

### **ASX Announcement**

27 January 2022

# DRILLING SUCCESSFULLY EXPANDS MINERALISED FOOTPRINT AT THE KAYELEKERA URANIUM DEPOSIT

Lotus Resources Limited (ASX: LOT, OTCQB: LTSRF) (Lotus or the Company) is pleased to announce that a 35-hole RC drill program has successfully expanded the known mineralised zone surrounding the Kayelekera Uranium mine (Kayelekera or the Project). Following these positive drill results, the Company has decided to prepare an updated Mineral Resource Estimate to be released later this quarter.

#### **HIGHLIGHTS**

- A 35-hole (4,533 metre) RC drill program has successfully expanded the known mineralised zone surrounding the Kayelekera uranium mine. Results include:
  - 2m at 2,541ppm U<sub>3</sub>O<sub>8</sub> from 9m (LRC021)
  - 3m at 829ppm U<sub>3</sub>O<sub>8</sub> from 13m (LRC022)
  - 3m at 919ppm U<sub>3</sub>O<sub>8</sub> from 53m (LRC023)
  - 4m at 539ppm U<sub>3</sub>O<sub>8</sub> from 46m (LRC018)
- Drilling expanded mineralisation by up to 100m from the existing resource drilling
- An updated Mineral Resource Estimate (MRE) update is now planned for the Kayelekera Project and is anticipated for release in 1Q22
- This updated MRE will be used as the basis for a new mine plan in the Definitive Feasibility Study (DFS), which remains on track for mid-2022
- · Assay results from the Milenje Rare Earth and regional (Livingstonia) exploration programs are expected later this quarter

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

"2022 is shaping up to be an important year for Lotus as we continue to advance the Kayelekera Uranium Mine to be one of the first uranium assets alobally to recommence production as uranium prices continue to strength in the green energy build-up.

"The results from our first uranium exploration program were very encouraging as we were able to confirm that shallow mineralisation does extend outside of the existing pit shells. This will likely have a positive impact on the existing Mineral Resource, which we plan to update later this quarter. Most importantly, any increased tonnes have the potential to extend the life-of-mine production in the Definitive Feasibility Study, which remains on track to be released in mid-2022.

"In addition to this brownfield drilling, exploration results from the Milenje Hill rare earth prospect and the Livingstonia uranium deposit are expected shortly. Drilling has also recommenced at the previously untested Chilumba prospect to the north of Livingstonia"











Figure 1: Drilling at Kayelekera

## Kayelekera resource expansion drilling

During September 2021, Lotus commenced its inaugural uranium exploration drill program at the Kayelekera mine site. The program consisted of 4,533 metres in 35 reverse circulation (RC) drillholes, targeting areas peripheral to the existing Mineral Resource to test the margins of the resource estimate for further extensions, together with limited exploratory testing of radiometric anomalies located within 3km of the existing processing facility.

The drilling was caried out by Thompson Drilling Lda (Mozambique) with downhole radiometric logging carried out by experienced local contractors under the supervision of Lotus geologists. Mineralised intervals, defined by a 200ppm  $U_3O_8$  cut off over a minimum thickness of 1m, were selected for sampling. These samples were analysed for uranium by ALS Laboratories in Johannesburg.









The focus of the current RC program was the southern and eastern margins of the known resource. The holes completed in these locations were designed to either define extensional mineralisation or increase the existing resource classification (Figure 1). The best results of 2m grading 2,541 ppm U<sub>3</sub>O<sub>8</sub> and 3m grading 829 ppm U<sub>3</sub>O<sub>8</sub> are located on the eastern edge of the mineralised system.

A total of eight holes were also drilled at the Kayelekera South prospect, which is located approximately two kilometres south of the current Kayelekera pit. The area comprises several airborne radiometric anomalies. In the Target 1 area, drillhole LRC033 successfully intersected 2m grading 817ppm U<sub>3</sub>O<sub>8</sub> from a depth of 28m. This drillhole represents the first intersection of significant uranium mineralisation outside the known mineral resource area.

Following these results the Company is planning on preparing a Mineral Resource upgrade which is anticipated to be completed during 1Q2022. The updated mineral resource will be used for the updated mine plan to be incorporated with the Definitive Feasibility Study, which remains on track to be released in mid-2022.

Significant results from the Kayelekera exploration program are listed in Table 1 below, with the location of these holes highlighted in Image 1.

Table 1: Kayelekera Significant Drill Intersections

Hole ID	Easting	Northing	RL	Depth (m)	From (m)	To (m)	True Thickness (m)	U (ppm)	U (%)	U₃O <sub>8</sub> * (ppm)
LRC012	576730	8895913	883	100	3	5	2	481	0.05	567
includes					4	5	1	506	0.05	597
LRC015	576611	8895760	885	121	10	11	1	551	0.06	650
LRC018	576402	8895639	922	139	46	50	4	457	0.05	539
includes					48	50	2	596	0.06	702
LRC020	576402	8895639	922	139	45	46	1	558	0.06	658
LRC021	576664	8896006	893	52	9	11	2	2,155	0.22	2,541
LRC022	576709	8895962	894	70	13	16	3	703	0.07	829
LRC023	576299	8895604	939	142	53	56	3	780	0.08	919
includes					53	55	2	954	0.10	1,124
LRC025	576020	8895648	968	169	52	54	2	372	0.04	438
and					122	123	1	1,480	0.15	1,745
LRC027	576317	8895697	931	130	61	68	7	413	0.04	488
includes					62	63	1	522	0.05	616
and					65	67	2	587	0.06	692
LRC029	575829	8895733	968	145	111	112	1	604	0.06	712
LRC030	575671	8895859	960	145	84	86	2	481	0.05	567
and					92	94	2	458	0.05	540
includes		_			92	93	1	532	0.05	627
LRC033	575895	8894045	977	166	28	30	2	693	0.07	817
includes					28	29	1	1,010	0.10	1,191

\* calculated U<sub>3</sub>O<sub>8</sub>

Note: combined reporting criteria of minimum thickness 1m at 200ppmU cut off









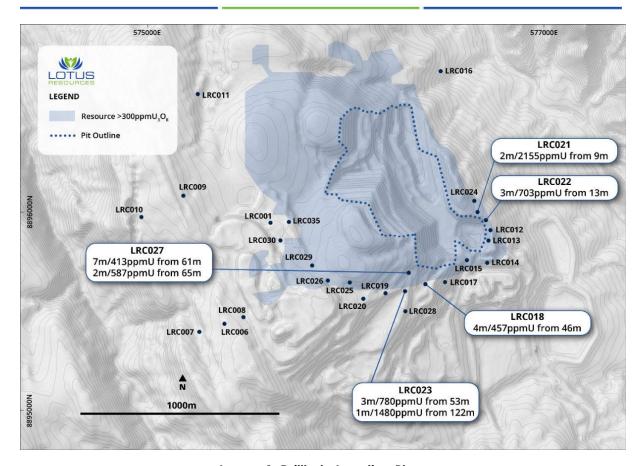


Image 1: Drillhole Location Plan

#### **Competent Persons' Statements**

The information in this document that relates to Exploration Data is based on information provided by Mr Alfred Gillman. Mr. Gillman is a Fellow and Chartered Professional of the Australian Institute of Mining and Metallurgy (AUSIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Reserve. Mr. Gillman consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

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

For further information, contact:

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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 37.5Mlbs  $U_3O_8$  (see table below), and historically produced ~11Mlb of uranium between 2009 and 2014. The Company completed a positive Restart Study¹ 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 – March 20201

Category	Mt	Grade (U <sub>3</sub> O <sub>8</sub> ppm)	U₃O8 (M kg)	U₃O8 (M lbs)
Measured	0.7	1,010	0.7	1.5
Measured – RoM Stockpile <sup>2</sup>	1.6	760	1.2	2.6
Indicated	18.7	660	12.3	27.1
Inferred	3.7	590	2.2	4.8
Total	24.6	660	16.3	36.0
Inferred – LG Stockpiles <sup>3</sup>	2.4	290	0.7	1.5
Total All Materials	27.1	630	17.0	37.5

For more information, visit www.lotusresources.com.au

<sup>&</sup>lt;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.







<sup>&</sup>lt;sup>1</sup> See ASX announcement dated 26 March 2020. Lotus confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 26 March 2020 and that all material assumptions and technical parameters underpinning the Mineral Resource estimate in that announcement continue to apply and have not materially changed.

 $<sup>^{\</sup>rm 2}$  RoM stockpile has been mined and are located near mill facility.



# **Appendix 1: Drill Hole Location**

Hole ID	Easting	Northing	RL	Depth	Azi-	Dip	From	То	True	U	U %	U <sub>3</sub> O <sub>8</sub>
				(m)	muth		(m)	(m)	Thickness (m)	ppm		ppm
LRC001	575620	8895950	949	151	250	-60				NSR		
LRC002	576300	8893924	933	163	250	-60				NSR		
LRC003	576077	8893871	956	151	250	-60				NSR		
LRC004	576152	8894669	900	100	250	-60				NSR		
LRC005	576003	8894650	921	154	250	-60				NSR		
LRC006	575384	8895439	983	124	250	-60				NSR		
LRC007	575260	8895400	962	121	250	-60				NSR		
LRC008	575482	8895473	975	142	250	-60				NSR		
LRC009	575178	8896086	981	133	240	-60				NSR		
LRC010	574965	8895980	975	133	240	-60				NSR		
LRC011	575252	8896601	936	151	270	-60				NSR		
LRC012	576730	8895913	883	100	0	-90	3	5	2	481	0.05	567
includes							4	5	1	506	0.05	597
LRC013	576718	8895860	881	100	0	-90				NSR		
LRC014	576713	8895744	873	100	0	-90				NSR		
LRC015	576611	8895760	885	121	0	-90	10	11	1	551	0.06	650
LRC016	576481	8896717	835	122	250	-70				NSR		
LRC017	576500	8895650	896	121	0	-90				NSR		
LRC018	576402	8895639	922	139			46	50	4	457	0.05	539
includes							48	50	2	596	0.06	702
LRC019	576200	8895594	940	163	0	-90				NSR		
LRC020	576402	8895639	922	139	0	-90	45	46	1	558	0.06	658
LRC021	576664	8896006	893	52	0	-90	9	11	2	2,155	0.22	2,541
LRC022	576709	8895962	894	70	0	-90	13	16	3	703	0.07	829
LRC023	576299	8895604	939	142	0	-90	53	56	3	780	0.08	919
includes				_			53	55	2	954	0.10	1,124
LRC024	576649	8896059	894	46	0	-90		<u> </u>	_	NSR		
LRC025	576020	8895648	968	169	0	-90	52	54	2	372	0.04	438
and							122	123	1	1,480	0.15	1,745
LRC026	575910	8895656	972	169	0	-90		60	_	NSR	0.04	400
LRC027	576317	8895697	931	130	0	-90	61	68	7	413	0.04	488
includes							62	63	1	522	0.05	616
and	F76200	0005503	020	120	0	00	65	67	2	587	0.06	692
LRC028	576299	8895503	928	130	0	-90	111	112	1	NSR 604	0.06	712
LRC029	575829	8895733	968	145	0	-90	111	112	1	604	0.06	712
LRC030	575671	8895859	960	145	0	-90	92	86 94	2	481	0.05	567
and includes							92	93	1	458 532	0.05	540 627
LRC031	575916	8893793	966	130	250	-60	32	33	1	NSR	0.03	027
LRC031 LRC032	576192		936	136	250	-60	1	1		NSR	1	
LRC032	575895	8893636 8894045	936	166	0	-90	28	30	2	693	0.07	817
includes	373033	0034043	311	100	U	-90	28	29	1	1,010	0.07	1,191
LRC034	576021	8893025	970	148	0	-90	20	23	1	NSR	0.10	1,171
LRC035	575712	8895953	960	127	0	-90		<b> </b>		NSR	-	
LUCUSS	3/3/12	0033333	500	12/	U	-30	1	1		ЛСИ		





# Appendix 2: 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
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <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>
Drilling techniques	<ul> <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</li> </ul>	<ul> <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 ruck with drill bit size of 5 inches.</li> </ul>







Criteria	JORC Code explanation	Commentary
Criteria		Commentary
	so, by what method, etc).	<ul> <li>Diamond drilling has utilised conventional wireline drill rig with core size of HQ.</li> </ul>
Drill sample recovery	<ul> <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> <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>
Logging	<ul> <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> <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>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <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> </ul>









#### Criteria **JORC Code explanation** Commentary All samples analysed using pressed powder XRF Quality control procedures methods by ALS Laboratory in Edenvale, adopted for all sub-sampling Johannesburg. stages to maximise Samples were driven by Lotus personnel to representivity of samples. Lilongwe and air freighted by South African Airways Measures taken to ensure that to Johannesburg. 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. Quality of The nature, quality and Laboratory assays were carried out by ALS Laboratory Edenvale, Johannesburg on selected appropriateness of the assaying assay data and mineralised intervals that were defined by downhole and laboratory procedures used **laboratory** radiometric logging. and whether the technique is Each sample weighed approximately 0.5kg tests considered partial or total. Sample preparation comprised the followed For geophysical tools, procedures: WEI-21 sample weighing spectrometers, handheld XRF LOG-22 barcode sample login instruments, etc. the SCR-41 sample screened to -180 micron parameters used in determining Analytical Procedures comprised: the analysis including ME-XRF05 trace level XRF analysis instrument make and model, Every 10th sample comprised a field duplicate reading times, calibrations Blank samples were inserted at frequency of 1 in 10. factors applied and their Duplicate versus original assay results are graphed derivation, etc. below Nature of quality control **Duplicate vs Original** procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and 2000 whether acceptable levels of accuracy (ie lack of bias) and 1500 precision have been established. 1000 500 Original Sample (Uppm) 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 Significant intersections identified by radiometric Verification of The verification of significant logging (>1m and >200ppm U<sub>3</sub>O<sub>8</sub>) were physically intersections by either sampling and sampled with laboratory analytical techniques used to independent or alternative assaying verify the interval. company personnel. Only the analytical results are quoted in this



announcement

No holes were twinned in the program



The use of twinned holes.

data entry procedures, data

Documentation of primary data,



Criteria	JORC Code explanation	Commentary
	<ul> <li>verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Data verification was undertaken using specialist mining software</li> <li>No adjustments to the data were necessary</li> </ul>
Location of data points	<ul> <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> <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>
Data spacing and distribution	<ul> <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 Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	
Orientation of data in relation to geological structure	<ul> <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> <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>
Sample security	The measures taken to ensure sample security.	<ul> <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>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	Data was validated by Lotus whilst loading into database. Any errors within the data are returned to site geologist for validation.









# **Section 2 Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <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> <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 Malawina 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 1st September 2021 and valid for a further 15 years</li> <li>The tenement is in good standing and no known impediments exist.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <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 existing target areas for ground follow-up and drilling in 1986.</li> <li>During 1986, a further 3,821m of drilling was completed on Kayelekera, increasing the resource to 9,300t of U<sub>3</sub>O<sub>8</sub>. Seven other targets were drilled (2,503m) although no significant mineralisation was discovered.</li> </ul>







Cuitania	IODO Carla anniantation	Commenter
Criteria	JORC Code explanation	Commentary
		<ul> <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 U<sub>3</sub>O<sub>8</sub>. 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>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <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 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.</li> <li>Secondary mineralisation tends to be concentrated in vertical fractures and along the contacts between</li> </ul>









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		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.  • 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 <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.
Drill hole Information	<ul> <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> <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 this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Refer to Appendix 1 for complete drillhole information
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts</li> </ul>	Metal equivalent values have not been used.









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	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.	
Relationship between mineralisatio n widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	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.
Diagrams	<ul> <li>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.</li> </ul>	See diagrams in body of announcement.
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 exploration results together with drillhole locations are listed in Appendix 1
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	The deposit has previously been the subject of extensive drilling, metallurgical, hydrogeological, pre- feasibility and definitive feasibility studies.







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	characteristics; potential deleterious or contaminating substances.					
Further work	<ul> <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>	Additional exploration work is being planned and will be announced when appropriate.				



