

MKANGO RESOURCES LTD. 550 Burrard Street, Suite 2900, Vancouver, BC V6C 0A3 Canada

# MKANGO ANNOUNCES 60 PER CENT INCREASE IN MEASURED AND INDICATED RESOURCES, INCLUDING THE FIRST MEASURED RESOURCE FOR THE SONGWE HILL RARE EARTHS PROJECT IN MALAWI

**London / Vancouver: February 4, 2019** - Mkango Resources Ltd. (AIM / TSXV: MKA) (the "**Company**" or "**Mkango**"), the rare earths exploration and development company focused on Malawi, is pleased to announce an updated mineral resource estimate for the Songwe Hill Rare Earths Project ("Songwe").

- 60% increase in total Measured and Indicated Resources to 21 million tonnes ("mt"), including first
   Measured Resource estimate for Songwe
- Majority of the previously delineated near surface Inferred Resource upgraded to either the Measured or Indicated categories
- Key objectives of 2018 drilling programme achieved, with the updated resource underpinning the ongoing feasibility study
- Approximately 95% of the Measured and Indicated Mineral Resource blocks are less than 160 metres ("m") below the surface of the hill indicating that the majority will be accessible by open pit mining
- Updated and enlarged resource underpins Mkango's strategy to be a long term, sustainable producer
  of neodymium, praseodymium, dysprosium and terbium used in permanent magnet motors for
  electric vehicles, wind turbines and other clean technologies
- Publication of the NI 43-101 Technical Report in relation to the resource update will trigger the next £7m milestone investment from Talaxis to fund completion of the feasibility study

Cut-off grade	Measured Mineral Resource estimate	Indicated Mineral Resource estimate	Total Measured and Indicated Mineral	Inferred Mineral Resource estimate			
			Resource estimate				
Base Case	8.8 mt grading 1.50%	12.2 mt grading 1.35%	21.0 mt grading 1.41%	27.5 mt grading 1.33%			
1.0% TREO	TREO	TREO	TREO	TREO			

TREO: total rare earth oxides based on total  $La_2O_3$ ,  $CeO_2$ ,  $Pr_6O_{11}$ ,  $Nd_2O_3$ ,  $Sm_2O_3$ ,  $Eu_2O_3$ ,  $Gd_2O_3$ ,  $Tb_4O_7$ ,  $Dy_2O_3$ ,  $Ho_2O_3$ ,  $Er_2O_3$ ,  $Tm_2O_3$ ,  $Yb_2O_3$ ,  $Lu_2O_3$ ,  $Y_2O_3$ . Grades of individual rare earth oxides are shown in the appendix. 4% geological losses applied to account for voids.

**William Dawes, Chief Executive of Mkango stated:** "All the objectives for the 2018 drill programme have been achieved and we are very pleased to announce this increased resource at Songwe. This provides a solid platform for completion of a revised mine plan to be incorporated into the feasibility study. Based on the larger Measured and Indicated Resource, the feasibility study will evaluate opportunities to include more tonnes into the mine plan, expand operations, extend the mine life, reduce the strip ratio and therefore reduce mining costs."

The updated base case Mineral Resource Estimate equates to a 60% increase in the Measured and Indicated Resource tonnage and a 48% increase in the Inferred Resource tonnages versus the base case 2012 Mineral Resource Estimate, which formed the basis for the 2015 pre-feasibility study. The Mineral Resource is open at depth. The combined Measured and Indicated Mineral Resource Estimate, totaling 21mt grading 1.41% TREO, will form the basis of the updated mine plan for the ongoing feasibility study, which will evaluate a bulk tonnage, open pit mining operation focused on broad zones of near surface and outcropping rare earths mineralisation. The updated resource supersedes the 2012 Mineral Resource Estimate, and therefore renders the mining and economic information in 2015 pre-feasibility study obsolete. Updated mining and economic information will be generated as part of the ongoing feasibility study based on the new resource.

The Measured Mineral Resource Estimate comprises 42% of the combined Measured and Indicated Mineral Resource Estimate indicating a substantial increase in geological confidence to support the completion of the Feasibility Study.

The majority of the previously delineated near surface Inferred Mineral Resource Estimate has been upgraded to either the Measured or Indicated categories, achieving a key objective of the 2018 drill programme. Approximately 95% of the Measured and Indicated Mineral Resource Blocks are at a depth of less than 160m below the surface of the hill indicating that the majority will be accessible by open pit mining.

Bulk samples for pilot metallurgical test work totaling approximately 60 tonnes have been selected from areas within the Measured and Indicated Mineral Resource Estimates and a public awareness campaign to communicate progress of the project and explain the bulk sampling programme is underway in Malawi. Pilot testing will commence following export of the bulk sample and completion of ongoing metallurgical optimisation.

### **Mineral Resource Estimate**

The Mineral Resource Estimate was independently prepared by The MSA Group of South Africa ("MSA"). Jeremy Witley Pr. Sci Nat. (the Qualified Person (QP) for the Mineral Resource Estimate) of MSA in collaboration and agreement with Dr. Scott Swinden, PGeo, the QP for the Exploration Information, has currently identified 1.0% TREO as an appropriate cut-off grade for the current Mineral Resource Estimate. This will be further refined over the course of the ongoing feasibility study. The Mineral Resource Estimates at different cut-off grades are illustrated in the table below.

### Mineral Resource estimates at different cut-off grades<sup>1</sup>

	0.5% TRE	O cut off g	rade	Base Case 1.0	% TREO cut	off grade	1.5% TREO cut off grade				
	Million	on TREO TREO Millio		Million	TREO	TREO	Million	TREO	TREO		
	tonnes	%	tonnes	tonnes	%	tonnes	tonnes	%	tonnes		
Resource Categories											
Measured	13.34	1.26	167,573	8.81	1.50	131,929	3.67	1.86	68,278		
Indicated	24.30	1.06	258,092	12.22	1.35	165,469	3.13	1.79	55,805		
Total Measured & Indicated	37.64	1.13	425,665	21.03	1.41	297,398	6.80	1.83	124,084		
Total Inferred	59.65	1.02	608,194	27.54	1.33	366,154	5.92	1.75	103,414		

<sup>&</sup>lt;sup>1</sup> Mineral resources are not mineral reserves and do not have demonstrated economic viability

The mineral resource has been drilled to a maximum depth of 355 m below the surface of Songwe Hill and is based on three phases of diamond drilling completed by Mkango in 2011, 2012 and 2018 totaling approximately 17,800 m in 125 drill holes. The areas drilled to date are in an elevated position on the northern slopes of Songwe Hill, which rises approximately 230 m above the surrounding plain. The mineral resource forms an irregular, roughly circular surface expression with a diameter of approximately 450 m. The maximum depth of the Inferred Mineral Resource is 390 m below surface, with the Measured and Indicated Mineral

Resource occurring to a maximum depth of 200 m, paralleling the topographic surface of the hill and surrounding plain. The majority of the Measured and Indicated Mineral Resource occurs to a depth of approximately 160 m.

Geological domains, comprising Carbonatite, Mixed (altered and brecciated Carbonatite and Fenite) and Fenite dominant rock types, were used to guide the mineral resource evaluation. The Carbonatite dominant domain generally comprises a higher proportion of elevated TREO grade mineralisation than the Fenite dominant domain.

### Key assumptions, parameters and methods used to estimate the Mineral Resources

- The drillhole intersections were used to estimate proportions of carbonatite (defined for this estimate
  as >15% Ca) and non-carbonatite for each cell in a three dimensional block model by means of
  indicator kriging. TREO values and density were estimated for carbonatite and non-carbonatite
  separately for the entire model using ordinary kriging. The final grade for the block was derived by
  multiplying the estimated proportion of carbonatite and non-carbonatite in the block by the estimated
  grade of carbonatite and non-carbonatite;
- The estimation block model cells are 20 mN by 20 mE by 5 mRL. The block models comprise sub-celled block dimensions of 5 mN x 5 mE x variable RL to closely fit the topography;
- No capping or cutting to limit any input grade data was undertaken as part of the mineral resource estimation, extreme outlier grades not being a feature of this deposit;
- Datamine Studio RM was the modelling package; and
- The mineral resource was classified as Measured, Indicated and Inferred based on the degree of geological certainty and drillhole density, supported by confidence parameter outputs from kriging (Kriging Efficiency and Slope of Regression). In general, the Mineral Resource was classified as Measured where it occurs within a 30 m by 30 m drillhole grid, Indicated where the Mineral Resource occurs within a drillhole spacing of closer than 50 m by 50 m. Inferred Mineral Resources were declared within the more sparsely drilled areas and extrapolation from the closest drillhole was limited to 50 m.

Scientific and technical information contained in this release including sampling, analytical, and test data underlying the information has been approved and verified by Dr. Scott Swinden PGeo of Swinden Geoscience Consultants Ltd who is a "Qualified Person" in accordance with National Instrument 43-101 — Standards of Disclosure for Mineral Projects.

Scientific and technical information contained in this release relating to the mineral resource estimate has been approved and verified by Jeremy Witley Pr. Sci Nat of The MSA Group Pty Ltd, who is a "Qualified Person" in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects.

Mkango operated an industry-standard programme of strict QAQC protocols for drill hole analyses, including the insertion of blanks, standards and duplicates and check analyses of more than 3% of the samples carried out by Actlabs, Ancaster, Ontario. Sample preparation and analytical work for the drilling and channel sampling programmes were provided by Intertek-Genalysis Laboratories (Perth, Australia), employing ICP-MS techniques suitable for rare earth element (REE) analyses and following strict internal QAQC procedures, inserting duplicates, blanks and standards. Internal Laboratory QAQC was also completed to include blanks, standards and duplicates.

Verification activities were conducted by the Qualified Persons during site visits to Songwe and at the MSA office, and included the inspection of the drilling and trenching programmes, the review of core handling and core sampling procedures, the review of borehole data collection protocols and QA/QC systems, checks of the

database against the original borehole logs, checks of the database against original Assay Certificates and the examination of the database used for the Mineral Resource estimation.

The NI 43-101 compliant technical report in respect of the mineral resource estimates described herein will be filed on SEDAR within the next 45 days.

### **About Mkango Resources Limited**

Mkango's primary business is exploration for rare earth elements and associated minerals in the Republic of Malawi, a country whose hospitable people have earned it a reputation as "the warm heart of Africa". The Company holds interests in three exclusive prospecting licenses in Malawi: the Phalombe licence, the Thambani licence and the Chimimbe Hill licence.

The main exploration target in the 80% held Phalombe licence is the Songwe Hill rare earths deposit. This features carbonatite-hosted rare earth mineralisation and was subject to previous exploration in the late 1980s. Mkango completed an updated Pre-Feasibility Study for the project in November 2015 and a Feasibility Study is currently underway, the initial phases of which included a 10,900 metre drilling programme and updated mineral resource estimate.

Under the terms of an agreement with Talaxis, Talaxis will fully fund the Feasibility Study for Songwe by investing £12 million for a 49% interest in the project (via Mkango subsidiary Lancaster Exploration Ltd). Talaxis will also have the option to acquire a further 26% interest by arranging funding for project development including funding the equity component thereof. If Talaxis exercises its option, Mkango will retain a 25% interest, free carried to production. To-date, Talaxis has invested £5 million, which has funded the initial phases of the Feasibility Study, for a 20% interest in the project, with Mkango holding 80%.

By investing a further £2 million, Talaxis will acquire a 49% interest in Maginito Ltd, a new subsidiary of Mkango focused on neodymium alloy powders, magnets and other technologies. This includes the collaboration with Metalysis Ltd announced in September 2017, which is focused on advanced alloys using neodymium or praseodymium with other elements for permanent magnet manufacturing. Permanent magnets are critical materials for most electric vehicles, direct drive wind turbines and many other high growth applications. Neodymium is a key rare earth component at Songwe. To date, Talaxis has invested £1 million for a 24.5% interest in Maginito with Mkango holding 75.5%.

The main exploration targets in Mkango's remaining two 100% held licences are, in the Thambani licence, uranium, niobium, tantalum and zircon and, in the Chimimbe Hill licence, nickel and cobalt.

For more information, please visit www.mkango.ca.

### Market Abuse Regulation (MAR) Disclosure

Certain information contained in this announcement may have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

# **Cautionary Note Regarding Forward-Looking Statements**

This news release contains forward-looking statements (within the meaning of that term under applicable securities laws) with respect to Mkango, its business and the Project. Generally, forward looking statements can be identified by the use of words such as "plans", "expects" or "is expected", "scheduled", "estimates" "intends", "anticipates", "believes", or variations of such words and phrases, or statements that certain

actions, events or results "can", "may", "could", "would", "should", "might" or "will", occur or be achieved, or the negative connotations thereof. Forward looking statements in this news release include statements with respect to the global market for products using the rare earth metals the Company is exploring for, completion of the feasibility study and of the transactions contemplated in the agreement with Talaxis, as well as the use of proceeds from the investments into the Company by Talaxis and the timing of such expenditures. Readers are cautioned not to place undue reliance on forward-looking statements, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur, which may cause actual performance and results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. Such factors and risks include, without limiting the foregoing, market demand for the metals and associated downstream products for which Mkango is exploring, researching and developing, the positive results of a feasibility study on the Project, delays in obtaining financing or governmental or stock exchange approvals. The forward-looking statements contained in this news release are made as of the date of this news release. Except as required by law, the Company disclaims any intention and assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Additionally, the Company undertakes no obligation to comment on the expectations of, or statements made by, third parties in respect of the matters discussed above.

# For further information on Mkango, please contact: Mkango Resources Limited

William Dawes Alexander Lemon
Chief Executive Officer President

will@mkango.ca alex@mkango.ca

UK: +44 207 3722 744 Canada: +1 403 444 5979

www.mkango.ca @MkangoResources

## Blytheweigh

Financial Public Relations
Tim Blythe, Camilla Horsfall, Julia Tilley

UK: +44 207 138 3204

### **SP Angel Corporate Finance LLP**

Nominated Adviser and Joint Broker Jeff Keating, Caroline Rowe UK: +44 20 3470 0470

#### **Alternative Resource Capital**

Joint Broker Alex Wood, Rob Collins

UK: +44 20 7186 9004; +44 20 7186 9001

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## **Appendix**

# Rare earths distribution at different cut-off grades

Measure	ed Minera	I Resource	- Individua	I Rare Eart	th Grades a	t 0.5%, 1	1.0% and 1	.5% TREO	Cut-Offs

Cut-Off	Million	La <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	Eu <sub>2</sub> O <sub>3</sub>	Gd <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>	Dy <sub>2</sub> O <sub>3</sub>	Ho <sub>2</sub> O <sub>3</sub>	Er <sub>2</sub> O <sub>3</sub>	Tm <sub>2</sub> O <sub>3</sub>	Yb <sub>2</sub> O <sub>3</sub>	Lu <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>	TREO
%TREO	Tonnes	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.5	13.34	2,948	5,664	602	2,033	301	82	194	24	109	18	42	5	31	4	504	12,560
1	8.81	3,581	6,793	715	2,391	343	94	221	27	124	20	47	6	35	5	572	14,975
1.5	3.67	4,673	8,517	874	2,855	392	107	251	31	140	22	52	7	38	5	631	18,594

#### Indicated Mineral Resource - Individual Rare Earth Grades at 0.5%, 1.0% and 1.5% TREO Cut-Offs

Cut-Off	Million	La <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	$Pr_6O_{11}$	$Nd_2O_3$	$Sm_2O_3$	Eu <sub>2</sub> O <sub>3</sub>	$Gd_2O_3$	Tb <sub>4</sub> O <sub>7</sub>	$Dy_2O_3$	Ho <sub>2</sub> O <sub>3</sub>	Er <sub>2</sub> O <sub>3</sub>	$Tm_2O_3$	Yb <sub>2</sub> O <sub>3</sub>	Lu <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>	TREO
%TREO	Tonnes	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.5	24.30	2,538	4,797	502	1,687	256	69	165	20	90	15	35	4	25	3	415	10,620
1	12.22	3,369	6,195	634	2,083	301	81	191	23	103	16	39	5	28	4	465	13,535
1.5	3.13	4,688	8,279	826	2,637	359	96	224	26	116	18	42	5	30	4	508	17,858

Inferred Mineral Resource	- Individual Rare Farth	Grades at 0.5% 1.0% a	nd 1 5% TREA Cut_Offe

Cut-Off	Million	La <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	Eu <sub>2</sub> O <sub>3</sub>	Gd <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>	Dy <sub>2</sub> O <sub>3</sub>	Ho <sub>2</sub> O <sub>3</sub>	Er <sub>2</sub> O <sub>3</sub>	Tm <sub>2</sub> O <sub>3</sub>	Yb <sub>2</sub> O <sub>3</sub>	Lu <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>	TREO
%TREO	Tonnes	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.5	59.65	2,346	4,601	494	1,691	255	68	159	19	85	14	33	4	25	3	399	10,197
1	27.54	3,189	6,079	639	2,134	306	82	188	22	100	16	39	5	29	4	464	13,296
1.5	5.92	4,375	8,064	825	2,700	368	98	226	27	122	19	47	6	35	5	558	17,475