

# MKANGO RESOURCES LTD.

# MANAGEMENT'S DISCUSSION AND ANALYSIS

For the year ended December 31, 2018

This Management's Discussion and Analysis ("MD&A") provides a review of the operational performance of Mkango Resources Ltd. ("Mkango", or the "Company"). The report was prepared in accordance with the requirements of National Instrument 51-102, Continuous Disclosure Obligations, and it should be read in conjunction with the audited consolidated financial statements for the year ended December 31, 2018 (the "Financial Statements"). The Financial Statements and the accompanying notes have been prepared in accordance with International Financial Reporting Standards ("IFRS") and are prepared in United States dollars unless otherwise stated. This document is dated April 30, 2019.

The Board of Directors of the Company have reviewed and approved the information contained in this MD&A and the Financial Statements.

Readers are cautioned that this MD&A contains certain forward-looking statements. Please see the section concerning "Forward Looking Statements" below.

Additional information relating to the Company can be found on the Canadian System for Electronic Document Analysis and Retrieval ("SEDAR") at www.sedar.com. The Company is listed on the TSX Venture Exchange (the "TSX-V") and holds an additional listing on the AIM Market of the London Stock Exchange ("AIM") under the symbol MKA.

#### FORWARD LOOKING STATEMENTS

Certain disclosures set forth in this MD&A may constitute forward-looking statements concerning anticipated development of the Company's operations in future periods. Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "anticipate", "believes", "budget", "continue", "could", "estimate", "forecast", "intends", "may", "plan", "predicts", "projects", should", "will" and other similar expressions. All estimates and statements that describe the Company's future, goals, or objectives, including management's assessment of future plans and operations, including statements regarding exploration results and budgets, mineral resource estimates, work programs, capital expenditures, timelines, strategic plans, market price of commodities or other statements that are not statement of fact may constitute forward-looking information under securities laws. Forward-looking information is based on reasonable assumptions that have been made by the Company as at the date of such information but, by their nature, forward-looking statements are subject to numerous risks and uncertainties, some of which are beyond the Company's control, including the impact of general economic and political conditions, industry conditions, volatility of commodity prices, currency fluctuations, accuracy of drilling and other exploration results, realization of mineral resource estimates, environmental risks, changes in environmental, tax and royalty legislation or other government regulation, the speculative nature of strategic metal exploration and development including the risks of contests over title to properties, the risks associated with obtaining necessary licences or permits, including and not limited to approval of any future mining licence applications and exploration licence extensions, operating or technical difficulties in connection with development activities; personnel relations, competition from other industry participants, the lack of availability of qualified personnel or management, availability of drilling equipment and access, stock market volatility and the ability to access sufficient capital from internal and external sources. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. Forward-looking statements are based on assumptions management believes to be reasonable, including but not limited to the price of rare earth elements ("REEs" or "rare earths"); the demand for REEs; the ability to carry on exploration and development activities; the timely receipt of any required approvals; the ability to obtain qualified personnel, equipment and services in a timely and cost-efficient manner; the ability to operate in a safe, efficient and effective manner; and the regulatory framework including and not limited to licence approvals, social and environmental matters, and such other assumptions and factors as set out herein. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Mkango's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements. Mkango disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

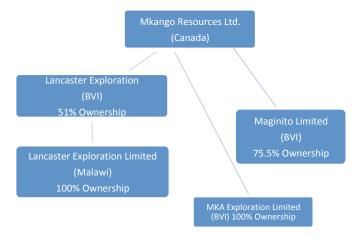
#### **COMPANY OVERVIEW**

Mkango is an exploration and development company focused on rare earths and associated minerals with properties in the Republic of Malawi, Africa, specifically the Songwe Hill rare earths project ("Songwe Hill") within the Phalombe exploration licence (the "Phalombe Licence"). Mkango is also pursuing mineral exploration opportunities with two additional properties in the Republic of Malawi, Africa, the Thambani exploration licence ("Thambani Licence") and the Chimimbe Hill exploration licence ("Chimimbe Licence").

The Company's core strategy is to advance the Songwe Hill project through the feasibility and development phases whilst in parallel advancing complementary downstream opportunities in the rare earths supply chain through Maginito (as defined below), both in partnership with Talaxis. The current work programme for Songwe Hill is focused on completing a feasibility study (the "Feasibility Study"), the initial phases of which included a major diamond drilling programme and publication of an updated mineral resource estimate, in addition to metallurgical optimisation and work in relation to the ongoing Environmental Social Health Impact Assessment and Corporate Social Responsibility program ("ESHIA").

## **Corporate Structure**

The Company is incorporated in the province of British Columbia, Canada. The Company's registered office is Suite 2900, 550 Burrard Street, Vancouver, British Columbia, Canada, V6C 0A3.



The Phalombe Licence, the Thambani Licence and the Chimimbe Licence are held by Lancaster Exploration Limited ("Lancaster BVI"), a company incorporated under the laws of the British Virgin Islands ("BVI") on August 3, 2007. Lancaster is 51% owned by Mkango and 49% owned by Talaxis Limited ("Talaxis"), a wholly owned subsidiary of Noble Group Limited ("Noble"). The Thambani Licence and the Chimimbe Licence are held in trust for Mkango.

Lancaster Exploration Limited ("Lancaster Malawi") was incorporated on May 19, 2011, under the laws of Malawi. Lancaster Malawi is a wholly owned subsidiary of Lancaster and as such, includes a non-controlling interest representing 49% of Lancaster Malawi's assets and liabilities that are owned by Talaxis.

MKA Exploration Limited ("MKA Exploration") was incorporated under the laws of BVI on July 25, 2018. MKA Exploration is 100% owned by Mkango. MKA Exploration has no assets or liabilities.

Maginito Limited ("Maginito") was incorporated under the laws of the BVI on January 3, 2018. Maginito is 75.5% owned by Mkango and 24.5% owned by Talaxis. Maginito is focused on downstream opportunities relating to the rare earths supply chain, in particular neodymium alloy powders, magnet and other technologies geared to accelerating growth in the electric vehicle market. This includes the collaboration with Metalysis Limited ("Metalysis") discussed below.

#### **Accounting Treatment**

The consolidated financial statements include 100% of the assets and liabilities related to Lancaster and include a non-controlling interest representing 20% of Lancaster's assets and liabilities that were owned by Talaxis as at December 31, 2018 (other than the Thambani Licence and the Chimimbe licence, 100% of which are held in trust for the Company). The consolidated financial statements include 100% of the assets and liabilities related to Maginito and include a non-controlling interest representing 24.5% of Maginito's assets and liabilities attributable to Talaxis. Accounting policies are applied consistently throughout all consolidated entities.

## OVERALL PERFORMANCE AND OUTLOOK

The Company is focused on advancing the Songwe Hill project in addition to its other projects in Malawi and downstream opportunities relating to the rare earth supply chain.

## **Talaxis Agreement**

In March 2017, Mkango announced a transaction with Talaxis, whereby Talaxis invested £500,000 in Mkango by means of a placing. The placing closed in October 2017, which resulted in Talaxis' current ownership of 12.5% in Mkango's outstanding common shares ("**Shares**"). In addition, Talaxis owns warrants, which could, if exercised, take their ownership to 20.8% of Mkango's outstanding common shares. Talaxis has agreed that it will not exercise warrants if this causes Talaxis to own more than 20% of the Company's outstanding Shares.

In November of 2017, Mkango announced a further transaction with Talaxis (the "**Talaxis Agreement**"), whereby Talaxis agreed to make investments totalling £12 million (\$17 million) in Lancaster BVI to fund a Feasibility Study for Songwe Hill, with an option to fund project development, and a further investment totalling £2 million (\$2.8 million) in Maginito (described more fully below) to further advance its downstream strategy, including the collaboration with Metalysis.

On January 28, 2018, in accordance with the terms of the Talaxis Agreement, Talaxis invested an initial £5 million (\$7 million) for a 20% interest in Lancaster BVI and a further £1 million (\$1.4 million) for a 24.5% interest in Maginito. The Company paid cash finders' fees totalling £120,000 (\$168,823) to Zenith Advisory Services Pty Ltd ("Zenith").

On May 18, 2018, Mkango signed the Songwe Joint Venture Agreement ("Songwe Agreement"), the Talaxis Investment Agreement and the Cooperation Deed (the "Definitive Agreements") in relation to the Talaxis Agreement.

On March 28, 2019, in accordance with the terms of the Talaxis Agreement, Talaxis invested £7 million (\$10 million) for a further 29% interest in Lancaster BVI.

Following completion of the Feasibility Study, Talaxis will have an option to acquire an additional 26% interest in Lancaster BVI by arranging funding for project development including funding the equity component thereof. If Talaxis exercises its option, Mkango will retain a 25% interest in Lancaster BVI which will be free carried to production.

#### **Metalysis Agreement and Maginito Joint Venture**

In March 2017, Mkango entered into a Memorandum of Understanding ("MOU") with Metalysis to jointly research, develop and commercialise novel rare earth metal alloys for use in permanent magnets. In September 2017, Mkango and Metalysis signed a joint venture principles and exclusivity agreement (the "Metalysis Agreement") for the development of advanced alloys using neodymium or praseodymium with other elements for use in permanent magnets. This includes joint venture principles for a joint venture (the "Metalysis Joint Venture") to commercialise intellectual property rights for the production of neodymium or praseodymium alloy powders. Under the Metalysis Agreement, Maginito will hold an 85% interest in the Metalysis Joint Venture and Metalysis will receive a 15% free carried interest.

The funds invested in Maginito by Talaxis will be used to advance complementary downstream opportunities in the rare earths supply chain, in particular new rare earth alloy, magnet and other technologies geared to accelerating growth in the electric vehicle market, including the Metalysis Joint Venture.

Talaxis will invest the remaining £1 million in Maginito to acquire an additional 24.5% interest in Maginito conditional on successful completion of the second phase of the research and development programme with Metalysis. Upon completion of the investments, Mkango will hold a 51% interest in Maginito.

#### **Feasibility Study**

Following the second tranche of investment from Talaxis on March 28, 2019, Mkango is now well positioned to advance its Songwe Hill project through the feasibility and development phases against the backdrop of increasing demand for rare earths used in electric vehicles, direct drive wind turbines and other green technologies. The initial phases of the Feasibility Study for Songwe Hill were undertaken in 2018, including a major diamond-drilling programme completed in September 2018.

#### DISCUSSION OF OPERATIONS

Mkango holds a 51% interest in Lancaster BVI, which holds a 100% interest in three exclusive prospecting licences in southern Malawi, the Phalombe Licence, the Thambani Licence and the Chimimbe Licence. 100% of the Thambani Licence and the Chimimbe Licence are held in trust for Mkango. Pursuant to the Songwe Agreement, Talaxis has agreed to fund the feasibility study for the development of Songwe Hill, the main exploration target within the Phalombe Licence, and has an option to fund the development of the project.

Mkango also holds a 75.5% interest in Maginito, as discussed above.

Mineral exploration expenses

		For the yea	rs ended,
		Decem	ıber 31,
Licence	Project	2018	2017
Phalombe	Songwe Hill project		
	Mineral extraction development	\$588,549	\$133,498
	Government fees	36,023	16,681
	ESHIA (1)	342,238	9,251
	Drilling programme (2)	2,571,917	-
	Consulting fees	181,175	54,820
	Grant refund	-	(23,824)
	Malawi office and camp expenses	812,959	52,903
Thambani	Project costs	2,782	-
Chimimbe	Project costs	3,416	-
Total Malawi project expenditures		4,539,059	243,329
	Maginito research and development (3)	410,173	-
Total expenditures		\$4,949,232	\$243,329

<sup>(1)</sup> Environmental Social Health Impact Assessment and Corporate Social Responsibility expenditures – ESHIA.

Exploration and evaluation expenditures are recognized in the consolidated statements of comprehensive loss as mineral exploration expenditures pending determination of technical feasibility and commercial viability.

# **SONGWE HILL**

#### **Background**

The Phalombe Licence covers an area of 849.1 square kilometers ("sq km") in southeast Malawi, within which Songwe Hill is the main development target and features carbonatite hosted rare earth mineralization. Songwe Hill was subject to historic exploration programs during the late 1980s. Lancaster BVI was awarded the licence by the Malawi Government on January 21, 2010 and subsequently renewed it, with the most recent renewal on January 21, 2019 being for a further 2 years to January 21, 2021.

<sup>(2)</sup> The Company undertook a major diamond-drilling programme at Songwe Hill which was completed in 2018.

<sup>(3)</sup> Expenditures relating to the "Joint Ventures Binding Principles and Exclusivity Agreement" with Metalysis to advance the joint research and development programme.

The geological units of significance with respect to rare earth mineralization in the Phalombe Licence are intrusions and lavas of the Jurassic/Cretaceous Chilwa Alkaline Province, in which carbonatites are widely present. In addition to the large carbonatitic intrusion at Songwe Hill, numerous smaller carbonatites occur throughout the Province and include dykes, sheets, and volcanic systems such as Nkalonje, which also occurs within the Phalombe Licence area.

## **Exploration**

Mkango has been exploring and evaluating the Songwe Hill rare earth deposit since January 2010. Following confirmation of the previously investigated enriched zones, exploration focused on identifying the nature and extent of the rare earth mineralized carbonatites and related rocks. Mkango's early exploration activities consisted of lithogeochemical sampling, soil sampling, channel sampling, geological mapping, ground magnetic, density and radiometric surveys, and petrographic/mineralogical analyses.

In particular, detailed geological mapping of Songwe Hill was carried out in 2010 and 2011. The mapping demonstrated that carbonatite outcrops existed over a significantly larger area than had previously been recognized. Mapping further achieved a more precise delineation of the distribution of the main rock types. The mapping broadened the surface area of known rare earth mineralization significantly beyond the areas identified in previous exploration and identified new areas of rare earth enriched carbonatite.

The results of these activities confirmed the rare earth enrichment initially identified by historical exploration and suggested that the mineralized carbonatites were more widespread than originally identified. Mkango embarked on diamond drilling campaigns in 2011 ("**Phase 1**"), 2011–2012 ("**Phase 2**") and 2018 ("**Phase 3**"). Mkango also produced a bulk sample after the Phase 3 drilling in 2018.

The Phase 1 programme was successful in confirming the presence of rare earth mineralization first outlined by historical exploration. Eleven of the 13 holes intersected significant zones of rare earth mineralization. Having confirmed the presence of the mineralization, the Phase 1 drilling was expanded to areas not previously tested and demonstrated the extension of rare earth mineralization both laterally and vertically.

The Phase 2 drilling focused on expanding the area of known mineralization, infilling between existing holes and testing the mineralization at depth. All drill holes intersected rare earth mineralization and the maximum depth at which rare earth mineralization was encountered was 350 m below the surface of the hill.

The original resource estimate based on the Phase 1 and Phase 2 drilling programs enabled a maiden resource of 13.2 million tonnes ("Mt") grading 1.62% total rare earth oxides ("TREO") in the Indicated category and 18.6mt grading 1.38% TREO in the Inferred category which was announced on October 10, 2012. The Indicated resource estimate formed the basis for a Pre-Feasibility Study completed in 2014, which was subsequently updated in 2015.

## **Feasibility Study**

Following the receipt of £5 million (\$7 million) by Lancaster on January 24, 2018, pursuant to the transaction with Talaxis, Mkango commenced the Feasibility Study, the initial phases of which comprised an extensive diamond drilling programme, metallurgical optimisation and work in relation to the ongoing ESHIA.

On June 4, 2018, Mkango announced commencement of the major Phase 3 diamond drilling programme at Songwe Hill. The programme was completed in early September 2018 and comprised 91 drill holes totalling 10,900 metres of infill, step-out and geotechnical drilling, the latter for the purposes of mine design.

In five press releases between August 21, 2018 and December 3, 2018 (<a href="www.sedar.com">www.sedar.com</a>), Mkango announced the results of all 91 drill holes which, together with a schematic geological map illustrating the location of the drill hole collars and estimated drill hole traces, are available on the Company's website (<a href="www.mkango.ca">www.mkango.ca</a>).

Approximately 60% of the Phase 3 drill holes were infill holes aimed at better defining the geology and geometry of the mineralized body, to facilitate a better understanding of the geological characteristics and setting of the mineralization, and to refine the geological model as a prelude to re-defining the Mineral Resource. All infill holes intersected significant widths of mineralized carbonatite and breccia. Modelling of the lithologies based on geochemistry confirms that the core of the deposit is a uniformly mineralized carbonatite intrusive with steep sides.

Approximately 30% of the Phase 3 drill holes were step-out holes, aimed at expanding the known Mineral Resource by identifying or better delineating mineralization that is outside the volume of the previously defined Mineral Resource. Most of these holes contained mineralized intersections although not all reached their targeted depths.

These holes have resulted in expansion of the estimated Mineral Resources by identifying new areas of mineralized carbonatite beyond the limits of the previous exploration programs.

Oriented core was recovered from 16 of the holes to provide geotechnical information within the Mineral Resource for future mine design.

Forty-nine of the drill holes intersected significant zones of rare earths mineralisation grading above 1% total TREO. Highlights from the results include the following:

PX056	<b>114.8 m grading 1.6% TREO</b> (60.7 – 175.5 m) including <b>30.0 m grading 2.0% TREO</b> (135.0 – 165.0 m). Inclined hole (60 degrees west).
PX059	<b>63.0</b> m <sup>1</sup> grading 1.7% TREO (6.0 – 69.0 m), including 23.0 m <sup>2</sup> grading 2.3% TREO (7.0 – 30.0 m), and 15.4 m grading 1.6% TREO (128.0 – 143.4 m). Inclined hole (60 degrees west).
PX073	<b>67.1 m grading 1.6% TREO</b> (8.8 – 75.9 m) including <b>25.2 m grading 2.0% TREO</b> (45.0 – 70.2 m). Inclined hole (60 degrees west).
PX076	<b>40.2 m grading 1.8% TREO</b> (60.4 – 100.7 m) including <b>20.0 m grading 2.4% TREO</b> (60.4 – 80.4 m). Inclined hole (60 degrees west).
PX077	<b>51.9 m³ grading 1.7% TREO</b> (26.2 – 78.0 m). Inclined hole (60 degrees west).
PX081	<b>53.3m<sup>4</sup> grading 2.2% TREO</b> (3.7 – 57.0 m) including <b>26.8 m grading 3.1% TREO</b> (3.7 – 30.5 m). Inclined hole (60 degrees east).
PX086	<b>73.3 m grading 1.9% TREO</b> (21.5 – 94.8 m). Inclined hole (60 degrees west).
PX087	<b>74.4 m<sup>5</sup> grading 2.1% TREO</b> (16.2 – 90.6 m). Inclined hole (60 degrees west).
PX090	<b>25.7 m<sup>6</sup> grading 3.9% TREO</b> (39.5 – 65.2 m). Inclined hole (60 degrees west).
PX092	<b>74.9 m grading 1.9% TREO</b> (10.1 – 84.9 m) and <b>51.9 m grading 1.5% TREO</b> (97.6 – 149.5 m EoH). Inclined hole (60 degrees south).
PX093	<b>83.9 m grading 1.9% TREO</b> (1.5 – 85.4 m) including <b>18.0 m grading 3.0% TREO</b> (21.0 – 39.0 m). Inclined hole (60 degrees west).
PX098	<b>65.0</b> m <sup>7</sup> grading <b>1.7%</b> TREO (1.1 – 66.0 m) and <b>13.1</b> m grading <b>1.2%</b> TREO (115.0 – 128.1 m). Inclined hole (60 degrees south).
PX103	<b>165.2 m grading 1.6% TREO</b> (2.6 – 167.8 m). Inclined hole (60 degrees east).
PX107	<b>91.3</b> m <sup>8</sup> grading <b>1.3%</b> TREO (23.0 – 114.2 m) including <b>32.2</b> m <sup>9</sup> grading <b>1.9%</b> TREO (82.0 – 114.2 m). Inclined hole (60 degrees east).
PX108	<b>45.8 m grading 1.4% TREO</b> (8.2 – 54.0 m) and <b>57.3 m grading 1.7% TREO</b> (76.9 – 134.2 m). Inclined hole (60 degrees east).
PX109	<b>53.0 m grading 2.1% TREO</b> (22.0 – 75.0 m) including <b>22.0 m grading 3.0% TREO</b> (24.0 – 46.0 m). Inclined hole (60 degrees east).
PX113	<b>51.1 m<sup>10</sup> grading 2.2% TREO</b> (4.7 – 55.8 m). Inclined hole (50 degrees north).
PX112	<b>100.9 m grading 3.3% TREO</b> (5.9 – 106.8 m EoH) including <b>20.5 m grading 4.2% TREO</b> (5.9 – 26.4 m) and 22.2 m grading 4.1% TREO (36.0 – 58.2 m). Inclined hole (60 degrees south).
PX125	104.5 m grading 1.5% TREO (3.5 – 108.0 m) including 51.5 m grading 1.9% TREO (3.5 – 55.0 m). Inclined hole (60 degrees south).
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Includes two cavities totaling 5.9m not sampled. <sup>2</sup> Includes a 2.5m cavity not sampled. <sup>3</sup> Includes a 2.7m cavity not sampled. <sup>4</sup> Includes a 3.8m cavity not sampled. <sup>5</sup> Includes a 2.7m cavity not sampled. <sup>6</sup> Includes a 6.3m cavity not sampled. Due to the size of the cavity, the significance of this intersection is uncertain. <sup>5</sup> Includes a 2.3m cavity not sampled. <sup>6</sup> Includes two cavities totaling 2.3m not sampled. <sup>7</sup> Includes a 0.9m cavity not sampled. <sup>8</sup> Includes two cavities totaling 10.0m not sampled. <sup>9</sup> Includes a 0.9m cavity not sampled. <sup>10</sup> Includes two cavities totaling 10.0m not sampled. Due to the size of the cavities, the significance of this intersection is uncertain. TREO: total rare earth oxides based on total La<sub>2</sub>O<sub>3</sub>, Ce<sub>2</sub>O<sub>3</sub>, Pr<sub>2</sub>O<sub>3</sub>, Nd<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>2</sub>O<sub>3</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>. These intersections are reported as down hole widths and do not necessarily represent true thicknesses and attitude of the mineralized zones, the estimation of which will require further refining of the geological model.

Drill holes PX072, PX073, PX078, PX079, PX080, PX083, PX084, PX085, PX088, PX089, PX090, PX091, PX093, PX094, PX095, PX109, PX114, PX118, PX119, PX120, PX121, PX122, PX123 and PX124 were step-out holes focused on testing north and north-west extensions of the mineralisation. Of these 24 drill holes, 19 intersected broad zones of mineralisation. The mineralised intersection in PX113 indicates the extension of the higher grade carbonatite zone located in the north-east as indicated on the accompanying geological map on the Company's website, to the north under cover. Drill holes PX038, PX039, PX040 and PX041 were step-out drill holes, focused on testing extensions of mineralisation to the south. The intersections in PX039 and PX040 further indicate that mineralisation may extend to the south. The remaining drill holes were focused on infill zones in the previous exploration/resource area defined by drill holes PX001 to PX035. Intersections of broad zones of mineralisation, as opposed to narrow veins or dykes, continue to support the concept of a bulk tonnage, open pit mining operation with low mining costs.

The full set of the above results and breakdown of TREO values are as follows:

Drill Hole	From	To	Interval		La <sub>2</sub> O <sub>3</sub>	Ce <sub>2</sub> O <sub>3</sub>	Pr <sub>2</sub> O <sub>3</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>2</sub> O <sub>3</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>	Tm₂O₃	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
Diminole	m	m	m		ppm	ppm	ppm	ppm	ppm	%										
					1,5,2,2					- 1							- 1.2			
PX039	122.9	142.0	19.2		4,394	7,467	756	2,432	323	82	188	22	96	15	35	5	29	5	440	1.6%
										-	-			_						
PX040	28.0	43.0	15.0		5,020	7,061	645	2,006	303	90	239	33	164	28	67	9	47	6	844	1.7%
								9							- 3	- 1				
PX045a	9.8	30.9	21.1		2,006	4,148	495	1,833	309	89	217	27	127	20	47	6	33	5	547	1.0%
r Au43d	5.0	30.5	21.1		2,000	4,140	433	1,033	305	03	211	- 21	121	20	47	0	33	3	341	1.0 /6
					200000000	1											6000			
PX050	8.0	161.0	153.0		2,790	5,578	643	2,353	344	87	214	26	128	21	51	7	40	5	607	1.3%
including	96.0	126.0	30.0	H	4,370	8,097	890	3,132	430	108	267	32	149	24	57	8	53	7	654	1.8%
,					1,500												- 17.70			
including	137.9	161.0	23.2		3,687	7,162	808	2,899	415	105	254	31	145	24	55	7	42	5	651	1.6%
	-								-											
PX053	25.0	61.0	36.0		3,461	6,442	683	2,309	365	98	236	27	117	18	39	4	22	3	492	1.4%
	74.4	04.6	20.2		2.020	E 507	FOE	1.070	200	70	100	20	O.F.	15	20	5	24		460	4.00/
	74.4	94.6	20.2	(1)	2,920	5,507	585	1,972	288	72	169	20	95	15	38	5	24	3	469	1.2%
(i) Includes 2.	1m cavity no	t sampled.														- A				
PX054	23.4	182.0	158.7		2,733	5,233	582	2,097	322	86	205	24	113	18	44	6	34	5	521	1.2%
including	45.8	102.3	56.6		3,315	6,337	703	2.489	355	95	226	28	133	22	51	6	36	5	611	1.4%
merading	45.0	102.5	30.0	Н	0,010	0,007	700	2,400	300	- 00	220	20	100	- 22	- 01	- 0	50	-	011	1.476
PX055	21.4	47.5	26.2		3,921	6,592	676	2,282	332	85	193	21	92	15	35	5	28	4	425	1.5%
	67.7	103.2	35.5		2,627	5,470	626	2,258	328	89	214	26	119	19	44	5	30	4	520	1.2%
0.00	3									- 7										
PX056	60.7	175.5	114.8		3.951	7,339	799	2,784	404	105	243	28	124	20	47	6	32	4	570	1.6%
7 X030	00.7	175.5	114.0	$\vdash$	5,551	7,555	700	2,104	404	103	240	20	124	20	- 41	-	02	_	510	1.076
including	135.0	165.0	30.0		5,463	9,096	920	3,003	392	101	232	26	116	18	43	5	29	4	516	2.0%
									_											
PX057	9.0	39.7	30.7		3,696	6,496	714	2,334	327	82	188	21	93	15	36	4	23	3	407	1.4%
		-112071																		
PX058	29.5	71.0	41.6	H	2,885	5,784	636	2,208	311	83	190	21	97	15	36	4	23	3	421	1.3%
FA036	29.5	71.0	41.0	$\vdash$	2,005	3,764	030	2,200	311	-03	150	- 21	91	- 10	30	-	23	3	421	1.376
																	-			
PX059	6.0	69.0	63.0	(i)	3,980	7,314	785	2,617	392	112	279	36	173	29	76	10	57	8	879	1.7%
including	7.0	30.0	23.0	(ii)	5,890	9,922	1,012	3,237	469	138	358	47	227	38	100	13	76	10	1,171	2.3%
	128.0	143.4	15.4		4,122	7,352	778	2,645	370	94	212	25	121	20	49	6	36	5	604	1.6%
(i) Includes 5.5	9m cavity no	t sampled.						-		-	-	-		_		-		_		
(ii) Includes 2.											_			-	$\rightarrow$					

PX063	4.4	21.4	17.0		2,951	6,117	698	2,540	359	100	239	32	168	29	71	8	51	7	838	1.4%
	96.4	109.8	13.4	(i)	3,908	8,548	1,000	3,703	558	135	292	29	126	20	46	5	33	5	616	1.9%
(i) Includes 5.5	5m cavity no	t sampled.									-									
PX066	61.8	134.2	72.4		3,122	5,703	620	2,110	301	81	196	23	112	18	44	5	33	4	510	1.3%
including	99.0	122.6	23.6		4,147	7,328	776	2,530	337	90	219	26	127	20	50	6	40	5	576	1.6%
PX067	6.0	128.8	122.8		3,237	5,661	598	2,105	312	85	197	22	99	15	37	5	29	4	452	1.3%
including	44.0	70.8	26.8		4,119	7,791	858	3,039	429	112	250	27	120	19	46	6	39	6	564	1.7%
PX070	5.0	51.6	46.6		5,228	8,218	785	2,502	318	83	192	21	93	14	30	3	19	3	364	1.8%
240000	78.4	201.3	123.0		5,186	8,463	824	2,587	305	77	173	19	82	12	27	3	18	2	330	1.8%
including	78.4	122.0	43.7		8,194	12,954	1,212	3,596	350	81	173	17	75	11	25	3	18	2	303	2.7%
PX072	12.6	28.4	15.8		3,364	6,889	773	2,693	405	104	247	28	121	18	41	5	25	3	532	1.5%
	93.9	147.8	53.9		2,358	4,684	525	1,886	301	77	179	20	94	16	39	5	27	4	486	1.1%
																<u> </u>				
PX073	8.8	75.9	67.1		4,024	7,255	790	2,740	401	103	232	25	114	19	43	5	28	4	507	1.6%
including	45.0	70.2	25.2		5,278	8,924	948	3,159	439	110	241	24	106	17	36	4	21	3	438	2.0%
PX076	60.4	100.7	40.2		5,618	8,453	789	2,458	311	80	183	22	98	15	33	4	24	3	404	1.8%
including	60.4	80.4	20.0		7,432	11,021	1,020	3,106	372	93	209	24	108	16	36	4	25	3	434	2.4%
PX077	27.8	78.0	50.2		5,081	7,864	733	2,266	284	75	178	22	99	16	34	4	22	3	415	1.7%
PX078	6.0	28.3	22.3		3,214	5,866	621	2,144	332	86	207	24	117	19	44	5	29	4	517	1.3%
	76.2	144.4	68.3		5,114	8,386	832	2,745	366	90	205	22	103	17	39	5	27	3	482	1.8%
including	125.1	144.4	19.4		9,581	14,066	1,306	4,063	500	119	250	24	98	14	32	4	20	3	403	3.0%
PX080	5.7	109.8	104.1	(i)	3,118	5,426	578	2.018	316	82	189	21	94	15	34	4	25	3	406	1.2%
including	33.6	87.6	54.1	(0)	3,854	6,669	709	2,453	377	96	217	24	102	16	37	5	28	4	438	1.5%
(i) Includes 2.					.515.5.5															
PX081	3.7	57.0	53.3	(i)	6,530	10,274	979	3,058	377	97	243	29	137	22	52	6	36	4	638	2.2%
including	3.7	30.5	26.8		9,531	14,108	1,290	3,863	440	108	269	32	144	24	56	7	39	5	684	3.1%
(i) Includes 3.1	Bm cavity no	t sampled.								ij										
PX083	31.0	73.2	42.2		2,338	4,551	521	1,961	330	92	228	28	134	21	49	6	31	4	619	1.1%
					37535															
PX086	21.5	94.8	73.3		4,503	8,452	903	3,098	431	115	272	32	158	26	61	7	43	5	731	1.9%
PX087	16.2	90.6	74.4	(i)	5,731	9,603	981	3,234	410	107	247	30	143	23	53	6	36	4	630	2.1%
(i) Includes 2.7		t sampled.			318-04-05-1															
PX088	47.0	100.7	53.7	F	1,894	3,988	486	1,919	355	94	225	27	132	22	53	6	35	4	639	1.0%
PX089	54.3	88.5	34.2		2,215	4,270	465	1,694	285	80	195	23	110	18	42	5	29	4	491	1.0%
		11,52,510			3800000												3200		- Section 1	
PX090	39.5	65.2	25.7	(i)	12,424	18,649	1,670	4,792	512	138	324	39	167	25	56	7	41	6	631	3.9%
(i) Includes 6.3	3m cavity no	t sampled.	Due to size o	f cavity	, the significa	nce of this int	ersection is	uncertain.												

PX092  PX093  including  PX094	97.6	149.5	74.9 51.9		5,133 3,376	8,693	859	2,749	374	97	229	26	116	17	39	5	28	4	482	1.9%
including	1.5	149.5	51.9		3,376					_	_						_			_
including						6,493	708	2,472	375	99	232	26	120	19	49	7	46	6	576	1.5%
including					-1000						- Company								100000000	
		85.4	83.9		5,070	8,720	892	2,948	394	104	243	29	132	21	51	7	40	5	592	1.9%
PX094	21.0	39.0	18.0		8,914	14,033	1,348	4,171	472	115	255	28	118	18	41	5	33	5	474	3.0%
PX094										, j	- 1	1			- 1	- 1				
	25.0	100.7	75.7	(i)	3,363	5,652	567	1,876	284	81	204	24	112	18	43	5	32	4	482	1.3%
including	67.0	79.0	12.0		6,336	9,822	928	2,828	385	112	282	33	147	23	52	6	38	5	593	2.2%
including	67.0	79.0	12.0		0,330	9,022	920	2,020	300	112	202	- 33	147	23	32	,	30		393	2.270
(i) Includes 8.5m			22.9	- m	2,116	4,470	510	1,880	273	73	175	21	108	10	47		34		539	1.0%
PX095	60.0	82.9	22.9	(i)	2,110	4,470	510	1,000	2/3	73	1/0	21	100	19	47	6	34	4	559	1.0%
(i) Includes 2.0m	m cavity no	t sampled.																		
PX098	1.1	66.0	65.0	(i)	3,682	7,400	836	2,942	428	112	278	35	168	29	73	10	55	8	872	1.7%
	115.0	128.1	13.1		3,013	5,409	579	1,974	306	84	213	27	124	20	46	6	29	4	568	1.2%
						9 )				- 8										
(i) Includes 2.3m	n cavity no	s sampled.																		
DV466		400.7			40.000	47 450	1.045	0.004	205	470	200	25	440	- 00	400				010	0.00/
PX100	94.6	100.7	6.1		10,223	17,450	1,815	6,064	765	172	360	35	140	20	45	6	30	4	616	3.8%
- Parties						2.000	710		100	10.1					- 10				500	4.501
PX101	36.6	42.3	5.7		2,981	6,306	746	2,771	493	131	322	36	148	21	43	5	29	4	560	1.5%
PX102	8.7	36.0	27.3	H	2,730	6,487	789	2,869	342	78	163	17	76	11	25	3	14	2	335	1.4%
	75.0	110.3	35.3		2,096	5,170	671	2,623	381	96	217	26	130	22	51	6	28	3	658	1.2%
PX103	2.6	167.8	165.2		3,512	6,903	788	2,809	412	111	263	31	144	23	55	7	45	6	658	1.6%
				H				-		- 8				-		-				0 5
PX104	1.9	47.0	45.1	(i)	2,562	5,388	617	2,273	338	96	230	28	139	22	52	7	38	5	618	1.2%
	95.6	135.0	39.4		3,122	5,206	527	1,794	277	80	189	21	99	15	35	4	25	4	433	1.2%
					37.55.25				33752.63		11.00.00						7.52		30.000	
(i) Includes 5.0m PX105	n cavity no	t sampled.	75.7		2,711	5,036	550	1,963	312	86	199	24	112	18	43	5	27	4	523	1.2%
1 1100	0.0	70.0	10.1		2,111	0,000	000	1,000	OIL	- 00	100	21	7,12		-10				OLO	11270
PX106	51.9	67.5	15.7	H	2,579	5,090	562	1,968	294	81	192	23	108	17	40	5	25	3	478	1.1%
1 7/100									-											
	79.7	109.0	29.3		2,036	4,451	527	1,952	317	87	209	25	121	21	51	7	39	5	604	1.0%
															- 8					
PX107	23.0	114.2	91.3	(i)	3,041	5,727	632	2,258	336	95	232	29	140	23	60	8	48	6	700	1.3%
	82.0	114.2	32.2	(ii)	4,624	8,375	911	3,176	457	125	300	37	168	27	70	10	53	7	827	1.9%
(i) Includes 2.3m	n cavity no	t sampled.						-						-	-	-	-+			
(ii) Includes 0.9m															*					
PX108	8.2	54.0	45.8		3,553	6,243	656	2,234	360	106	261	32	149	24	58	7	45	7	705	1.4%
	76.9	134.2	57.3		4,774	7,740	761	2,417	333	90	205	23	102	15	34	4	24	3	418	1.7%
					GJ4.090	.,,,,,,,,,	7.01		555		200		702							
PX109	22.0	75.0	53.0		6,078	9,518	896	2,790	348	88	204	23	97	15	33	4	22	3	391	2.1%
									0.527.03		300000					- 2			303000	
including	24.0	46.0	22.0		8,845	13,770	1,285	3,962	477	121	280	31	130	19	41	5	27	3	512	3.0%
			20000								2.0000								1 transport	
PX110	9.2	22.4	13.2		6,648	9,822	965	2,852	348	88	204	24	109	18	39	4	22	3	451	2.2%
2 2	85.0	100.7	15.7	-	4,927	9,588	1,102	3,601	475	117	270	31	148	25	58	7	41	5	676	2.1%

PX111	7.0	42.0	35.0		2,893	6,042	683	2,504	443	128	312	38	169	25	53	6	30	4	657	1.4%
	69.5	115.9	46.4		3,666	6,542	670	2,313	357	97	232	26	111	17	40	5	33	4	476	1.5%
PX112	5.9	106.8	100.9		10,530	15,038	1,357	4,067	455	114	279	32	137	22	49	6	35	4	606	3.3%
including	5.9	26.4	20.5		14,172	19,387	1,698	4,949	518	131	323	37	160	25	58	7	39	5	719	4.2%
including	36.0	58.2	22.2		13,856	19,053	1,655	4,776	495	121	289	31	128	19	41	5	28	4	522	4.1%
															-		100			
PX113	4.7	55.8	51.1	(i)·	5,458	9,720	993	3,572	474	124	289	34	165	26	64	8	44	6	772	2.2%
(i) Includes 10	0.0m cavity r	not sampled																		
PX114	56.0	100.7	44.7	(i)	3,762	6,498	663	2,194	319	80	186	21	98	15	34	4	22	3	409	1.4%
					0,102	0,700		2,101	0.0										100	
			not sampled.																	
PX115	2.7	17.7	15.0		2,365	4,945	564	2,107	316	84	195	23	107	18	42	5	31	4	522	1.1%
	46.3	61.0	14.8	Н	2,468	5,132	583	2,180	350	96	221	26	116	18	42	5	29	4	493	1.2%
PX116	57.3	66.0	8.7		4,426	9,933	1,205	4,615	752	189	397	40	166	24	52	6	33	5	720	2.3%
		0010	-		31346	0,000	7,500		1.04	100				-						2.070
PX118	4.4	91.0	86.6		3,236	5,889	595	1,919	304	81	192	23	107	18	42	5	31	4	509	1.3%
including	46.0	91.0	45.0		3,715	6,777	681	2,170	328	86	200	23	108	18	41	5	30	4	497	1.5%
	120.9	151.6	30.7	(i)	2,248	4,667	497	1,842	346	95	228	27	133	22	52	6	33	4	640	1.1%
(i) Includes 2.	2m cavity no	ot sampled.																		
PX119	14.8	64.8	50.0		3,389	6,119	640	2,135	292	76	178	20	95	16	39	5	28	4	422	1.3%
including	14.8	24.6	9.8		8,483	12,932	1,184	3,347	334	84	193	22	98	15	34	4	23	3	380	2.7%
PX120	3.1	42.7	39.6		2,631	5,272	572	2,010	284	75	175	20	90	14	34	4	25	3	380	1.2%
PX121	60.0	95.5	35.5		3,598	6,143	655	2,218	336	89	212	24	113	.17	40	5	28	4	487	1.4%
PX122	84.0	106.8	22.8	(i)	3,639	5,899	586	1,934	273	74	172	21	100	16	37	5	27	3	431	1.3%
(i) Includes tw	o cavities to	taling 4.2m	not sampled.																	
PX123	75.9	100.8	24.9		2,304	4,657	513	1,807	248	61	135	15	67	11	28	4	19	3	331	1.0%
PX124	24.7	58.8	34.1		2,748	5,520	604	2,120	279	73	166	21	107	19	51	7	40	5	556	1.2%
PX125	3.5	108.0	104.5		4,244	6,599	630	1,989	272	77	187	24	113	18	40	5	26	3	475	1.5%
including	3.5	55.0	51.5		5,416	8,469	807	2,505	313	85	205	27	135	22	51	6	34	4	609	1.9%
Drill holes PX	038, PX041	. PX044, PX	(051, PX084,	PX085	and PX091 o	id not interse	ct significan	nt zones of n	nineralisation	grading ab	ove 1% TR	EO								
m ·	7				orus leal		7	7					la i o lesa o		Jastis	1 0	140	7.	-	00 4100

These intervals are reported as down hole widths and do not necessarily represent true thicknesses and attitude of the mineralised zones, the estimation of which requires further refining of the geological model.

Laboratory assay data was used to produce a 3D model based on geochemical coding that is reflective of the main mineralization, and that is objective, repeatable, and provides a consistent and meaningful illustration of the distribution of rare earth mineralization in the context of the geological setting.

The principal geochemical discriminators of the lithological variation were found to be aluminium, silicon, potassium, and calcium. Calcium was used as the final indicator, which gave a good separation with the same accuracy and resolution as if all four discriminators had been used.

The geological model constructed from the geochemistry provides a good framework within which to interpret the geology of the deposit. This is a heterogeneous geological environment that is not easily interpreted from lithological observations of drill hole core and outcrop samples alone. The model provides an estimate of the shape and extent of the carbonatite and is considered a useful tool to describe the shape of the main ore body. The model

was also applied to validate the indicator approach that was used to estimate the carbonatite proportion in each cell of the resource block model.

On February 4, 2019, Mkango announced an updated mineral resource estimate for Songwe: 8 Mt grading 1.50% TREO in the Measured category, 12.2 Mt grading 1.35% TREO in the Indicated category and 27.5 Mt grading 1.33% TREO in the Inferred category, applying a base case cut-off grade of 1.0% TREO.

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 tonnage 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, totalling 21 Mt 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 the 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 160 m below the surface of the hill, indicating that the majority will be accessible by open pit mining.

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

Sample preparation and analytical work for the drilling and channel sampling programmes are being provided by Intertek-Genalysis Laboratories (Perth, Australia) employing ICP-MS techniques suitable for rare earth analyses and following strict internal Quality Assurance/Quality Control ("QAQC") procedures inserting duplicates, blanks and standards. Internal Laboratory QAQC was also completed to include blanks, standards and duplicates.

In terms of other aspects of the Feasibility Study, metallurgical optimisation is underway at laboratories in Australia and Canada. The work programme was scaled up following receipt of the Talaxis funding and is focused on flotation, hydrometallurgy and acid regeneration.

The ESHIA is underway and is being completed in accordance with World Bank Standards and Equator Principles.

#### Other targets in the Phalombe Licence

On August 9, 2016, Mkango announced the results of an airborne geophysical survey (the "Survey") covering approximately two thirds of the Phalombe Licence. The Survey was part of a \$25 million World Bank funded nationwide airborne geophysical programme. The airborne radiometric survey highlights a number of exploration targets within the Phalombe Licence. Songwe Hill was not covered by the Survey.

Apart from Songwe Hill, there are two other identified hypabyssal systems in the Phalombe Licence, namely Nkalonje and Namangale. In both cases, the Survey indicates strong thorium radiometric anomalies coincident with the intrusive rocks, which, similar to Songwe Hill, are expressed as steep hills rising above the surrounding plain. Thorium radiometrics are known as a highly effective tool for rare earths exploration and the carbonatite at Songwe Hill is also characterized by a thorium radiometric anomaly, identified through previous geophysical surveys. Unlike Songwe Hill, the Nkalonje and Namangale hypabyssal systems do not feature large areas of outcropping carbonatite, the host rock for rare earths at Songwe Hill. However, both contain outcrops of carbonatite veins and dykes suggesting that there is potential for identifying a carbonatite body below surface. Other prospects within the Phalombe Licence include the Mantrap and Knoll prospects.

A map showing the thorium radiometric anomalies superimposed on a topographic map, indicating local infrastructure, and the locations of Nkalonje and Namangale can be accessed via the following link: http://www.mkango.ca/i/maps/Results-of-Airborne-Radiometric-Survey-(Th)-on-Topo-Aug.jpg.

In 2016, Songwe Hill and the Nkalonje, Mantrap and Knoll prospects were visited by a large delegation of international and Malawian geology and geophysics experts in connection with the €5.4 million HiTech AlkCarb research project led by the Camborne School of Mines, the University of Exeter and funded under the European Union's Horizon 2020 Research and Innovation program in which the Company (through BVI) is an industry partner. The scope of the research project encompasses building exploration expertise in hi-tech raw materials as well as improving and developing interpretation of geophysical and down hole data. Of particular relevance to Mkango is the opportunity to better understand the potential for large but unexposed mineralised bodies of carbonatite (the host rock for rare earth mineralisation) on either a prospect or regional scale.

Based on work to date, the highest priority of such targets within the Phalombe Licence is the abovementioned Nkalonje hypabyssal system, where outcrop is largely fenite (altered country rock) with occasional carbonatite but where there may also be potential for underlying and larger zones of mineralised carbonatite.

Mkango retains, through its holding in Lancaster BVI, a 51% interest in the Phalombe Licence.

## THAMBANI, MWANZA DISTRICT

#### **Background**

Lancaster BVI was granted the Thambani Licence by the Malawi Minister of Natural Resources, Energy and Environment on September 10, 2010 in respect of an area, which was originally 468 sq km in Thambani, Mwanza District, Malawi. Exploration has identified a number of areas with potential for uranium ("U"), tantalum ("Ta"), niobium ("Nb"), zircon ("Zr") and mineral corundum.

The licence was originally issued by the Malawi Government on a three-year basis and was subsequently renewed on September 10, 2015 for an additional two-year term when the Company requested a reduction in the licence area to the current 136.9 sq km. The licence was subsequently renewed for a further 2 years to September 8, 2019, and is in the process of being extended for a further 2 years.

The exploration activities conducted during 2011 and 2012 included acquisition of Landsat7 and ASTER satellite imagery for the licence area, systematic ground radiometric surveys to confirm and detail previously-known airborne anomalies, reconnaissance geological mapping and litho-geochemical sampling programs. The work has identified a number of potential uranium targets over the Thambani Massif, which is mainly composed of nepheline syenite gneiss, forming two prominent ridges known as Thambani East Ridge and West Ridge. Historical airborne radiometric surveys and ground radiometric survey programs carried out by Mkango have revealed two distinct uranium anomalies occurring along the two ridges. A strong uranium anomaly, measuring approximately 3 km by 1.5 km, occurs along the length of the Thambani East Ridge with a north-south trend and a second uranium anomaly, measuring approximately 1.5 km by 0.4 km occurs on the West Ridge along the western contact of the nepheline syenite body with the eastern biotite-hornblende gneisses.

Initial results from follow up reconnaissance geochemical sampling conducted in 2013 returned locally anomalous uranium values, ranging up to 1,545 ppm  $U_3O_8$ , on both Thambani East Ridge and West Ridge. During the year ended December 31, 2014, the Company continued to progress the geological exploration studies on the Thambani project area, data analysis and geological modeling.

Mkango completed a trenching program across the Thambani Massif primarily focused on two sites of historical uranium exploration, known as the Chikoleka and Little Ngona targets. An initial set of nine trenches, selected on the basis of anomalous ground radiometric results, have been re-examined and geochemically sampled across profiles from soil/overburden into bedrock.

The first set of assay results of 142 soil and rock chip samples returned variably anomalous U, Nb and Ta values in most trenches, ranging up to  $4.70 \% U_3O_88$ ,  $3.25 \% Nb_2O_5$  in soil and up to  $0.42 \% U_3O_8$ ,  $0.78 \% Nb_2O_5$  and 972 ppm  $Ta_2O_5$  in rock chips, notably higher than results from the 2013 reconnaissance surface geochemical sampling program. Results associated with the 10 best  $U_3O_8$  assays are summarized in the table below.

Preliminary mineralogical studies carried out on six rock samples from the Little Ngona River and Chikoleka targets, using Scanning Electron Microscopy ("SEM") at the Natural History Museum (NHM) London, indicate that pyrochlore group minerals, mainly betafite, are the principal carriers of U, Nb and Ta for these samples.

Assays from the 10 highest- U3O8 samples from the Thambani trenching program

Trench No.	Profile	Sample No	From (m)	To (m)	Rock type	U308 Ppm	Nb2O5 ppm	Ta2O5 ppm
C3	A	U3622	0.5	1	Soil	47,094	32,462	45
C3	A	U3623	1	1.5	Soil	1,057	735	59
T11	С	U3508	0.5	1	Decomposed Feldspathic	4,231	7,805	743
T11	С	U3509	1	1.5	Decomposed Feldspathic	2,539	6,619	911
T11	В	U3505	0.5	1	Decomposed Feldspathic	2,369	5,424	972
T15	A	U3554	1	1.5	Feldspathic rock	1,657	4,346	67
T15	A	U3553	0.5	1	Feldspathic rock	1,616	3,754	431
T15	Е	U3565	0.5	1	Feldspathic rock	1,553	3,525	41
T14	D	U3549	1.5	2	Feldspathic rock	1,432	3,034	434
T19	C	U3604	1	1.5	Feldspathic rock	1,367	5,525	675

#### **New Airborne Geophysical Survey**

On July 12, 2016, Mkango announced results of a new airborne geophysical survey covering approximately two thirds of its Thambani Licence. As with the Phalombe Licence, the survey was part of a \$25 million World Bank funded nationwide airborne geophysical programme flown at 250 metre spacings.

The new airborne survey confirms the presence of the previously-identified uranium radiometric anomaly referred to above along the western flank of the Thambani East Ridge. The Little Ngona prospect, which previously yielded very encouraging uranium, niobium and tantalum values from geochemical sampling, is located at the northern end of this anomaly.

Further discrete uranium anomalies, orientated approximately east-west, is located to the south of these anomalies and has yet to be investigated in detail. The previously-identified uranium radiometric anomalies on the West Ridge and Chikoleka prospect in the north-west of the licence area, which also yielded very encouraging results from previous geochemical sampling, were not covered by this Survey.

A map showing the uranium radiometric anomalies superimposed on a topographic map, indicating local infrastructure, and a digital elevation model can be accessed via the following link: http://www.mkango.ca/i/maps/Results of Airborne radiometric survey on topo U July.jpg

The airborne survey also highlighted a number of magnetic anomalies not previously identified, including a 2.3 km linear magnetic high anomaly along the Thambani East Ridge, a further 1 km by 0.5 km magnetic high anomaly located to the north along the Thambani East Ridge, a magnetic low anomaly approximately co-incident with the abovementioned east—west orientated uranium anomaly and anomalies in a number of other locations. These areas require further investigation to determine the significance of the magnetic anomalies and whether they are related to mineralisation or geological features.

A map showing the magnetic anomalies superimposed on a topographic map, indicating local infrastructure, and a digital elevation model can be accessed via the following link: http://www.mkango.ca/i/maps/Results of Airborne magnetic survey on topo July 2016.jpg

In May 2017, Mkango announced the results of the latest work program on the Thambani Licence. Assay results from 85 rock grab samples returned high grade uranium, tantalum and niobium values, ranging up to 3.3 %  $U_3O_8$ , 1.9 %  $Ta_2O_5$  and 6.0 %  $Nb_2O_5$ . 35 of the samples graded above 500ppm  $U_3O_8$  and 24 graded above 1,000ppm  $U_3O_8$ . Results associated with the twenty best  $U_3O_8$  assays are summarised in the table below. Grab samples are selective samples and are not necessarily representative of the mineralization hosted on the property.

Assays from the 20 highest grade U<sub>3</sub>O<sub>8</sub> samples from the 2017 Thambani sampling programme

Sample no.	U <sub>3</sub> O <sub>8</sub> ppm	U <sub>3</sub> O <sub>8</sub> %	Ta <sub>2</sub> O <sub>5</sub> ppm	Ta <sub>2</sub> O <sub>5</sub> %	Nb <sub>2</sub> O <sub>5</sub> ppm	Nb <sub>2</sub> O <sub>5</sub> %
U3141	32590	3.26	19029	1.9	59200	5.92
U3183	31812	3.18	15224	1.52	60055	6.01
U3136	10131	1.01	4845	0.48	32478	3.25
U3111	8826	0.88	4191	0.42	14871	1.49
U3127	5468	0.55	3084	0.31	15138	1.51
U3135	5265	0.53	2747	0.27	13183	1.32
U3122	5250	0.52	2431	0.24	10820	1.08
U3125	4518	0.45	2028	0.2	8461	0.85
U3115	4352	0.44	2221	0.22	9789	0.98
U3121	4191	0.42	2390	0.24	13585	1.36
U3137	3988	0.4	1896	0.19	8707	0.87
U3124	3952	0.4	2100	0.21	9600	0.96
U3168	3664	0.37	2022	0.2	7137	0.71
U3129	3562	0.36	1625	0.16	6469	0.65
U3176	3264	0.33	1905	0.19	5864	0.59
U3131	2768	0.28	1293	0.13	5314	0.53
U3133	2231	0.22	1235	0.12	5971	0.6
U3118	2163	0.22	1330	0.13	3838	0.38
U3172	1749	0.17	1351	0.14	3924	0.39
U3119	1741	0.17	916	0.09	4592	0.46

The main objectives of the programme were to confirm previously identified high-grade mineralisation at the Little Ngona target, ground-truth new geophysical targets and complete further reconnaissance sampling along the East and West Ridges. New areas of high-grade uranium, tantalum and niobium mineralisation were identified at the foot of the West Ridge and on the East Ridge. Most significantly, a radiometric high at the foot of the West Ridge yielded two of four highest grade samples of this phase of exploration. The average grades for the 85 samples were 1,892 ppm  $U_3O_8$ , 1,029 ppm  $Ta_2O_5$  and 4,562 ppm  $Nb_2O_5$ . The median grades for the 85 samples were 343 ppm  $U_3O_8$ , 222 ppm  $Ta_2O_5$  and 958 ppm  $Nb_2O_5$ . The ranges of grades for the 85 samples were 1 - 32,590 ppm  $U_3O_8$ , 2 - 19,029 ppm  $Ta_2O_5$  and 0 - 60,055 ppm  $Nb_2O_5$ .

On April 29, 2019, the Company announced that it has entered into a non-binding heads of terms agreement ("Heads Agreement") with MetalNRG PLC, whereby MetalNRG will earn up to a 75% interest in the Thambani license by spending up to \$2 million on exploration. The terms of the Heads Agreement outline that the parties will enter into a binding definitive agreement on or before June 30, 2019 and that MetalNRG's participation in the Thambani license is limited to exploration for uranium. The definitive agreement will include the following elements:

- MetalNRG will spend \$500,000 on exploration within the Thambani license within 12 months of the date of the definitive agreement to earn a 25% interest in the Thambani license.
- MetalNRG will have the option to spend a further \$700,000 over the second 12-month period to earn an additional 24% interest for a total 49% interest in the Thambani license.
- MetalNRG will have the option to spend a further \$800,000 over the second 12-month period to earn an additional 26% interest for a total 75% economic interest in the Thambani license.
- Mkango will have a right of first refusal on 100% offtake of the Uranium and other minerals.

Mkango currently retains a 100% interest in the Thambani Licence.

## CHIMIMBE HILLS, MCHINJI DISTRICT

On November 14, 2017, Lancaster BVI was granted the Chimimbe Licence by the Malawi Minister of Natural Resources, Energy and Environment in respect of an area of 98.48 km2 in Chimimbe Hills, Mchinji district, Malawi. Exploration has identified a number of areas with potential for laterite and saprolite hosted nickel, cobalt, chrome and other mineralization.

The Chimimbe Licence runs for a period of three years and is renewable for further periods of two years thereafter if the terms and conditions of the licence have been met.

Mkango will re-evaluate the Chimimbe Hill deposit in the context of geophysical data produced by the recent World Bank airborne geophysical survey of Malawi, recent infrastructure developments in the region, potential synergies with Songwe Hill and the Thambani uranium-tantalum-niobium project, options relating to sulphuric acid and/or alternative reagents supply and potential by-products, as well as opportunities to produce nickel and cobalt products for the battery electric vehicle market.

Mkango retains a 100% interest in the Chimimbe Licence.

#### **MAGINITO**

Maginito is a new venture, incorporated on January 3, 2018 in the BVI, which is focused on downstream opportunities in the rare earths supply chain, in particular rare earth alloy, magnet and other technologies geared to accelerating growth in the electric vehicle market, including the Metalysis Joint Venture. On January 28, 2018, Talaxis invested £1 million (\$1.4 million) for a 24.5% interest in Maginito. Permanent magnets are critical components for most electric vehicles, direct drive wind turbines and many other high growth applications. The research and development programme with Metalysis is underway focused on the development of advanced alloys using neodymium or praseodymium with other elements for use in permanent magnets. Neodymium is a key rare earth component at Songwe Hill.

Mkango holds a 75.5% ownership in Maginito.

#### SELECTED CONSOLIDATED FINANCIAL INFORMATION

During the year ended December 31, 2018, the Company was focused on advancing the Songwe Hill project in addition to its other projects in Malawi and downstream opportunities relating to the rare earth supply chain. Information discussed herein reflects the Company as a consolidated entity.

## **Financial Position**

The following financial data is derived from the Company's financial statements as at December 31, 2018, 2017 and 2016:

Years ended December 31,	2018	2017	2016
Total assets	2,685,561	997,869	980,430
Total non-current liabilities	-	1,505,561	1,252,464
Shareholders' surplus (deficit) of parent	5,038,140	(1,253,363)	(441,626)

#### Total assets

Total assets were \$2,685,561 for the year ended December 31, 2018 as compared to \$997,869 for the year ended December 31, 2017. Total assets increased by \$1,687,692 year over year. The change is primarily due to a \$1,709,426 increase in cash as a result of the following transactions:

- 1. January 28, 2018: \$8,139,497 net cash was received from Talaxis for its investments in Lancaster BVI and Maginito.
- 2. Exercise of warrants: \$919,366 cash was received when warrants of the Company were exercised during the year ended December 31, 2018.
- 3. For the year ended December 31, 2018, operational consumption of cash was \$7,272,167 and the addition of assets consumed a further \$83,908 of cash.
- 4. Changes in foreign exchange rates reduced the value of the total assets in 2018 by \$6,637.

During the year ended December 31, 2018, \$7,272,167 of cash was consumed due to operational activities, primarily to advance the Songwe Hill project through both exploration and administrative expenditures. On June 4, 2018, Mkango commenced the Songwe Hill Feasibility Study, the initial phase of which comprised a diamond drilling programme, metallurgical optimisation and work in relation to the ongoing environmental, social and health impact assessment. As of December 31, 2018, the drilling programme had been completed with other work streams ongoing.

In comparison, for the year ended December 31, 2017, \$609,448 was raised through the issuance of common shares which closed on October 26, 2017. Cash increased by an additional \$479,584 as a result of warrants exercised during the year ended December 31, 2017. Cash was reduced by \$786,542 as a result of operational cash consumption. Operational cash consumption was primarily due to general and administrative costs required to maintain the project sites in Malawi and a publicly traded company in Canada and the United Kingdom ("UK").

Total assets were \$997,869 for the year ended December 31, 2017 as compared to \$980,430 for the year ended December 31, 2016. For the year ended December 31, 2016, cash increased by \$1,141,312 as a result of a placement which closed on June 14, 2016. The \$1,141,312 of cash received was offset by the \$958,681 of operational cash consumption and \$2,377 for the addition of assets. In comparison, cash increased by \$950,794 for the year ended December 31, 2017 as a result of a placement which closed on October 26, 2017 and warrants which were exercised during the year. The \$950,794 of cash received was offset by \$648,304 of operational cash consumption. Operational cash consumption was due to general and administrative costs required to maintain the project sites in Malawi and a publicly traded company in Canada and the UK.

#### Total non-current liabilities

Total non-current liabilities were nil for the year ended December 31, 2018 as compared to \$1,505,561 for the year ended December 31, 2017. The change was due to the reclassification of the warrant valuation from non-current to current liabilities

Total non-current liabilities were \$1,505,561 for the year ended December 31, 2017 as compared to \$1,252,464 for the year ended December 31, 2016. The non-current liabilities value for the year ended December 31, 2016 was comprised of two components: warrant valuation and deferred management salaries. The warrant valuation increased by \$688,900 for the year ended December 31, 2017 due to changes in the Company's share price volatility and its closing share price. The increase was offset by a decrease of \$243,097 due to the reclassification of the deferred management salaries from non-current to current liabilities. In comparison, the non-current liabilities value for the year ended December 31, 2017 only included the warrant valuation.

# Total shareholders' equity (deficit) of parent

Total shareholders' equity was \$5,038,140 for the year ended December 31, 2018 compared to a deficit of \$1,253,363 for the year ended December 31, 2017. The \$6,291,503 increase is primarily due to the reduction in Mkango's deficit as a result of the funding received January 28, 2018, from Talaxis for its investments in Lancaster BVI and Maginito. A non-controlling interest balance was established at the date of the investment. The opening balance was based on the investor's proportionate share of the net assets held by the investee just prior to the date of the investment. Funds in excess of the net asset valuation were used to reduce the deficit of the parent company, which created a shareholders' surplus. The surplus was then reduced for the parent company's share of net loss recognized for the year ended December 31, 2018.

A \$1,253,363 total shareholders' deficit was recognized for the year ended December 31, 2017 as compared to a \$441,626 total shareholders' deficit for the year ended December 31, 2016. The \$811,737 increase in total shareholders' deficit was due to the following items:

- 1. Net loss for the year ended December 31, 2017 increased the total shareholders' deficit by \$2,529,181.
- 2. Share capital decreased the total deficiency by \$1,329,604:
  - a. Funding received from the October 26, 2017 placement decreased the total shareholders' deficit by \$609,448.
  - b. The issuance of advisory shares in connection with the June 15, 2016 placement decreased the total shareholders' deficit by \$27,030.
  - c. Warrants exercised during 2017 decreased the total shareholders' deficit by \$705,608.
- 3. Adjustments to contributed surplus which included stock based compensation and the revaluation of the 13,200,000 warrants issued to Noble and Zenith decreased the total shareholders' deficit by \$387,695.

#### **Summary Results of Operations**

The following financial data is derived from the Company's consolidated financial statements as at December 31, 2018, 2017 and 2016:

		Ye	ears e	nded Dece	mber	31,
		2018		2017		2016
Revenue	\$	1,013	\$	9	\$	7
Mineral exploration	4	1,539,059		243,329		105,557
Other expenditures*	2	2,638,082	2	,285,861		751,358
Total net loss	7	7,176,128	2	2,529,181		856,908
Total net loss attributable to non-controlling interest	1	,454,239		-		-
Basic and diluted loss per share	\$	(0.066)	\$	(0.029)	\$	(0.010)
Weighted average number of common shares	108	3,903,087	86	,996,808	57	7,157,323
used for the calculation of loss per share (basic and diluted)						
Distributions or Dividends	\$	Nil	\$	Nil	\$	Nil

<sup>\*</sup> Other expenditures represents all other expenditures, other than Mineral exploration expenditures, disclosed in the statements of comprehensive loss and includes non-cash items.

The net loss for the year ended December 31, 2018 was \$4,646,947 higher compared to the net loss reported for the year ended December 31, 2017. The significant items contributing to the increase were general and administrative expenses, which increased by \$1,024,011, mineral exploration expenditures, which increased by \$4,295,730 and Maginito research and development expenses, which increased by \$410,173. These categories increased significantly for the year ended December 31, 2018 because the Company undertook a major diamond drilling program for the Songwe Hill project, incurred additional expenditures relating to the ESHIA and Corporate Social Responsibility ("CSR") programs and paid \$410,173 to advance the collaborative research and development programme with Metalysis. General and administrative costs were higher, primarily due to an increase in fees paid to Directors and Officers of the Company, legal fees, salaries and consulting fees, and to an increase in travel expenses. These expenses increased as a result of the administrative efforts required to support the undertaking of the work programs for the Songwe Hill project. The increase in these expenses was offset by a decrease in the share-based payments, accretion and the change in value of the warrants held by common shareholders.

The net loss for the year ended December 31, 2017 was \$1,672,273 higher compared to the net loss reported for the year ended December 31, 2016. The significant items contributing to the increase were office expenses, shareholder compliance costs, mineral exploration expenses, accretion, gain on deferred salaries, foreign exchange loss, and the unrealized loss on the revaluation of warrants. These increases to net loss were partially offset by a decrease in the AIM listing expenses and stock option expenses.

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#### **RESULTS OF OPERATIONS**

The selected period information and summary of financial results below is derived from and should be read in conjunction with the Company's consolidated financial statements for the years ended December 31, 2018 and 2017.

## SUMMARY OF QUARTERLY FINANCIAL RESULTS

The following is selected financial data from the company's quarterly financial statements for the last eight quarters ending with the most recently completed quarter, being the quarter ended December 31, 2018:

Total Operations		2018	3		2017						
Attributable to common shareholders	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1			
Interest income	\$(126)	\$106	\$64	\$766	\$(105)	\$225	\$(113)	\$2			
Expenses	1,447,454	2,159,919	1,159,075	753,090	556,759	254,373	264,783	318,050			
Other items	(197,969)	79,217	635,496	7,860	315,206	(61,723)	(120,327)	65,698			
Warrant fair value loss (gain)	(452,955)	13,395	(21,137)	139,255	769,745	(136,752)	118,324	185,168			
Net loss for period	(796,655)	(2,252,425)	(1,773,370)	(899,439)	(1,641,815)	(55,673)	(262,894)	(568,914)			
Loss per share - basic and diluted	\$(0.021)	\$(0.022)	\$(0.015)	\$(0.008)	\$(0.018)	\$(0.003)	\$(0.003)	\$(0.010)			

The financial data for the eight periods reported have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB) and interpretations issued by the International Financial Reporting Interpretations Committee ("IFRIC"), in effect on December 31, 2018. The financial data does not include the non controlling interest ("NCI") share of net loss for the period. The financial data is presented in US dollars.

The Company's principal activities require expenditures which include both exploration and general and administrative expenses.

#### FOURTH QUARTER 2018 COMPARED TO FOURTH QUARTER 2017

The Company recognized a net loss attributable to common shareholders of \$796,655 and \$1,641,815 for the three months ended December 31, 2018 and 2017, respectively. The \$845,160 decrease in net loss attributable to common shareholders was comprised of a decrease in the warrant revaluation expense, partially offset by an increase in the general and administrative expenses, mineral exploration expenses and unrealized foreign exchange loss. The increase in mineral exploration expenditures was the result of the drilling program, which began on June 4, 2018, and was completed during 2018, at Songwe Hill. The increase in general and administrative expenditures was primarily due to an increase in fees paid to Directors and Officers of the Company and an increase in costs associated with maintaining a dual listed public company. The increase in unrealized foreign exchange loss was due to the Company's holdings of foreign denominated currencies in bank accounts, which were revalued for reporting purposes as at December 31, 2018.

# THIRD QUARTER 2018 COMPARED TO THIRD QUARTER 2017

The Company recognized a net loss attributable to common shareholders of \$2,252,425 and \$55,673 for the three months ended September 30, 2018 and 2017, respectively. The \$2,196,752 increase in net loss attributable to common shareholders was comprised of \$230,810 for general and administrative expenses and \$1,711,568 for mineral exploration expenditures, \$150,147 for the warrant revaluation expense and an increase in the unrealized foreign exchange loss of \$127,038. The increase in mineral exploration expenditures was the result of the drilling program, which began on June 4, 2018, and was ongoing during the remainder of 2018, at Songwe Hill. The increase in general and administrative expenditures was primarily due to an increase in fees paid to Directors and Officers of the Company and an increase in costs associated with maintaining a dual listed public company.

## SECOND QUARTER 2018 COMPARED TO SECOND QUARTER 2017

The Company recognized a net loss attributable to common shareholders of \$1,773,370 and \$262,894 for the three months ended June 30, 2018 and 2017, respectively. The \$1,510,476 increase in net loss attributable to common shareholders was comprised of an increase in general and administrative expenses, an increase to mineral exploration expenditures, an increase in the warrant revaluation expense and an increase in the foreign exchange

loss. The increase in mineral exploration expenditures was the result of the preparations for a drilling program at Songwe Hill. The increase in general and administrative expenditures was primarily due to an increase in fees paid to Directors and Officers of the Company and an increase in costs associated with maintaining a dual listed public company offset by a decrease in legal and travel costs.

#### FIRST QUARTER 2018 COMPARED TO FIRST QUARTER 2017

The Company recognized a net loss attributable to common shareholders of \$899,439 and \$568,914 for the three months ended March 31, 2018 and 2017, respectively. The \$330,525 increase in net loss attributable to common shareholders was comprised of \$52,623 for general and administrative expenses and \$393,918 for mineral exploration expenditures offset by a decrease in the warrant revaluation expense of \$45,913 and a reduction in accretion expense of \$18,026 and a decrease in the foreign exchange loss of \$116,737. Mineral exploration expenditures increased by \$393,918 as a result of the activities underway at Songwe Hill to prepare for the diamond-drilling programme and costs associated to advance the collaborative research and development programme with Metalysis. There was also a \$52,623 increase in general and administrative expenditures which was primarily due to a \$32,239 increase in fees paid to Directors and Officers of the Company, a \$10,990 increase in legal fees, a \$21,824 increase in travel related expenses and a \$5,853 increase in costs associated with maintaining a dual listed public company offset by a decrease in audit and office costs. The increase in the general and administrative costs was the result of the work in relation to the Talaxis Agreement and increased activities in Malawi.

# RELATED PARTY TRANSACTIONS AND BALANCES

- a) Leo Mining Exploration Ltd. ("Leo Mining") is considered related by virtue of common directors and officers who have an ownership in, and exercise significant influence over, both companies. The Company and Leo Mining have formalized their relationship with respect to services provided by Leo Mining. A written agreement sets out the types of services, which may be provided, and the costs associated with such services. The Company repays the disbursements made by Leo Mining on its behalf. During the year ended December 31, 2018, the Company had incurred costs of \$79,415 (December 31, 2017 \$48,200) for administrative services. As of December 31, 2018 the Company has an outstanding payable to Leo Mining in the amount of \$12,496 (December 31, 2017 \$12,686). The amount is unsecured and due on demand.
- b) Talaxis is considered an insider as it holds more than 10% of the shares of the Company. Transactions and balances with Talaxis are disclosed throughout the consolidated financial statements.
- c) Zenith is considered a related party because a Director of the Company is a principal of Zenith. Transactions and balances with Zenith are disclosed throughout the consolidated financial statements.
- d) The Company incurred costs of \$774,406 (December 31, 2017 \$384,009) for key management fees, director expenses and retirement allowances for the year ended December 31, 2018. On April 25, 2018, the Board of Directors resolved that each of the directors will be entitled to a payment of \$16,000 per year while the Chairman of the Board is entitled to a payment of \$40,000 per year, beginning on January 24, 2018. Upon the appointment of three new directors, it was resolved that they are also entitled to a payment of \$16,000 per year commencing as of their start date. Two Directors of the Company resigned on October 2, 2018. The Company paid each resigning Director a retirement allowance of \$54,000. As of December 31, 2018, the Company has an outstanding payable due to key management and directors of \$97,792 (December 31, 2017 \$125,989). The current liabilities due to related parties are unsecured, due on demand and non-interest bearing.

	2018	2017
Consulting fees	\$ 452,426	\$ 249,157
Director fees	81,797	-
Retirement allowance	108,000	-
Share-based awards	132,183	134,852
Total key management compensation	\$ 774,406	\$ 384,009

The Company recorded a gain on deferral of related party consulting fees at the time of the initial deferral and upon deferral of each monthly amount. Accretion is recorded at an effective interest rate of 20% of the

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consulting fees payable. The following table provides a reconciliation of amounts reflected in the consolidated financial statements for the year ended December 31, 2018 and 2017:

	December 31, 2018	December 31, 2017
Balance, beginning of year	\$ 448,380	\$ 243,097
Consulting fees deferred (paid) during the year	(244,969)	125,989
(Gain) loss on deferral of consulting fees	7,960	(20,307
Accretion	24,512	68,271
Foreign exchange (gain) loss	(10,367)	31,330
Balance, end of year	\$ 225,516	\$ 448,380
Due to related parties with common directors	12,496	12,686
Due to key management and directors	97,792	17,743
Total due to related parties	\$ 335,804	\$ 478,809

# **EXPENDITURES**

	For the ye		
Total expenses attributable to common	Decen		
shareholders and NCI	2018	Change	
General and administrative			
Audit and tax management	\$ 61,340	\$ 31,625	\$ 29,715
Legal fees	357,879	33,297	324,582
Director and Officer salaries	579,929	217,735	362,194
Salaries and consulting fees	288,770	97,491	191,279
Office	350,923	201,873	149,050
Travel	72,779	25,887	46,892
Shareholder compliance	49,640	129,340	(79,700)
Sub total - General and administrative	1,761,258	737,248	1,024,010
Malawi exploration expenditures			
Songwe Hill Project			
Mineral extraction development	588,549	133,498	455,051
Government fees	36,023	16,681	6,991
ESHIA	342,238	9,251	332,987
Grant refund	-	(23,824)	23,824
Drilling programme	2,571,917	-	2,584,267
Consulting fees	181,175	54,820	126,355
Malawi office and camp expenses	812,959	52,903	760,056
Thambani project	2,782	-	2,782
Chimimbe project	3,416	-	3,416
Sub total - Mineral exploration	4,539,059	243,329	4,295,730
Research and development			
Maginito research and development	410,173	-	410,173
Sub total - Research and development	410,173	-	410,173
Other Expenses			
Share-based payments	136,976	402,120	(265,144)
Accretion	24,512	68,271	(43,759)
Depreciation	25,906	11,154	14,752
AIM listing expense	89,703	48,308	41,395
Gain on deferral of salaries	7,960	(20,307)	28,267
Foreign exchange (gain) loss	503,036	102,582	400,454
Warrant revaluation	(321,442)	936,485	(1,257,927)
Total Expenses	\$7,177,141	\$2,529,189	\$4,647,952

## Years ended December 31, 2018 compared to December 31, 2017

Total expenses include those attributable to both the common shareholders and to the NCI. Total expenses increased by \$4,647,952 from \$2,529,189 for the year ended December 31, 2017 to \$7,177,141 for the year ended December 31, 2018, as a result of the following factors:

a) General and administrative: General and administrative expenses were \$1,024,010 higher for the year ended December 31, 2018 compared to the year ended December 31, 2017.

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Director and Officer salaries were \$362,194 higher for the year ended December 31, 2018 as a result of the following:

- ➤ On January 24, 2018, the Non-Executive Directors began receiving payments for their services provided to the Company. The Non-Executive Directors were remunerated \$81,797 for the year ended December 31, 2018. In comparison, there was no remuneration paid to Non-Executive Directors for the year ended December 31, 2017.
- Two Directors of the Company resigned on October 2, 2018. The Company paid the Directors a retirement allowance totaling \$108,000.
- Three officers received an increase in compensation, which resulted in a \$172,397 increase to expenses compared to the year ended December 31, 2017.

In addition, there was a \$29,715 increase in audit and tax management costs, a \$324,582 increase in legal costs, a \$191,279 increase in salaries and consulting fees, an increase of \$149,050 in office costs and an increase of \$46,892 in travel costs as management focused their efforts on completing the investment transaction with Talaxis and on advancing the exploration program for Songwe Hill. In addition, there was a decrease of \$79,700 in shareholder compliance and investor relation expenses as the Company did not pursue or complete any equity placements during the year ended December 31, 2018.

- b) Mineral Exploration: Mineral exploration expenses were \$4,295,730 higher for the year ended December 31, 2018 compared to the year ended December 31, 2017. There was a \$2,584,267 increase in drilling costs due to the diamond-drilling programme completed during 2018 at Songwe Hill. Consulting fees were \$126,355 higher, mineral extraction development expenses were \$455,051 higher, the ESHIA costs were \$332,987 higher and general camp and Malawi office expenses were \$760,056 higher for the year ended December 31, 2018. These expenditures were higher because the Company undertook a major diamond drilling program for the Songwe Hill project and incurred additional expenditures related to the ESHIA program.
- c) Research and Development: Research and development expenses were \$410,173 higher for the year ended December 31, 2018 compared to the year ended December 31, 2017. A \$281,372 payment was made by Maginito to reimburse Mkango for a payment made to Metalysis in 2017. The payment was made to advance the collaborative research and development programme being undertaken with Metalysis. In addition, a payment of \$128,801 was made to Metalysis during 2018 to further advance the collaborative research programme.
- d) <u>AIM Listing Expense</u>: The AIM listing expense increased by \$41,395 for the year ended December 31, 2018, compared to the year ended December 31, 2017. These costs consisted of payments made to the nominated advisor, which is a requirement to maintain the AIM listing.
- e) Warrant Revaluation: The warrant revaluation expense decreased by \$1,257,927 for the year ended December 31, 2018 compared to the year ended December 31, 2017. The value of the warrants (other than finder's warrants) decreased because there were fewer warrants included in the calculation. A total of 7,555,679 warrants were exercised and 5,864,758 warrants expired during 2018.
- f) <u>Foreign Exchange Loss</u>: The foreign exchange loss for the year ended December 31, 2018 was \$400,454 higher than the expense recognized for the year ended December 31, 2017 due to an increase in cash held by the Company in foreign currencies, which were revalued at December 31, 2018 for reporting purposes.
- g) <u>Share-based payments</u>: The share-based payments for the year ended December 31, 2018 was \$265,144 lower than the expense recognized for the year ended December 31, 2017. During December 2017 a one-time event occurred which impacted the value of the share-based payments. The Company cancelled and then re-issued finders' warrants in order to extend the expiration date. The change in value of these warrants were disclosed as share-based payments.
- h) The remaining differences for the year ended December 31, 2018 compared to the year ended December 31, 2017, are related to changes in accretion, gain on deferral of salaries and depreciation.

#### DISCLOSURE CONTROLS AND PROCEDURES

In connection with National Instrument 52-109 (Certificate of Disclosure in Issuer's Annual and Interim Filings) ("NI 52-109"), the Chief Executive Officer and Chief Financial Officer of the Company have filed a Venture Issuer Basic Certificate with respect to the financial information contained in the consolidated financial statements for the year ended December 31, 2018 and this accompanying MD&A (together, the "Annual Filings").

In contrast to the full certificate under NI 52-109, the Venture Issuer Basic Certificate does not include representations relating to the establishment and maintenance of disclosure controls and procedures and internal control over financial reporting, as defined in NI 52-109. For further information the reader should refer to the Venture Issuer Basic Certificates filed by the Company with the Interim Filings on SEDAR at <a href="https://www.sedar.com">www.sedar.com</a>.

#### COMMITMENTS

The Company holds three licenses in Malawi with commitments to pay annual licensing fees and to meet spending commitments for exploration expenses every two years. On January 5, 2018, the Company paid in full, \$11,882, for the annual fees due on the Phalombe license for 2018. On September 21, 2018, the Company paid in full, \$1,900, for the annual fees due on the Thambani license for 2018. On December 12, 2018, the Company paid in full, \$11,750, to renew the Phalombe license for a further two years with an expiry date of January 21, 2021. On December 7, 2018, the Company paid in full, \$1,361, for the annual fees due on the Chimimbe license for 2018.

The Company is continuing to meet the terms and conditions of its three exploration licences and provides updates to Malawi's Ministry of Mining on a regular basis regarding progress of its work programs.

#### ISSUED AND OUTSTANDING SHARE INFORMATION

As at the date of this report, the Company has 114,570,702 Common Shares and 32,334,564 warrants issued. The Company has 11,125,000 stock options issued.

#### **OFF BALANCE SHEET ARRANGEMENTS**

The Company is not party to any off balance sheet arrangements or transactions.

# **ACCOUNTING POLICIES AND ESTIMATES**

Management is required to make judgments, assumptions and estimates in the application of IFRS that have a significant impact on the financial results of the Company. Details outlining Mkango's accounting policies are contained in the notes to the consolidated audited financial statements for the year ended December 31, 2018.

# **RISK FACTORS**

#### Environmental Risk

The Company is subject to substantial environmental requirements. The current and anticipated future operations and exploration activities of the Company in Malawi require permits from various governmental authorities and such operations and exploration activities are and will be governed by local laws and regulations governing various elements of the mining industry including, without limitation, land use, the protection of the environment, prospecting, development, production, exports, taxes, labour standards, occupational health, waste disposal, toxic substances, and other matters. Globally, environmental legislation is evolving towards stricter standards and enforcement, more stringent environmental impact assessments of new mining projects and increasing liability exposure for companies and their directors and officers. There is no assurance that future environmental regulations will not adversely affect the Company's operations.

# Exploration and Commercial Viability Risk

The Company does not currently produce rare earth elements from Songwe Hill where the Company is currently engaged in a Feasibility Study. While the Company has produced a Pre-feasibility Study, there is no assurance that the Feasibility Study will demonstrate the commercial viability of the project. Some of the factors that affect the financial viability of a given mineral deposit include its size, grade and proximity to infrastructure and the realizable value of the minerals extracted. These factors include, but are not limited to, government approval for mining

licences and exploration licence extensions applications, government regulations, taxes, royalties, land tenure, land use, environmental protection and reclamation and closure obligations. All or some of these factors may have an impact on the economic viability of Songwe Hill.

#### Macroeconomic Risk

From a macroeconomic perspective, ongoing global market uncertainty has led to a significant reduction in risk appetite with respect to funding investment into mining companies. The ability for mining companies to access capital through traditional means may be significantly diminished, with the possible long-term result that projects may take longer to develop or may not be developed at all.

## Foreign Countries and Political Policy Risk

The Company has interests in properties that are located in the developing country of Malawi. The Company's mineral exploration may be affected in varying degrees by political instability and government regulations relating to foreign investment and the mining industry. Changes, if any, in mining or investment policies or shifts in political attitude in Malawi may adversely affect the Company's operations. Operations may be affected in varying degrees by government regulations with respect to, but not limited to, restrictions on production, price controls, export controls, currency remittance, direct and indirect taxes, tax assessments, royalties, expropriation of property, foreign investment, maintenance of claims, environmental legislation, land use, land claims of local people, water use and mine safety. Failure to comply with applicable laws, regulations, and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory of judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions.

#### Resource and Reserve Risk

Estimates of reserves and resources are inherently uncertain. There is a degree of uncertainty attributable to the calculation of reserves, resources and corresponding grades being mined or dedicated to future production. Until reserves or resources are actually mined and processed, the quantity of reserves or resources and grades must be considered as estimates only. In addition, the quantity of reserves or resources may vary depending on rare earth prices, operating costs and mining efficiency. Any material change in the quantity of reserves, resources or grade may affect the economic viability of Songwe Hill.

# Mining Risks

The mining industry has been subject to considerable price volatility, over which companies have little control, and a material decline in the price of rare earth elements could result in a significant decrease in the Company's future anticipated revenues. The mining industry has inherent business risks and there is no assurance that products can continue to be produced at economical rates or that produced reserves will be replaced.

Readers are cautioned that the foregoing is a summary only of certain risk factors and is not exhaustive and is qualified in its entirety by reference to, and must be read in conjunction with the additional information on these and other factors that could affect Mkango's operations and financial results that are included in reports on file with Canadian securities regulatory authorities and may be accessed through the SEDAR website (<a href="www.sedar.com">www.sedar.com</a>).

# FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

All financial instruments are initially recognized at fair value on initial recognition of the instrument. Measurement in subsequent periods depends on whether the financial instrument has been classified as fair value through profit or loss ("FVTPL"), held for trading, loans and receivables, financial assets available-for-sale, financial assets held-to-maturity, and other financial liabilities.

Financial assets and financial liabilities classified as FVTPL are measured at fair value with changes in fair value recognized in net earnings or loss. Financial assets, available-for-sale, are measured at fair value, with changes in fair value recognized in other comprehensive income. Financial assets held-to-maturity, loans and receivables and other financial liabilities are measured at amortized cost using the effective interest method of amortization.

Cash are designated as FVTPL and are measured at carrying value, which approximates fair value due to the short-term nature of these instruments. Accounts receivable are designated as loans and receivables. Accounts payable and accrued liabilities and due to related parties are designated as other financial liabilities.

The fair value of cash, accounts receivable, accounts payable and amounts due to related party approximates the carrying value. Financial instruments and share-based payment transactions are measured at fair value. The main financial risks affecting the Company are discussed below:

#### Fair values

Financial assets and liabilities have been classified into categories that determine their basis of measurement and for items measured at fair value, whether changes in fair value are recognized in the consolidated statement of comprehensive loss. Those categories are fair value through profit or loss; loans and receivables; and, for most liabilities, other financial liabilities.

In establishing fair value, the Company used a fair value hierarchy based on levels defined below:

- Level 1 quoted prices in active markets for identical assets or liabilities;
- Level 2 inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs for the asset or liability that are not based on observable market data.

Cash are measured at level 1; warrant derivative financial instruments are measured at level 2.

The carrying value of accounts receivable, subscriptions receivable, accounts payable and accrued liabilities and current liabilities due to related parties, approximates the fair value due to their short-term nature and maturity. Warrants with an exercise price in a currency other than the functional currency are recorded as a derivative liability and carried at fair value.

The Company has issued share purchase warrants to common shareholders, exercisable for common shares. The exercise price of the share purchase warrants is fixed in Canadian dollars or British Pounds Sterling and the functional currency of the Company is the US dollar. Therefore, warrants are considered a derivative, as a variable amount of cash in the Company's functional currency will be received on exercise. The category "Warrants issued" below does not include warrants issued to brokers and agents since they fall under the scope of IFRS 2, share-based payments.

	Weighted Average Exercise Price (CAD)	Weigh Average E Pric (GB	e e	Weighted Average Years Remaining	Number of Warrants	Amount
Balance at December 31, 2016	\$0.39	£	0.066	1.46	45,372,314	\$ 1,009,367
Warrants exercised	-		-	-	(3,596,515)	(364,385)
Foreign exchange effect	-		-	-	-	116,800
Fair value change at December 31, 2017	-		-	-	-	936,485
Balance at December 31, 2017	\$0.39	£	0.066	1.27	41,775,799	\$1,698,267
Warrants exercised	0.15		0.066	1.05	(7,555,679)	(521,458)
Warrants expired	0.15		-	-	(5,864,758)	-
Foreign exchange effect	-		-	-	-	(63,246)
Fair value change at December 31, 2018	-		-	-	-	(321,442)
Balance at December 31, 2018	\$0.39	£	0.066	0.40	28,355,362	\$792,121

The fair value of each warrant issued is determined at each reporting period using the Black-Scholes pricing model.

In order to determine the fair value of the Company's outstanding warrants assumptions are made with regards to the future value of the risk free interest rate, the Company's share price volatility, the Company's share price and the foreign exchange rate. Therefore, the fair value of the outstanding warrants is an estimate.

Non-current and current liabilities due to related parties that constitute a deferred payment are initially recorded at fair value, which is determined by discounting the liability using an applicable market rate.

#### Credit risk

Credit risk is the risk of loss associated with counterparty's inability to fulfill its payment obligations. The Company's credit risk is primarily attributable to cash, receivables and the receipt of the second tranche of financing from Talaxis under the Agreement and the receipt of the remainder of the grant funding from the University of Exeter.

#### Concentration risk

The majority of the Company's cash is held by one major international bank. Deposits held with this bank may exceed the amount of insurance provided on such deposits. Generally these deposits may be redeemed upon demand and bear minimal risk.

#### Foreign currency rate risk

The functional and reporting currency of the Company is the United States dollar. The Company enters into transactions denominated in Canadian dollars, the United States dollar, the British sterling, the Australian dollar, South African rand and Malawian kwacha. The Company raises its equity in British sterling and Canadian dollars and then purchases Canadian dollars, Euros, British sterling, United States dollars, South African Rand and Malawi Kwacha funds to settle liabilities, as required.

As at December 31, 2018 and 2017, the following cash balances were held by the Company. The value of cash held by the Company has been adjusted for the valuations of derivative financial instruments and amounts due to related parties:

•		
	2018	2017
Cash:		
Canadian dollars	\$ 66,138	\$ 166
United States dollar	4,530	11,286
British Sterling	2,202,543	672,141
Euro	834	874
Malawi Kwacha	126,657	6,809
Warrants – derivative financial instruments	(792,121)	(1,505,561)
Due to related parties	(335,804)	(478,809)
	\$ 1,272,777	\$ (1,293,094)

A 5% reduction in the value of the Canadian dollar, Euro and British sterling in comparison to the United States dollar would cause a net loss of approximately \$113,479. A 5% change in the value of the Malawian Kwacha in relationship to the United States dollar would not cause a material change in net loss.

## Liquidity Risk

Liquidity risk includes the risk that, as a result of the Company's operational liquidity requirements:

- The Company will not have sufficient funds to settle a transaction on the due date;
- The Company will be forced to sell financial assets at a value which is less than what they are worth; or
- The Company may be unable to settle or recover a financial asset at all.

The Company's operating cash requirements, including amounts projected to complete the Company's existing capital expenditure program and the Feasibility Study are continuously monitored and adjusted as input variables change. As these variables change, liquidity risks may necessitate the Company to conduct equity issues or obtain project debt financing.

The Company has in the past relied on equity financings to fund its activities. However, given the Definitive Agreements, the Company does not anticipate the need to raise additional equity capital in the short term. Should it, however, need to raise additional funds and while it has been successful in raising funds in the past, there is no guarantee that adequate funds will be available in the future.

The following table outlines the maturities of the Company's liabilities as at December 31, 2018:

					Greater	than 1
	Contractual (	Cash Flows	Less t	than 1 Year		Year
Accounts payable and accrued liabilities	\$	353,347	\$	353,347	\$	-
Due to related parties	\$	335,804	\$	335,804	\$	-

## Capital Risk

The Company's objective when managing capital is to maintain a flexible capital structure which will allow it to execute its capital expenditure program, which includes expenditures in mining activities which may or may not be successful. The Company has no externally imposed capital requirements. Prior to the Talaxis transaction, the Company depended on equity placements to remain solvent. Should it need to do so again in the future, cash from these placements may or may not be available depending on market or other conditions.

# LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2018, the Company had a working capital surplus of \$1,065,068 (December 31, 2017 – \$234,841) and an accumulated deficit attributable to the shareholders of the Company of \$9,461,379 (December 31, 2017 - \$14,322,462).

The operations of the Company are currently being funded by cash received as a result of the following transactions:

- 1. \$8,139,497 (£7 million) of investment proceeds received from Talaxis by two subsidiaries Lancaster BVI and Maginito, on January 19, 2018.
- 2. \$9,130,800 (£7 million) of investment proceeds received from Talaxis by Lancaster BVI, on March 28, 2019.
- 3. Proceeds received upon the exercise of 7,555,679 warrants and 864,285 advisory warrants during the year ended December 31, 2018 for total cash consideration of \$919,366.
- 4. The exercise of 1,620,000 stock options during January 2019 for total cash consideration of \$75,168 (C\$100,800).
- 5. Proceeds received upon the exercise of 1,136,363 warrants on March 20, 2019, for total cash consideration of \$98,978 (£75,000).
- 6. Proceeds received upon the exercise of 515,151 warrants on April 11, 2019, for total cash consideration of \$44,449 (£34,000).

The Company has outstanding warrants (other than those held by agents in fundraisings and Talaxis) as set out in this table:

	We	W	eighted			
	Average		Average		Weighted	
	Exercise		Exercise		Average	
	Price		Price		Years	Number of
		(CAD)		(GBP)	Remaining	Warrants
Warrants at December 31, 2016	\$	0.39	£	0.066	1.46	45,372,314
Warrants exercised		-		-	-	(3,596,515)
Warrants at December 31, 2017	\$	0.39	£	0.066	1.27	41,775,799
Warrants exercised		0.15		0.066	1.05	(7,555,679)
Warrants expired		0.15		-	-	(5,864,758)
Warrants at December 31, 2018	\$	0.39	£	0.066	0.40	28,355,362

In addition to the 28,355,362 outstanding warrants above, there are an additional 13,200,000 warrants which were issued to Talaxis for ongoing advice and 8,167 agent warrants for a total of 41,563,529 warrants outstanding as at December 31, 2018. On March 20, 2019 and on April 11, 2019, 1,136,363 and 515,151 warrants were exercised. On March 24, 2019 and on April 3, 2019, 5,420,866 and 2,148,418 warrants expired. On March 24, 2019, 8,167 warrants held by an agent expired. Therefore, there are 32,334,564 warrants outstanding as at the date of this report.

In addition, the Company received €49,589 on February 6, 2018 from the University of Exeter to advance the HiTech AlkCarb project. In combination with the previously received funds, the Company has received €92,200, as of the date of this report. The Company expects to receive up to a total of €150,000. Expenses associated with building exploration expertise in hi-tech raw materials, improving and developing interpretation of geophysical and down-hole data will qualify for use of the grant funding.

While investments by Talaxis are in subsidiaries of Mkango, the Company has agreed with Talaxis that certain expenses of Mkango will be reimbursed by funds held by Lancaster BVI and Maginito in return for Mkango's management of the subsidiaries. In addition, a \$281,372 payment was made by Maginito to reimburse Mkango for a payment made to Metalysis in 2017, which was made to advance the collaborative research and development programme being undertaken with Metalysis.

Therefore, the Company expects that funding received from Talaxis, as well as funds received from the exercise of warrants and from the University of Exeter grant, will be sufficient to fund Mkango's operations in the near term.

The Company's consolidated cash balance at December 31, 2018 was \$2,400,701 (December 31, 2017 - \$691,276).

Other than as disclosed herein, the Company is not aware of any trends, uncertainties, demands, commitments or events, which are reasonably likely to have a material effect on the Company's business, financial condition or results of operations.

#### **DIRECTORS AND OFFICERS**

William Dawes, Director and Chief Executive Officer
Alexander Lemon, Director and President
Derek Linfield, Chairman of the Board of Directors
Shaun Treacy, Director (Audit Committee Chairman and Remuneration Committee)
Adrian Reynolds, Director (Audit Committee, Remuneration Committee)
Sandra Du Toit, Director (Audit Committee, Remuneration Committee)
Susan Muir, Director (Corporate Secretary and Remuneration Committee Chairman)
Sandra Evans, Chief Financial Officer