmental Inspection Schedule. Audits of compliance with the EMP are also undertaken by KM personnel.</li> <li>Corporate environmental audits were conducted on at least an annual basis to assess compliance, conformance and environmental performance of the operations.</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li><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></li> <li><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></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>A bulk density of 2.29t/m<sup>3</sup> for Arkose and 2.20t/m<sup>3</sup> for mudstone was applied to all blocks within the model which was subsequently trimmed to a topography created from data contained within the geological database.</li> <li>Density is measured using the water immersion technique. Moisture is accounted for in the measuring process and measurements were separated for lithology, mineralisation and weathering.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>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).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource has been classified on the basis of drilling density throughout the deposit as well as the validity of the underlying data.</li> <li>All relevant factors have been taken into account when determining the Mineral Resource classification.</li> <li>The current classification of the deposit reflects the opinion of the Competent Person.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>the deposit.</i>	
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>The previous mineral resource estimate was reviewed by PDN and external specialists and the current values are only marginally different based on additional drilling completed by LOT.</li> </ul>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>Based on the current understanding of the deposit it is believed that the Mineral Resource estimate reasonably reflects the accuracy and confidence levels within the deposit. Due to the nature and style of the mineralisation it is expected that additional, detailed, infill drilling will locally modify grades and thicknesses however the global tonnages and grades are expected to remain consistent.</li> <li>The lode geometry and continuity has been adequately interpreted to reflect the applied level of Measured, Indicated and Inferred Mineral Resource. The data quality is good and the drill holes have detailed logs produced by qualified geologists. A recognised laboratory has been used for all analyses.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>The current Mineral Resource estimate at Kayelekera reported a total of 0.9Mt at 830ppm U<sub>3</sub>O<sub>8</sub> for 1.6Mlb U<sub>3</sub>O<sub>8</sub> in the Measured Mineral Resource category and 29.3Mt at 510ppm U<sub>3</sub>O<sub>8</sub> for 33.2Mlb U<sub>3</sub>O<sub>8</sub> for Indicated and Inferred Mineral Resources of 8.3Mt at 410ppm U<sub>3</sub>O<sub>8</sub> for 7.4Mlb all at a cut-off grade of 200ppm U<sub>3</sub>O<sub>8</sub>. These Mineral Resources are depleted for mining, an additional 1.6Mt at 755ppm U<sub>3</sub>O<sub>8</sub> for 1,199 tonnes is held as ROM stockpiles and 2.4Mt at 290ppm U<sub>3</sub>O<sub>8</sub> in LG stockpiles</li> </ul>

