



## **MKANGO RESOURCES LTD.**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS**

**For the three and nine months ended September 30, 2018**

This Management's Discussion and Analysis ("MD&A") provides a review of the operational performance of Mkango Resources Ltd. ("Mkango", and collectively with its subsidiaries, 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 condensed interim consolidated financial statements for the three and nine months ended September 30, 2018 (the "Financial Statements") and the audited consolidated financial statements for the year ended December 31, 2017 and the accompanying Management's Discussion and Analysis for that fiscal year. 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 November 28, 2018.

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.

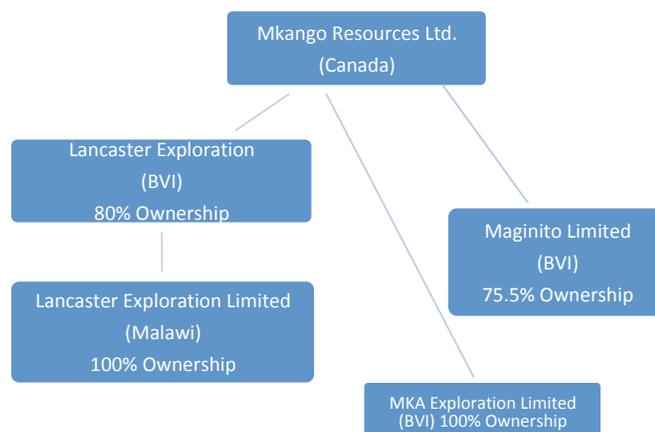
Additional information relating to the Company can be found on the Canadian System for Electronic Document Analysis and Retrieval ("SEDAR") at [www.sedar.com](http://www.sedar.com). The Company is listed on the TSX Venture Exchange the "TSX-V") and holds an additional listing on the AIM Market of the 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 current drill 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, the ability to access sufficient capital from internal and external sources and the completion of the transaction involving Talaxis Limited ("Talaxis") pursuant to the Agreement (as defined below). 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 or, if any of them do so, what benefits that the

Company will derive there from. 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**”), the Thambani exploration licence (“**Thambani Licence**”) and the Chimimbe Hill exploration licence (“**Chimimbe Licence**”). The Company is incorporated in 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 (BVI) (“**Lancaster**”), a company incorporated under the laws of the British Virgin Islands. Lancaster is 80% owned by Mkango and 20% owned by Talaxis, a wholly owned subsidiary of Noble Group Limited (“**Talaxis**”). The Thambani Licence and the Chimimbe Licence are held in trust for Mkango. The condensed interim 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 (other than the Thambani Licence and the Chimimbe licence, 100% of which are held in trust for the Company) that are owned by Talaxis. Accounting policies are applied consistently throughout all consolidated entities.

On May 19, 2011, Lancaster Exploration Limited (“**Lancaster Malawi**”) was incorporated under the laws of Malawi. Lancaster Malawi is a wholly owned subsidiary of Lancaster and as such, includes a non-controlling interest representing 20% of Lancaster Malawi’s assets and liabilities that are owned by Talaxis. Accounting policies are applied consistently throughout all consolidated entities.

On January 3, 2018 Maginito Limited (“**Maginito**”) was incorporated under the laws of the British Virgin Islands (“**BVI**”). 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. The condensed interim 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.

On July 25, 2018, MKA Exploration Limited (“**MKA Exploration**”) was incorporated by Memorandum and Articles of Association issued pursuant to the provisions of the British Virgin Islands (“**BVI**”) Companies Act. MKA Exploration is 100% owned by Mkango.

The Company’s core strategy is to advance the Songwe Hill project (Phalombe Licence) through the feasibility and development phases whilst in parallel advancing complementary downstream opportunities in the rare earths supply chain through Maginito, 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 include 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 and health impact assessment.

## OVERALL PERFORMANCE AND OUTLOOK

During 2017 and for the nine months ended September 30, 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.

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.

At the same time, 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 12.9% in Mkango's outstanding common shares. In addition, Talaxis holds warrants, which could, if exercised, take their ownership to 21.4% of Mkango's outstanding common 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 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 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 and a further £1 million (\$1.4 million) for a 24.5% interest in Maginito. The Company paid cash finders' fees totalling \$168,823 (£120,000) to Zenith Advisory Services Pty Ltd.

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

The funds invested in Lancaster are being used for the initial phases of the Feasibility Study comprising a major diamond drilling programme which will culminate in an updated 43-101 compliant mineral resource estimate for Songwe Hill, in addition to metallurgical optimisation and work in relation to the ongoing environmental, social and health impact assessment. Subject to publication of a NI 43-101 Report in respect of the updated mineral resource estimate, Talaxis will invest the remaining £7 million (\$9.8 million) for an additional 29% interest in Lancaster to fully fund the completion of the Feasibility Study.

Following completion of the Feasibility Study, Talaxis will have an option to acquire a further 26% interest in Lancaster 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 which will be free carried to production.

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.

On August 28, 2018, Susan Muir and Sandra du Toit were appointed to the Board of Directors, and on October 2, 2018, Shaun Treacy was appointed to the Board of Directors. Mr Treacy and Ms du Toit will work closely with Mkango's management and its strategic partner, Talaxis, as the Company moves towards completion of the Feasibility Study for Songwe, followed by project finance and mine development, while Ms Muir's experience and background will help to enhance the Company's profile in global markets.

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 are underway including a major diamond-drilling programme completed in September.

## SELECTED CONSOLIDATED FINANCIAL INFORMATION

During the nine months ended September 30, 2018, the Company was focused on advancing Songwe Hill 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 September 30, 2018, 2017 and 2016:

	Nine months ended September 30,		
	2018	2017	2016
Total assets	4,778,043	1,303,329	539,997
Total non-current liabilities	1,377,130	1,471,597	3,040,195
Shareholders' surplus/(deficiency)	5,908,927	(581,973)	(2,595,102)

#### Total assets

The \$3,474,714 increase in total assets for the nine months ended September 30, 2018 as compared to the nine months ended September 30, 2017 is primarily due to an increase in cash offset by operational consumption of cash. The increase in cash for the nine months ended September 30, 2018 was due to the following transactions:

1. October 26, 2017: \$661,176 cash was received on the closing of a share placement.
2. January 2018: \$8,284,027 cash was received from Talaxis for the investment in Lancaster and Maginito.
3. Exercise of warrants: \$944,050 cash was received when warrants of the Company were exercised during November 2017, December 2017, January 2018, March 2018 and September 2018.

During the nine months ended September 30, 2018, \$4,361,181 of cash was consumed 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 September 30, 2018, the drilling programme had been completed with other work streams ongoing.

In comparison, for the nine months ended September 30, 2017, there was no cash raised through placements during the period. Cash holdings were reduced by the \$647,856 operational consumption of cash. Operational 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.

In comparison, for the nine months ended September 30, 2016, cash had increased by \$828,453 as a result of a placement which closed on June 14, 2016. The \$828,453 of cash received was offset by the \$598,338 of operational cash consumption. Operational 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

The \$94,467 decrease in total non-current liabilities for the nine months ended September 30, 2018 as compared to the nine months ended September 30, 2017 is due to the decrease in the valuation of the Company's outstanding warrants and the reclassification of the \$350,331 balance at September 30, 2017 of deferred management salaries from long term to short term liabilities. The change in the outstanding warrants valuation was due to a decrease of 9,771,755 outstanding warrants held by common shareholders as a result of warrants being exercised during the period of October 1, 2017 to September 30, 2018. As well, the number of outstanding warrants decreased by a further 4,498,227 because a tranche expired on July 31, 2018.

The \$1,568,598 decrease in total non-current liabilities for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016 is due to a \$1,674,781 decrease in the valuation of the Company's

outstanding warrants. The change in the outstanding warrants valuation was due to changes in the Company's share price volatility and the Company's share price. This value was offset by the \$106,183 increase in deferred management salaries.

Total shareholders' surplus/(deficit)

A \$5,908,927 surplus was recognized for the nine months ended September 30, 2018 compared to a deficit of \$581,973 recognized for the nine months ended September 30, 2017. The change is primarily due to the reduction in retained earnings as a result of the funding received from Talaxis for its investment in Lancaster and Maginito. A non-controlling interest balance was established at the date of the investment. The opening balance is 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 retained earnings of the parent company. The surplus attributable to the Talaxis investment is offset by the Company's share of the net income for the period.

The \$2,013,129 increase in total shareholders' deficiency for the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016 is due to the increase in value of the Company's outstanding common shares as a result of two placements which closed on December 30, 2016 and September 29, 2017.

The following financial data is derived from the Company's financial statements as at September 30, 2018 and December 31, 2017:

	September 30, 2018	December 31, 2017
Total assets	4,778,043	997,869
Total non-current liabilities	1,377,130	1,698,267
Shareholders' surplus/(deficiency)	5,908,927	(1,253,363)

Total assets

The \$3,780,174 increase in total assets for the nine months ended September 30, 2018 as compared to the year ended December 31, 2017 is primarily due to the increase in cash. The increase in cash was due to the January 2018 receipt of the Talaxis net investment of \$8,284,027 and the \$602,704 cash received as a result of the exercise of warrants during January 2018, March 2018 and September 2018. The increase due to cash receipts was offset by operational consumption of cash. On June 4, 2018, Mkango commenced the Songwe Hill Feasibility Study which, when combined with administrative overhead resulted in a \$4,361,181 reduction in cash during the nine months ended September 30, 2018.

Total non-current liabilities

The \$321,137 decrease in total non-current liabilities for the nine months ended September 30, 2018 as compared to the year ended December 31, 2017 is due to the decrease in the valuation of the Company's outstanding warrants. The change in the outstanding warrants valuation was due to a 6,175,376 decrease in the number of outstanding warrants held by common shareholders, as a result of warrants being exercised and the expiration of 4,498,227 warrants on July 31, 2018.

Total shareholders' surplus/(deficit)

A \$5,908,927 shareholders' surplus was recognized for the nine months ended September 30, 2018 compared to a deficit of \$1,253,363 recognized for the year ended December 31, 2017. The change is due to the reduction in retained earnings as a result of the funds received from Talaxis for its investment in Lancaster and Maginito. A non-controlling interest balance was established at the date of the investment.

## SUMMARY RESULTS OF OPERATIONS

The following financial data is derived from the Company's condensed interim consolidated financial statements as at September 30, 2018, 2017 and 2016:

	Nine months ended September 30,		
	2018	2017	2016
Revenue	\$ 936	\$ 114	\$ 5
Mineral exploration	3,553,439	239,496	103,763
Other expenditures*	2,355,814	648,099	620,648
Total net loss	5,908,317	887,481	724,406
Total net loss attributable to non-controlling interest	985,417	-	-
Basic and diluted loss per share	\$ (0.055)	\$ (0.011)	\$ (0.030)
Weighted average number of common shares used for the calculation of loss per share (basic and diluted)	108,230,080	83,912,472	52,426,644
Distributions or Dividends	\$ Nil	\$ Nil	\$ Nil

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

The net loss for the nine months ended September 30, 2018 was \$5,020,836 higher compared to the net loss reported for the nine months ended September 30, 2017. The significant items contributing to the increase were general and administrative expenses, which increased by \$653,921, and mineral exploration expenditures, which increased by \$1,644,971. These categories increased significantly for the nine months ended September 30, 2018 because the Company undertook a major diamond drilling program for the Songwe Hill project, incurred additional expenditures relating to the ESHIA (“**Environmental Social Health Impact Assessment and Corporate Social Responsibility**”) program and paid \$281,372 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 and to an increase in travel expenses. The increase in these expenses was offset by a decrease in the share based compensation expense, accretion, foreign exchange and the unrealized loss on revaluation of warrants.

The comprehensive loss for the nine months ended September 30, 2017 was \$163,075 lower compared to the comprehensive loss reported for the nine months ended September 30, 2016. The significant items contributing to the decrease were the stock option expense and the revaluation of warrants.

## DISCUSSION OF OPERATIONS

Mkango holds an 80% interest in Lancaster, 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 development of Songwe Hill, the main exploration target within the Phalombe Licence.

Songwe Hill, which features carbonatite hosted rare earth mineralisation, was subject to previous exploration in the late 1980s. Mkango completed an updated pre-feasibility study for the project in November 2015 and is currently undertaking the Feasibility Study.

The main exploration targets in the Thambani Licence are uranium, niobium and tantalum, and in the Chimimbe Licence, nickel and cobalt.

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

**Mineral exploration expenses for the nine months ended,**

License	Project	September 30,	
		2018	2017
Phalombe	<b>Songwe Hill</b>		
	Mineral extraction development	\$338,088	\$142,157
	Government fees	13,764	15,322
	ESHIA <sup>(1)</sup>	177,827	642
	Drilling programme <sup>(2)</sup>	2,728,749	-
	Consulting fees	278,941	44,906
	Malawi office and camp expenses	13,132	36,469
Thambani	Exploration	878	-
Chimimbe	Exploration	2,060	-
Total Malawi project expenditures		3,553,439	239,496
Research and development	Maginito <sup>(3)</sup>	288,516	-
Total mineral exploration expenses		\$3,841,955	\$239,496

(1) Environmental Social Health Impact Assessment and Corporate Social Responsibility expenditures.

(2) The Company completed a major diamond-drilling programme at Songwe Hill.

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

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

## 1. SONGWE HILL

The Phalombe Licence covers an area of 849.1 square kilometers ("sq km") in southeast Malawi, within which the main development target is Songwe Hill. Songwe Hill features carbonatite hosted rare earth mineralization and was subject to previous exploration programs in the late 1980s. Lancaster was awarded the licence on January 21, 2010.

The licence was originally issued by the Malawi Government on a three-year basis, and has subsequently been renewed with the most recent renewal on January 21, 2017 for a further 2 years to January 21, 2019. In connection with the January 21, 2017 renewal, the Company requested that the licence area be reduced to the current area of 849.1 sq km.

Management believes that all necessary permits for Lancaster's current phase of the exploration program have been obtained.

Diamond drilling programs, completed in 2011 and 2012, focused on an area measuring approximately 350 by 100 meters comprising rare earth enriched carbonatite, carbonatite breccia and fenite lithologies, largely exposed at surface. A total of 25 holes were completed in the 2012 Stage 2 program for a total of approximately 4,860 meters to a maximum vertical depth of approximately 350 meters. The Stage 2 program was designed to complement the 13-hole, 2,000 meter Stage 1 drilling program and systematic channel sampling completed in 2011.

On November 22, 2012, Mkango filed a Technical Report (the "Report") for its maiden NI 43-101 mineral resource estimate entitled, *NI 43-101 Technical Report and Mineral Resource Estimate for the Songwe Hill Rare Earth Element (REE) Project, Phalombe District, Republic of Malawi*, authored by Scott Swinden, PhD, PGeo and Michael Hall, Pr.Sci.Nat., MAusIMM. The Report's mineral resource estimates are summarized below. For further details of the mineral resource estimates including breakdowns thereof, please refer to the Report, which is available at [www.sedar.com](http://www.sedar.com).

Cut-off grade	<i>In-situ</i> Indicated Mineral Resource estimate	<i>In-situ</i> Inferred Mineral Resource estimate
1.0% TREO	13.2 mt grading 1.62% TREO	18.6 mt grading 1.38% TREO
1.5% TREO	6.2 mt grading 2.05% TREO	5.1 mt grading 1.83% TREO

*TREO – total rare earth oxides including yttrium. In-situ - no geological losses applied. mt - million tonnes*

On July 10, 2013, the Company announced a base case metallurgical flow sheet for Songwe Hill and that proof of concept test work on a bench scale had demonstrated that the flow sheet has potential to produce a high grade mixed rare earth carbonate or hydroxide product.

During the year ending December 31, 2013, the Company was focused on scoping metallurgical test work, environmental studies and commencement of the pre-feasibility study, in addition to regional exploration.

During the year ended December 31, 2014, the Company continued to progress the environmental and social impact studies, flow sheet optimization and metallurgical test work, process plant engineering design work, mining studies and other activities related to the pre-feasibility study. This culminated in the Company announcing the results of the pre-feasibility study on September 23, 2014. The pre-feasibility study (as updated, the “**Pre-feasibility Study**”) was subsequently updated on December 1, 2015, with the results announced on November 9, 2015.

The Pre-feasibility Study indicates a \$345 million after-tax net present value (NPV), using a 10% nominal discount rate, and a 37% after-tax internal rate of return (IRR) for Songwe Hill, based on rare earth oxide (REO) prices equivalent to a total rare earth basket price of \$59.8 per kg REO. The basket price reflects the selective removal of a large proportion of the cerium during the hydrometallurgical process, which enhances the value of the product mix. For further information, please refer to the study, which is available at [www.sedar.com](http://www.sedar.com).

Initial capital expenditure (Capex) of \$216 million, including a contingency of \$20 million, is among the lowest in the rare earth sector.

Cash operating costs average \$13.0 per kg REO for the first five years of production and \$16.4 per kg REO for the life of mine. The Study assumes an additional cost of \$10.0 per kg REO to account for the cost or discount associated with toll separation or the sale of a mixed chemical concentrate.

The Pre-feasibility Study is based on an open pit operation, using contract mining, with a mine life of 18 years commencing in 2018. There is potential to significantly expand production or the mine life and for a lower strip ratio given the large additional Inferred Resource and potential to expand the Mineral Resource.

This first phase of development envisages production of a high grade, cerium depleted, purified chemical concentrate for toll treatment or sale, with annual production of approximately 2,840 tonnes per year of REO in concentrate.

Based on the input parameters in the updated Pre-feasibility Study the Probable Mineral Reserve Estimate remained unchanged at 8.5 million tonnes grading 1.60% TREO using a cut-off grade of 1.0% TREO as reported in September 2014.

On July 26, 2016, Mkango announced that it had secured a two-year exclusive option and right to acquire, on commercially standard terms, the worldwide licence for a technology to produce high strength (up to 30%) hydrochloric acid (“**HCL**”) from calcium chloride feed streams using sulphuric acid. The technology is applicable in rare earths processing and other potential industrial applications, and has been developed by Dr. Thomas Feldmann and Professor George Demopoulos of McGill University in Montreal, Canada. On June 20, 2018, Mkango gave formal notice of its exercise of the option.

Mkango’s processing flowsheet for Songwe Hill incorporates an HCL gangue leach step, producing calcium chloride in solution. The HCL will be regenerated using the calcium chloride feed stream, supplemented with additional calcium chloride, together with sulphuric acid produced from sulphur at a plant on-site. This means that the import of large quantities of liquid HCL will not be required, effectively being replaced by the import of solid sulphur and calcium chloride, therefore bringing significant potential cost and logistical benefits. The production of a gypsum by-product for sale in Malawi and elsewhere will also be investigated.

On August 9, 2016, Mkango announced the results of the airborne geophysical survey (the “**Survey**”) covering approximately two thirds of its 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 vent systems in the Phalombe Licence, Nkalonje and Namangale. In both cases, the Survey indicates strong thorium radiometric anomalies coincident with the vents, 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 vent 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](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, University of Exeter and funded under the European Union's Horizon 2020 Research and Innovation program in which the Company (through Lancaster) 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 downhole 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 include the summit of Songwe Hill (which lies outside and to the south of the Indicated and Inferred Mineral Resource Estimate at Songwe Hill) and the abovementioned Nkalonje vent system, where, in both cases, 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.

Following 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 comprise an extensive diamond drilling programme, metallurgical optimisation and work in relation to the ongoing environmental, social and health impact assessment.

On June 4, 2018, Mkango announced commencement of a major diamond drilling programme at Songwe. The programme was completed in 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.

Mkango has announced the results of 70 drill holes to date 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 ([www.mkango.ca](http://www.mkango.ca)).

The most recent results for 45 drill holes were reported on November 7, 2018, Thirty-nine of these drill holes intersected significant zones of rare earths mineralisation grading above one per cent total rare earth oxides ("TREO"). Highlights from the results include the following:

<b>PX056</b>	<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).
<b>PX059</b>	<b>63.0 m<sup>1</sup> grading 1.7% TREO</b> (6.0 – 69.0 m), including <b>23.0 m<sup>2</sup> grading 2.3% TREO</b> (7.0 – 30.0 m), and <b>15.4 m grading 1.6% TREO</b> (128.0 – 143.4 m). Inclined hole (60 degrees west).
<b>PX073</b>	<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).
<b>PX076</b>	<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).

<b>PX077</b>	<b>51.9 m<sup>3</sup> grading 1.7% TREO (26.2 – 78.0 m). Inclined hole (60 degrees west).</b>
<b>PX090</b>	<b>25.7 m<sup>4</sup> grading 3.9% TREO (39.5 – 65.2 m). Inclined hole (60 degrees west).</b>
<b>PX098</b>	<b>65.0 m<sup>5</sup> grading 1.7% TREO (1.1 – 66.0 m) and 13.1 m grading 1.2% TREO (115.0 – 128.1 m). Inclined hole (60 degrees south).</b>
<b>PX103</b>	<b>165.2 m grading 1.6% TREO (2.6 – 167.8 m). Inclined hole (60 degrees east).</b>
<b>PX107</b>	<b>91.3 m<sup>6</sup> grading 1.3% TREO (23.0 – 114.2 m) including 32.2 m<sup>7</sup> grading 1.9% TREO (82.0 – 114.2 m). Inclined hole (60 degrees east).</b>
<b>PX108</b>	<b>45.8 m grading 1.4% TREO (8.2 – 54.0 m) and 57.3 m grading 1.7% TREO (76.9 – 134.2 m). Inclined hole (60 degrees east).</b>
<b>PX113</b>	<b>51.1 m<sup>8</sup> grading 2.2% TREO (4.7 – 55.8 m). Inclined hole (50 degrees north).</b>

<sup>1</sup> Includes two cavities totalling 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 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 totalling 2.3m not sampled. <sup>7</sup> Includes a 0.9m cavity not sampled. <sup>8</sup> Includes two cavities totalling 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>, 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>, 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 mineralised zones, the estimation of which will require further refining of the geological model.

Drill holes PX072, PX073, PX084, PX085, PX088, PX090, PX091, PX094, PX095, PX119, PX120 and PX121 were step-out holes focused on testing north-west extensions of the mineralisation. Of these 12 drill holes, nine intersected broad zones of mineralisation, including the highest grade intersection of the current drill programme to date in PX090. Furthermore, this new zone of higher grade mineralisation in PX090 is located outside both the area of previously mapped carbonatite and the existing Indicated and Inferred Mineral Resource Estimates. The mineralised intersection in PX113 indicates the extension of the higher grade “black 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 beyond the limits of the existing Indicated and Inferred Mineral Resource. The remaining drill holes were focused on infill zones within the existing Indicated and Inferred Mineral Resource Estimates. 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 m	To m	Interval m	La <sub>2</sub> O <sub>3</sub> ppm	Ce <sub>2</sub> O <sub>3</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %
<b>PX039</b>	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%
<b>PX040</b>	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%
<b>PX045a</b>	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%
<b>PX050</b>	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	4,370	8,097	890	3,132	430	108	267	32	149	24	57	8	53	7	654	1.8%
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%
<b>PX053</b>	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	94.6	20.2	(i) 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 not sampled.																			

Drill Hole	From m	To m	Interval m	La <sub>2</sub> O <sub>3</sub> ppm	Ce <sub>2</sub> O <sub>3</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %
<b>PX055</b>	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%
<b>PX056</b>	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%
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%
<b>PX057</b>	7.5	39.7	32.2	3,696	6,496	714	2,334	327	82	188	21	93	15	36	4	23	3	407	1.4%
<b>PX058</b>	29.5	71.0	41.6	2,885	5,784	636	2,208	311	83	190	21	97	15	36	4	23	3	421	1.3%
<b>PX059</b>	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 two cavities totaling 5.9m not sampled.																			
(ii) Includes 2.5m cavity not sampled.																			
<b>PX063</b>	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 5.5m cavity not sampled.																			
<b>PX066</b>	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%
<b>PX067</b>	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%
<b>PX072</b>	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%
<b>PX073</b>	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%
<b>PX076</b>	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%
<b>PX077</b>	26.2	78.0	51.9	(i) 5,081	7,864	733	2,266	284	75	178	22	99	16	34	4	22	3	415	1.7%
(i) Includes 2.7m cavity not sampled.																			
<b>PX088</b>	47.0	100.7	53.7	1,894	3,988	486	1,919	355	94	225	27	132	22	53	6	35	4	639	1.0%
<b>PX090</b>	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 6.3m cavity not sampled. Due to size of cavity, the significance of this intersection is uncertain.																			
<b>PX094</b>	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%
(i) Includes 8.5m cavity not sampled.																			
<b>PX095</b>	60.0	82.9	22.9	(i) 2,116	4,470	510	1,880	273	73	175	21	108	19	47	6	34	4	539	1.0%
(i) Includes 2.0m cavity not sampled.																			
<b>PX098</b>	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%
(i) Includes 2.3m cavity not sampled.																			

Drill Hole	From m	To m	Interval m	La <sub>2</sub> O <sub>3</sub> ppm	Ce <sub>2</sub> O <sub>3</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %
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%
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	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%
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%
(i) Includes 5.0m cavity not sampled.																			
PX105	3.8	79.5	75.7	2,711	5,036	550	1,963	312	86	199	24	112	18	43	5	27	4	523	1.2%
PX106	51.9	67.5	15.7	2,579	5,090	562	1,968	294	81	192	23	108	17	40	5	25	3	478	1.1%
	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%
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 two cavities totaling 2.3m not sampled.																			
(ii) Includes 0.9m cavity not sampled.																			
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%
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%
	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%
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 two cavities totaling 10.0m not sampled. Due to size of cavities, the significance of this intersection is uncertain.																			
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	2,468	5,132	583	2,180	350	96	221	26	116	18	42	5	29	4	493	1.2%
PX116	27.2	66.0	38.8	2,748	5,631	648	2,374	368	93	197	21	93	14	33	4	23	3	431	1.3%
including	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%
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%
Drill holes PX038, PX041, PX051, PX084, PX085 and PX091 did not intersect significant zones of mineralisation grading above 1% TREO																			

Results from the remaining 21 drill holes will be announced in due course.

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 element (REE) analyses and following strict internal QAQC procedures inserting duplicates, blanks and standards. Internal Laboratory QAQC was also completed to include blanks, standards and duplicates.

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

The Environmental, Social and Health Impact Assessment is underway and being completed in accordance with World Bank Standards and Equator Principles.

Mkango retains an 80% interest in the Phalombe Licence.

## **2. THAMBANI, MWANZA DISTRICT**

Lancaster 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<sup>2</sup> in Thambani, Mwanza District, Malawi. Exploration has identified a number of areas with potential for uranium (“U”), tantalum (“Ta”), niobium (“Nb”), zircon (“Zr”) and corundum (mineral).

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 has subsequently renewed for a further 2 years to September 8, 2019.

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<sub>3</sub>O<sub>8</sub>, 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<sub>3</sub>O<sub>8</sub>, 3.25 % Nb<sub>2</sub>O<sub>5</sub> in soil and up to 0.42 % U<sub>3</sub>O<sub>8</sub>, 0.78 % Nb<sub>2</sub>O<sub>5</sub> and 972 ppm Ta<sub>2</sub>O<sub>5</sub> in rock chips, notably higher than results from the 2013 reconnaissance surface geochemical sampling program. Results associated with the 10 best U<sub>3</sub>O<sub>8</sub> 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- U<sub>3</sub>O<sub>8</sub> samples from the Thambani trenching program

Trench No.	Profile	Sample No	From (m)	To (m)	Rock type	U <sub>3</sub> O <sub>8</sub> Ppm	Nb <sub>2</sub> O <sub>5</sub> ppm	Ta <sub>2</sub> O <sub>5</sub> 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	C	U3508	0.5	1	Decomposed Feldspathic	4,231	7,805	743
T11	C	U3509	1	1.5	Decomposed Feldspathic	2,539	6,619	911
T11	B	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	E	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

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](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](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<sub>3</sub>O<sub>8</sub>, 1.9 % Ta<sub>2</sub>O<sub>5</sub> and 6.0 % Nb<sub>2</sub>O<sub>5</sub>. 35 of the samples graded above 500ppm U<sub>3</sub>O<sub>8</sub> and 24 graded above 1,000ppm U<sub>3</sub>O<sub>8</sub>. Results associated with the twenty best U<sub>3</sub>O<sub>8</sub> 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 Ngoni 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<sub>3</sub>O<sub>8</sub>, 1,029 ppm Ta<sub>2</sub>O<sub>5</sub> and 4,562 ppm Nb<sub>2</sub>O<sub>5</sub>. The median grades for the 85 samples were 343 ppm U<sub>3</sub>O<sub>8</sub>, 222 ppm Ta<sub>2</sub>O<sub>5</sub> and 958 ppm Nb<sub>2</sub>O<sub>5</sub>. The ranges of grades for the 85 samples were 1 – 32,590 ppm U<sub>3</sub>O<sub>8</sub>, 2 – 19,029 ppm Ta<sub>2</sub>O<sub>5</sub> and 0 – 60,055 ppm Nb<sub>2</sub>O<sub>5</sub>.

Mkango is currently evaluating strategic exploration options for the development of the Thambani Licence to create value.

Mkango retains a 100% interest in the Thambani Licence.

### 3. CHIMIMBE HILLS, MCHINJI DISTRICT

On November 14, 2017, Lancaster was granted the Chimimbe Licence by the Malawi Minister of Natural Resources, Energy and Environment in respect of an area of 98.48 km<sup>2</sup> 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.

## 4. 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 24, 2018, Talaxis invested £1 million (\$1.4 million) for a 24.5% interest in Maginito. Mkango holds a 75.5% 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.

### 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 condensed interim consolidated financial statements for the nine months ended September 30, 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 September 30, 2018:

Total Results Attributable to common shareholders	2018			2017				2016
	Q3	Q2	Q1	Q4	Q3	Q2	Q1	Q4
Interest income	\$106	\$64	\$766	(105)	\$225	(113)	\$2	\$2
Expenses	2,159,919	1,156,741	753,090	556,759	254,373	264,783	318,050	407,685
Other items	79,217	635,496	7,860	315,206	(61,723)	(120,327)	65,698	183,580
Warrant fair value loss (gain)	13,395	(21,137)	139,255	769,745	(136,752)	118,324	185,168	(1,119,538)
Net income (loss) for period	(2,252,425)	(1,771,036)	(899,439)	(1,641,815)	(55,673)	(262,893)	(568,914)	528,275
Loss per share - basic and diluted	\$(0.022)	\$(0.025)	\$(0.008)	\$(0.018)	\$(0.003)	\$(0.003)	\$(0.010)	\$0.02

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 September 30, 2018. The financial data does not include the non controlling interest ("NCI") share of net income (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.

### 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 period, 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 \$1,776,370 and \$262,893 for the three months ended June 30, 2018 and 2017, respectively. The \$1,510,475 increase in net loss attributable to common shareholders was comprised of \$53,743 for general and administrative expenses and \$576,052 for mineral exploration expenditures offset by a decrease in the warrant revaluation expense of \$139,461 and an increase in the

foreign exchange loss of \$725,405. The increase in mineral exploration expenditures was the result of the drilling program underway 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 nine months ended September 30, 2018, the Company had incurred costs of \$57,620 (September 30, 2017 - \$30,130) for administrative services. As of September 30, 2018, the Company has an outstanding payable to Leo Mining in the amount of \$11,817 (September 30, 2017 – \$15,802). The amount is unsecured and due on demand. Interest of 2% may be incurred on the outstanding amount annually; however, this has been waived since 2013.
- 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 Advisory Services Pty Ltd. (“Zenith”) is considered an insider 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 \$481,313 (September 30, 2017 – \$169,522) for key management and director fees and related costs for the nine months ended September 30, 2018. Two Directors of the Company resigned during September 2018. The Company made a commitment to pay each resigning Director a retirement allowance of \$54,000. As of September 30, 2018, the Company has an outstanding payable due to key management and directors of \$142,826 (September 30, 2017 - \$877). The current liabilities due to related parties are unsecured, due on demand and non-interest bearing.
- e) On April 25, 2018, the Board of Directors resolved that one 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 entitled to a payment of \$16,000 per year commencing on their start date. The compensation will be paid quarterly. The Company incurred costs of \$63,797 for the nine months ended September 30, 2018 (September 30, 2017 – nil). As of September 30, 2018, the Company has an outstanding payable to its Directors in the amount of \$26,000 (September 30, 2017 - \$nil).
- f) On May 12, 2016, the Company entered into new consulting agreements (the “Consulting Agreements”) with its Chief Executive Officer and President (the “Executive Directors”) whereby a total of £145,619 (\$189,873), comprising deferred consulting fees payable to the Executive Directors were accrued between March 2015 and May 12, 2016. Additional consulting fees were accrued from May 12, 2016 until July 31, 2017, which increased the accrual by £210,000 (\$289,332). On March 2, 2018, £177,810 (\$212,764) was paid to the

Executive Directors. As a result, the Executive Directors are now owed £32,190 (\$41,972) for the May 12, 2016 until July 31, 2017 portion of the accrual. Under the terms of the Consulting Agreements, these deferred consulting fees in addition to the balance of unpaid and accrued consulting fees prior to May 12, 2016, (£177,809 (\$231,845)), remain as an outstanding current liability.

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 consulting fees payable under the Agreement. The following table provides a reconciliation of amounts reflected in the condensed interim consolidated financial statements for the nine months ended September 30, 2018:

	September 30, 2018	December 31, 2017
Balance, beginning of period	\$ 448,380	\$ 243,097
Consulting fees deferred (paid) during the year	(244,970)	125,989
Gain on deferral of consulting fees	-	(20,307)
Accretion	32,699	68,271
Foreign exchange loss	(493)	31,330
Balance, end of period	\$ 251,720	\$ 448,380
Due to related parties with common directors	11,817	12,686
Due to key management and directors	168,826	17,743
Total due to related parties	\$ 432,363	\$ 478,809

## EXPENDITURES

Total expenses attributable to common shareholders and NCI	For the nine months ended September 30,			For the three months ended September 30,		
	2018	2017	Change	2018	2017	Change
<b>General and administrative</b>						
Audit and tax management	18,450	21,434	(2,984)	3,170	13,035	(9,865)
Legal fees	63,743	28,806	34,937	12,103	25,646	(13,543)
Director and Officer salaries	505,741	161,517	344,224	235,957	55,234	180,723
Salaries and consulting fees	196,296	33,327	162,969	110,011	-	110,011
Office	147,213	149,452	(2,239)	33,680	83,561	(49,881)
Travel	93,636	17,795	75,841	51,649	-	51,649
Shareholder compliance	94,830	45,467	49,363	19,418	-	19,418
Sub total - General and administrative	1,119,910	457,798	662,112	465,989	177,476	288,513
<b>Malawi exploration expenditures</b>						
<b>Songwe Hill Project</b>						
Mineral extraction development	338,088	113,617	224,471	238,971	18,312	220,659
Government fees	13,764	15,322	(1,558)	1,882	3,180	(1,298)
ESHIA	177,827	642	177,185	104,159	308	103,851
Drilling programme	2,009,167	-	2,009,167	1,340,766	-	1,340,766
Consulting fees	278,941	73,446	205,495	69,790	5,984	63,806
Malawi office and camp expenses	732,714	36,469	696,245	434,272	22,596	411,676
Thambani project	878	-	878	-	-	-
Chimimbe project	2,060	-	2,060	-	-	-
Sub total - Mineral exploration	3,553,439	239,496	3,313,943	2,189,840	50,380	2,139,460
<b>Research and development</b>						
Research and development	288,516	-	288,516	7,144	-	7,144
Sub total – Research and development	288,516	-	288,516	7,144	-	7,144
<b>Other Expenses</b>						
Share-based payments	83,730	131,433	(47,703)	16,813	23,615	(6,802)
Accretion	32,699	47,093	(14,394)	1,828	5,343	(3,515)
Depreciation	12,572	8,365	4,207	3,038	2,788	250
AIM listing expense	68,029	-	68,029	16,474	-	16,474
Gain on deferral of salaries	-	(20,423)	20,423	-	(943)	943
Foreign exchange (gain) loss	618,845	(142,907)	761,752	60,915	(66,123)	127,038
Warrant revaluation	131,513	166,740	(35,227)	13,395	(136,752)	150,147
<b>Total Expenses</b>	<b>\$5,909,254</b>	<b>\$887,595</b>	<b>\$5,021,659</b>	<b>\$2,775,436</b>	<b>\$55,784</b>	<b>\$2,719,652</b>

### Nine months ended September 30, 2018 compared to September 30, 2017

Total expenses include those attributable to both the common shareholders and to the NCI. Total expenses increased by \$5,021,629 from \$887,595 for the nine months ended September 30, 2017 to \$5,909,254 for the nine months ended September 30, 2018, as a result of the following factors:

- General and administrative:** General and administrative expenses for the nine months ended September 30, 2018 were \$662,112 higher than expenses recognized for the nine months ended September 30, 2017. Director and Officer salaries – There was a \$344,224 increase in Director and Officer salaries for the period. On January 24, 2018, the Directors began receiving payments for their services provided to the

Company. For the nine months ended September 30, 2018 the Directors have received \$64,354. Two Directors of the Company resigned during September 2018. The Company made a commitment to pay the resigning Directors a retirement allowance totalling \$108,000. In addition, three officers received an increase in compensation, which resulted in a \$171,870 increase to expenses compared to the nine months ended September 30, 2017.

In addition, there was a \$34,937 increase in legal costs, a \$162,969 increase in salaries and consulting fees and an increase of \$75,841 in travel costs as management focused their efforts on advancing the exploration program for Songwe Hill. In addition, there was an increase of \$49,363 in shareholder compliance and investor relations expenses as the Company continues to maintain the dual listings on the TSX Venture exchange and the AIM listing on the London Stock Exchange.

- b) Mineral Exploration: Mineral exploration expenses were \$3,313,943 higher for the nine months ended September 30, 2018 compared to the same period in 2017. There was a \$2,009,167 increase in drilling costs due to the diamond-drilling programme underway during the period at Songwe Hill. Consulting fees were \$205,495 higher, mineral extraction development expenses were \$224,471 higher, the ESHIA costs were \$177,185 higher and general camp and Malawi office expenses were \$696,245 higher for the nine months ended September 30, 2018, which were also due to the diamond-drilling programme activities.
- c) Research and Development: 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.
- d) AIM Nominated Advisor Expense: The AIM nominated advisor expense resulted in a \$68,029 increase in expenses for the nine months ended September 30, 2018, compared to the same period in 2017. These costs were incurred in payments to the nominated advisor, which is a requirement to maintain the AIM listing.
- e) Warrant Revaluation: The warrant revaluation resulted in a \$35,227 decrease in expenses for the nine months ended September 30, 2018 compared to the same period in 2017.
- f) Foreign Exchange Expense: The foreign exchange expense for the nine months ended September 30, 2018 was \$761,752 higher than the expense recognized during the same period in 2017 due to an increase in cash held and the fluctuations in the Euro, Canadian dollar and UK Sterling exchange rates, relative to the US reporting currency. The majority of this expense is comprised of unrealized foreign exchange loss.
- g) The remaining differences for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017, are related to changes in share-based payments, accretion, gain on deferral of salaries and depreciation.

### **Three months ended September 30, 2018 compared to the three months ended September 30, 2017**

Total expenses include those attributable to both the common shareholders and to the NCI. Total expenses increased by \$2,719,652 from \$55,784 for the three months ended September 30, 2017 to \$2,775,436 for the three months ended September 30, 2018, as a result of the following factors:

- a) General and administrative: General and administrative expenses for the three months ended September 30, 2018 were \$288,513 higher than expenses recognized for the three months ended September 30, 2017.

Director and Officer salaries – There was an \$180,723 increase in Director and Officer salaries for the period. On January 24, 2018, the Directors began receiving payments for their services provided to the Company. For the three months ended September 30, 2018 the Directors have received \$26,000. Two Directors of the Company resigned during September 2018. The Company made a commitment to pay the resigning Directors a retirement allowance totalling \$108,000. In addition, three officers received an increase in compensation, which resulted in a \$46,723 increase to expenses compared to the three months ended September 30, 2017.

In addition, there was an \$110,011 increase in salaries and consulting fees and a \$19,418 increase in shareholder compliance expenses due to the significant increase in responsibilities required to advance the Songwe Hill project, administer the joint venture arrangements with Talaxis and maintain a dual listed public company.

- b) Mineral Exploration: Mineral exploration expenses were \$2,139,460 higher for the three months ended September 30, 2018 compared to the three months ended September 30, 2017 due to the drilling programme which was underway during the period for the Songwe Hill project.
- c) AIM Nominated Advisor Expense: The AIM nominated advisor expense was \$16,474 higher for the three months ended September 30, 2018 compared to the same period in 2017. These costs were incurred in payments to the nominated advisor, which is a requirement to maintain the AIM listing.
- d) Warrant Revaluation: The warrant revaluation resulted in a \$150,147 increase in expenses for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. The valuation of the warrants increased as a result of changes to key inputs for the Black-Scholes model calculation, namely volatility and the closing share price.
- e) Foreign Exchange Expense: The foreign exchange expense for the three months ended September 30, 2018 was \$127,038 higher than the expense recognized during the same period in 2017 due to fluctuations in the Euro, Canadian dollar and UK Sterling exchange rates, relative to the US reporting currency.
- f) The remaining differences for the three months ended September 30, 2018 compared to the three months ended September 30, 2017, are related to changes in share-based payments, 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 condensed interim consolidated financial statements for the nine months ended September 30, 2018 and this accompanying MD&A (together, the "Interim 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 [www.sedar.com](http://www.sedar.com).

## 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.

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 111,249,188 Common Shares and 41,613,665 warrants issued. The Company has 10,845,000 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, 2017.

## 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 about to commence the Feasibility Study. While the Company has produced the 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 or 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 ([www.sedar.com](http://www.sedar.com)).

## **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 and cash equivalents 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 and cash equivalents, 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 and cash equivalents 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)	Weighted Average Exercise Price (GBP)	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	-	-	-	(3,596,379)	(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	41,775,935	\$1,698,267
Warrants exercised	-	-	-	(6,175,376)	(430,669)
Warrants expired	-	-	-	(4,498,091)	-
Foreign exchange effect	-	-	-	-	(21,981)
Fair value change at September 30, 2018	-	-	-	-	131,513
Balance at September 30, 2018	\$0.39	£ 0.066	0.54	<b>31,102,468</b>	\$1,377,130

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 and cash equivalents, 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 and cash equivalents are 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 September 30, 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 and cash equivalents:		
Canadian dollars	\$ 27,884	\$ 167
United States dollars	7,836	787
Euro and UK Sterling	4,479,424	337,649
Malawi Kwacha	6,552	373
Warrants – derivative financial instruments	(1,377,130)	(1,121,266)
Due to related parties	(432,363)	(350,331)
	<u>\$ 2,712,203</u>	<u>\$ (1,132,621)</u>

A 5% reduction in the value of the Canadian dollar, Euro and British pound in comparison to the United States dollar would cause a net loss of approximately \$224,000. 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 September 30, 2018:

	Contractual Cash Flows		Greater than 1
	Less than 1 Year	Year	Year
Accounts payable and accrued liabilities	\$ 626,813	\$ 626,813	\$ -
Due to related parties	\$ 432,363	\$ 432,363	\$ -

#### 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 September 30, 2018, the Company had a working capital surplus of \$3,566,312 (December 31, 2017 – \$427,547) and an accumulated deficit attributable to the shareholders of the Company of \$8,315,701 (December 31, 2017 - \$14,322,462).

The operations of the Company are currently being funded by the £6 million of investment proceeds received from Talaxis by two subsidiaries, Lancaster BVI and Maginito, during January 2018, and from the proceeds received upon the exercise of 6,175,376 common shareholder warrants and 864,285 advisory warrants on January 12, 2018, January 25, 2018, January 26, 2018, March 1, 2018 and September 6, 2018 and September 27, 2018. For the nine months ended September 30, 2018, 7,039,661 warrants have been exercised for aggregate cash consideration of

\$602,704. On October 19, 2018, an additional 1,133,333 warrants were exercised for net proceeds of \$129,780. On November 16, 2018, 50,000 warrants were exercised for net proceeds of £3,300 (\$4,237). On November 26, 2018, 146,970 warrants were exercised for net proceeds of £9,700.

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

	Weighted Average Exercise Price (CAD)	Weighted Average Exercise Price (GBP)	Weighted Average Years Remaining	Number of Warrants
Warrants at December 31, 2016	\$ 0.39	£ 0.066	1.46	45,372,314
Warrants exercised	-	-	-	(3,596,379)
Warrants at December 31, 2017	\$ 0.39	£ 0.066	1.27	41,775,935
Warrants exercised	-	-	-	(6,175,376)
Warrants expired	-	-	-	(4,498,091)
Warrants at September 30, 2018	\$ 0.39	£ 0.066	0.54	<b>31,102,468</b>

In addition to the 31,102,468 outstanding warrants above, there are an additional 13,254,834 warrants which were issued to agents in fundraisings and to Talaxis for ongoing advice, for a total of 44,357,302 warrants outstanding as at September 30, 2018. On October 19, 2018, 1,133,333 warrants were exercised and 1,413,334 warrants (including 46,667 warrants held by an agent) expired. On November 16, 2018, 50,000 warrants were exercised. On November 26, 2018, a further 146,970 warrants were exercised which reduced the total outstanding number of warrants outstanding (including those held by Talaxis, advisors and agents) to 41,613,665, as of the date of this report.

In addition, the Company has received €49,589 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 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 grant funding by the University of Exeter, will be sufficient to fund Mkango's operations in the near term.

The Company's consolidated cash balance at September 30, 2018 was \$4,521,696 (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 and Audit Committee Chairman  
 Adrian Reynolds, Director (Audit Committee)  
 Sandra Du Toit, Director (Audit Committee)  
 Susan Muir, Director (Corporate Secretary)  
 Sandra Evans, Chief Financial Officer