

## **KORAB HOUSE**

www.korab.com.au

#### **Issued Capital**

Issued Shares: 367 Mln Last Price: 4.5 cents Capitalisation: \$17 Mln

### **Listing Codes**

ASX: KOR BERLIN: C6S

#### Directors

Andrej K. Karpinski
Executive Chairman
Executive Director

Rodney H. Skeet Non-executive Director (Independent)

Anthony G. Wills Non-executive Director (Independent)

#### **Projects**

(Rum Jungle, NT)

Magnesium

Sundance (Rum Jungle, NT) Gold, Silver, Tin

Batchelor & G. Alligator (Rum Jungle, NT) Gold, Silver, Zinc, Lead, Nickel, Copper, Cobalt, Tin, Scandium, Lithium, Manganese, Uranium

Geolsec
(Rum Jungle, NT)
Phosphate
Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead,

Antimony

09 March 2022

## WINCHESTER MAGNESIUM SCOPING STUDY

#### CAUTIONARY STATEMENTS: WINCHESTER MAGNESIUM METAL SCOPING STUDY

The Scoping Study referred to in this ASX report has been undertaken for the purpose of initial evaluation of a potential development of the Winchester Magnesium Project as a producer of magnesium metal. The Scoping Study is a preliminary technical and economic study of the potential viability of the Winchester Magnesium Project as magnesium producer. The Scoping Study outcomes, production target, and forecast financial information referred to in this release are based on low level technical and economic assessments that are insufficient to support estimation of Ore Reserves. The Scoping Study is presented in Australian dollars to an accuracy level of +/- 30%. While each of the JORC modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before Korab Group will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. The production target stated in this announcement is based on Korab Group's current expectations of future results or events and should not be relied upon by investors when making investment decisions. Further evaluation work and studies are required to establish sufficient confidence that the production target will be met. Accordingly, given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study. Given that the results of the Scoping Study are subject to the qualifications above (including assumptions as to accuracy) any results reported in this release should be considered as approximates and subject to variances having regard for the assumptions referred to in this release. Of the Mineral Resources scheduled for extraction in the Scoping Study only Indicated resource was used. Korab Group confirms that the financial viability of the Winchester Magnesium Project is not dependent on the inclusion of Inferred Resources in the Scoping Study. The Mineral Resources underpinning the production target in Scoping Study was prepared by a competent person in accordance with the requirements of the JORC Code (2004) and was most recently reported to the market in the Annual Report of Korab Group for the year ended 30 June 2021. Korab confirms that it is not aware of any new information or data that materially affects the information included in that report and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not been changed. To achieve the potential mine development outcomes indicated in the Scoping Study, funding in the order of AU\$409-AU\$422 million will likely be required. Investors should note that there is no certainty that the Company will be able to raise funding when needed, however the Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to fund the development of the Project. It is also possible that such funding may only be available on terms which are dilutive to, or otherwise affect the value of, Korab's existing shares. It is also possible that Korab's could pursue other 'value realisation' strategies such as sale, partial sale, or joint venture of the Project. If it does, this could materially reduce Korab's proportionate ownership of the Project. Korab has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this release. This includes a reasonable basis to expect that it will be able to fund the development of the Winchester Magnesium Project upon successful delivery of key development milestones as and when required. While Korab considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. All financials are provided in Australian dollars unless stated otherwise.







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Gold, Silver, Zinc, Lead, Antimony Korab Resources Ltd ("Korab", or "Company") (ASX: KOR) and its subsidiaries ("Korab Group") are pleased to report the results of the scoping study assessing the economics of a tested and proven magnesium production method relying on electric arc furnace using as feedstock magnesium oxide, aluminium, and ferrosilicon to produce magnesium metal (the Scoping Study).

#### **SUMMARY**

The following parameters were used for the Scoping Study:

Magnesium metal annual production rate: 50,000 tonnes per year.

MgO feed to processing: 310,000 tonnes per year.

Magnesite annual feed to plant: 642,000 tonnes per year.

Annual magnesite mining rate: 864,000 tonnes per year.

Magnesium production method:

Owned and operated electric arc furnace working

under inert gas conditions, using as feedstock magnesium oxide, ferrosilicon, and aluminium scrap.

Electric power source: From grid.

Calcination method: Owned and operated gas-fired rotary kiln using natural

gas as firing gas.

Gas source: From pipeline, or on-site storage.

Accuracy of estimates: 30%

Mineral resource used: Indicated mineral resource of 12.2 million tonnes

grading 43.1% MgO at a 40% MgO cut-off.

Mining method: Open pit, drill-and-blast, shovel-and-truck method,

contract operated.

Input costs used: Prices for gas, electricity, ferrosilicon, aluminium scrap,

fuel, labour, consumables, maintenance costs, parts, equipment, plant, and components obtained from

suppliers, contractors, and traders.

Exchange rate used: US\$0.80/AU\$1.00

Magnesium selling price: AU\$10,000 per tonne

The Scoping Study estimated the capital cost of the Project at between AU\$409 million and AU\$422 million. This capital cost estimate includes direct costs estimate of between AU\$330 million and AU\$340 million, indirect cost estimate of between AU\$46 million and AU\$48 million, and a contingency of 10% of estimated direct costs. Direct cost estimate includes the cost of mine, site, hydrology, processing plant, and gas scrubbing and waste management. Indirect costs include E.P.C.M. costs, temporary facilities costs, and Australian transport costs. Please see Table 4 and Table 5 for the components of the capital costs by category.

The production cost of the magnesium metal has been estimated at between AU\$5,300 per tonne and AU\$5,400 per tonne. Production cost estimate includes contingency of 10%. Production costs estimates include ongoing maintenance costs and consumables. Please see Table 6, Table 7, and Table 8 for the components of the overall production costs by activity type, category, and inputs.

Annual revenue has been estimated at around AU\$500 million at magnesium metal price of approximately AU\$10,000 and the production level of 50,000 tonnes per year. Annual gross profit margin has been estimated at between AU\$230 million and AU\$235 million.







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### **ECONOMIC ANALYSIS**

Project design, modelling, capital cost and operating cost estimations, and various contributions were provided by multiple consultants including Golder Associates, Bateman Tenova, Krupp Polysius, Svedala, and Metso.

Input values for capital costs, and operating costs models/estimations were obtained from quotes and prices sourced from multiple suppliers, vendors, contractors, and industry bodies.

Recent average price of magnesium metal based on the prevailing prices over the last 6 months, (from 1 September 2021 to 28 February 2022) was used for revenue estimates. The highest magnesium price during this period was AU\$15,127 per tonne and the lowest magnesium price during this period was AU\$6,453 per tonne.

Recent average prices of ferrosilicon (AU\$1,625 per tonne), aluminium scrap (AU\$808 per tonne), gas (\$236 per tonne), and electricity (AU\$0.23 per KWh) were used as inputs to estimate the production costs.

The study covered a period of 14 years with the production schedule of approximately 865,000 tonnes of rock per year to be mined and used to provide approximately 640,000 tonnes per year of feedstock for calcination into magnesium oxide.

Production schedule relied solely on the 12.2 million tonnes of the mineral resource classified as the indicated mineral resource category.

#### **MINING PLAN**

Results of the study show that average waste rock to ore ratio for the entire mining operation is approximately 0.45 to 1 T/T, though the actual ratio will fluctuate over the life of the Project. Initially, the waste rock to ore ratio would be about 0.85 to 1, while towards the end of mine-life the ratio would be less than 0.2. The average ratio of all waste (overburden plus waste rock) to ore for the entire mining operation was approximately 0.55 to 1 T/T.

The design criteria for the open pit used in this study are summarised in the following table.

Table 1 Open pit design criteria

Bench Height (m)	5
Distance between berms (m)	20
Berm Width (m)	5
Road Width (m)	20
Maximum Road Gradient (%)	12.5

The slope design parameters used in this study are summarised in the following table.

Table 2 Open pit slope design parameters

Unit	Face Angle	Face Height
Overburden	40°	Irregular
Undisturbed rock	70°	20 m

A thin layer (up to 5m) of unconsolidated soil and unconsolidated alluvium overlies the massive magnesite at the Winchester deposit. This overburden would require progressive removal to expose the hard, consolidated magnesite. It is expected that the unconsolidated, overburden could be removed by tractor scraper.

Under shovel and drill/blast option, conventional open pit mining methods using rubber-tyred trucks and either a hydraulic excavator or rubber-tyred, front end loader were proposed for excavation of the







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Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony open pit materials. Please refer to Figure 12 and Figure 13 for the photos of test mining at Winchester Magnesium Project.

Under the shovel and drill/blast option, magnesite would require blasting prior to excavation and mine benches are expected to be suitable for running rubber tyred mining equipment with minimal preparation. Study indicates that optimum variant is for the mining operations to be initially carried out on a yearly campaign basis by employing a specialist mining contractor. Study shows that campaign mining can be utilised as the preferred mode of operation up to approximately 1,000,000 ROM output. If the volumes increase beyond this level, it is expected that the Project could move to year round operation.

## MINERAL RESOURCES ESTIMATES FOR WINCHESTER MAGNESITE DEPOSIT

Current estimated mineral resource at Winchester is shown in the following table. The study relied solely on the mineral resource in the indicated category.

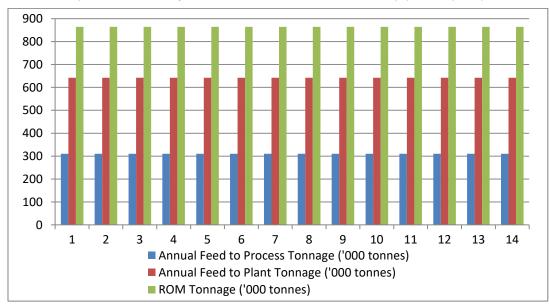
**Table 3 Mineral resources estimates** 

At 40% MgO Cut-Off	MgCO Mass	MgO grade
	'000 Tonnes	%
Indicated Resources	12,200	43.1
Inferred Resources	4,400	43.6
Total	16,600	43.2

There has been no change to the Winchester mineral resource estimate since it was last reported in the Annual Report 2021. This information was prepared and first disclosed under the JORC Code 2004 on 17 July 2007. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The author of this Report is not aware of any new information or data that materially affects the information included in the report released on 17 July 2007 and, in the case of mineral resources that all the material assumptions and technical parameters underpinning the estimates in the report released on 17 July 2007 continue to apply and have not materially changed. The form and context in which the findings of the report released on 17 July 2007 are presented have not been materially modified.

### **PRODUCTION SCHEDULE**

The Company used the following annual production schedule in this study (over 14 years).









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This production schedule is based solely on indicated mineral resources. For mineral resources estimate which includes both indicated and inferred mineral resources please refer to Table 3 and Table 9.

Investors should note that the actual production schedule will depend on the availability of funding for the Project, finalised magnesium metal sales and/or offtakes, governmental and regulatory project approvals, access to transport, and other factors such as magnesium prices, energy prices, foreign exchange rates, etc. which are outside the control of the Company.

#### **PRODUCTION PROFILE**

The study demonstrated that the mining and processing schedule will results in the production of 50,000 tonnes of the magnesium metal per year for 14 years of Project's life using solely the mineral resource classified as indicated.

#### **PROCESS DESIGN**

The plant is designed to produce high purity Mg metal from Magnesium Carbonate (MgC03) mined at Winchester. The run of mine material is crushed and screened prior to calcination in a gas fired, refractory lined, rotary kiln. The calcination process produces dead burnt magnesia (MgO). This is combined with ferrosilicon (FeSi) and aluminium scarp and fed to a DC Arc Furnace where the MgO is reduced to magnesium (Mg) metal which vaporises off the melt at the furnace temperature. The ratios of the reagents are adjusted to produce a slag with suitable disposal characteristics, liquidus temperature, and optimal Mg metal extraction whilst the furnace is operated at atmospheric pressure.

Mg vapour flows to a purpose designed condenser vessel where it is condensed by cooling to Mg liquid. Crude Mg metal is tapped periodically from the condenser and transported to the adjacent refining furnace where impurities are removed by the addition of fluxing agents, and the purified Mg metal is cast into ingots on a casting machine.

Processing plant layout and process flow chart for each of the main components of the processing plant are shown in the following diagrams.

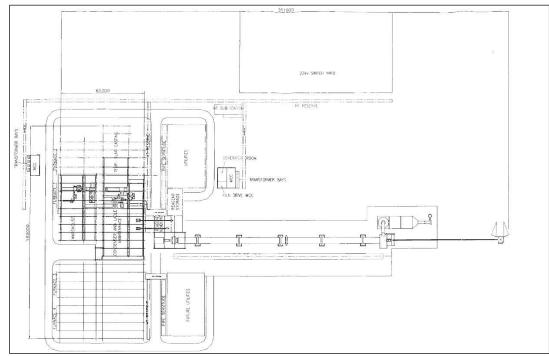


Figure 1 Magnesium Processing Plant layout







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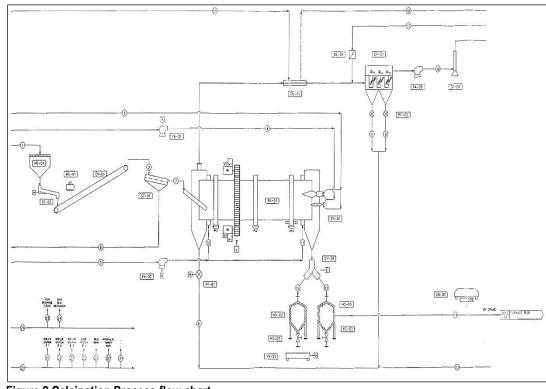


Figure 2 Calcination Process flow chart

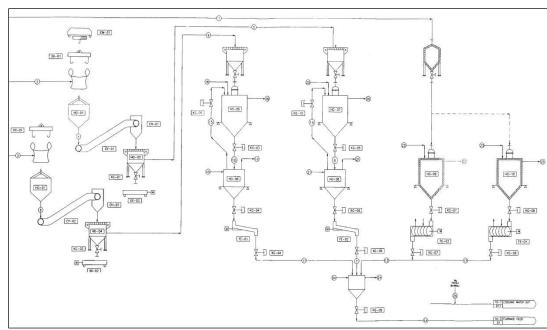


Figure 3 Furnace Feed System flow chart







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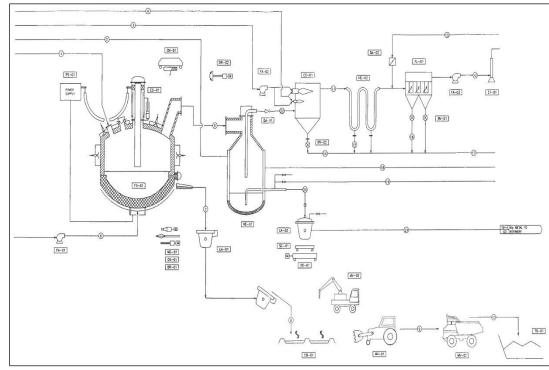


Figure 4 DC Electric Arc Furnace and Condenser flow chart

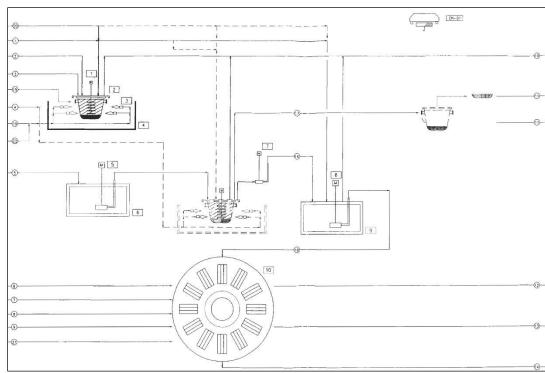


Figure 5 Refining Process flow chart

This study assessed the economics of a tested and proven magnesium production method relying on electric arc furnace which uses as feed magnesium oxide, aluminium, and ferrosilicon to produce magnesium metal. The method is over 20 years old and has proved its capability to supply







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Gold, Silver, Zinc, Lead, Antimony magnesium metal by completing the full production cycle where magnesium carbonate rock from Winchester deposit was converted to saleable pure magnesium metal (as previously advised in various ASX reports and investor presentations lodged with the ASX). This production cycle included:

- 1. Mining of magnesite at Winchester (Figure 12 and Figure 13);
- Crushing and calcining magnesite from Winchester to produce magnesium oxide;
- 3. Commissioning of the magnesium pilot plant (Figure 14);
- 4. Processing magnesium oxide produced from Winchester magnesite into magnesium metal using the pilot plant (Figure 15);
- 5. Refining the magnesium metal to saleable product.

This production cycle has generated wealth of data that covers all aspects of the magnesium metal production process from mining, through crushing, calcining, metallurgy and smelting, to refining. It includes process designs, equipment lists, engineering drawings, as well as all statistics covering the use of energy, consumables, labour, parts, etc. This complete data set was acquired by Korab when it bought Winchester Magnesium Project. Ownership of this data could potentially allow Korab Group to move the Winchester Magnesium Project to production at a much faster pace than it would be possible if all these test results were not available.

The proposed Winchester magnesium mine is located 2 km from the regional centre of Batchelor some 70km south of Darwin. Please refer to Figure 10 and Figure 11 for details of the location of the proposed Winchester magnesium mine and plant, and Korab Group's various mineral tenements in the area. The proposed layout of the mine and magnesium production plant is shown in Figure 16.

Deposit is at shallow depth (3-6 meters below surface) and is covered by a thin layer of unconsolidated clay and gravel. See the photos in Figure 12 and Figure 13 which show the test mining of the Winchester magnesium deposit conducted in the middle of the wet season.

Winchester Project waited for development for 2 decades primarily because of low magnesium prices prevailing between 2000 and 2020 (between US\$1,300/t and US2,000/t) and low magnesium oxide prices (CCM and DBM) during this period. This has made the development of Winchester not feasible until few years ago when prices of magnesite and magnesium oxides markedly improved.

#### **CAPITAL COST ESTIMATE**

Capital cost estimates have been estimated for the key areas of the Project: mining, processing, and administration. The capital cost estimate has been derived from the costing of each direct component of the mine, processing plant, support, and infrastructure to an accuracy of  $\pm$  30%. The total capital cost estimate includes a 10% contingency for each item of direct costs.

Table 4 Direct Capital Costs Estimate (AU\$ Million)

ITEM	FROM	то
Mine	2.70	2.78
Site and site buildings	18.70	19.26
ROM primary crushing, conveying and stacking	9.50	9.79
Raw material calcining	81.80	84.25
Furnace feed system	19.60	20.19
Furnace and condenser	106.90	110.11
Magnesium refining, casting and despatch	38.50	39.66
Utilities	16.20	16.69
Electrical, distribution and lighting	25.20	25.96
Instrumentation and control	10.90	11.23
TOTAL DIRECT COSTS	330.00	339.90







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Location of the Project near extensive road, rail, power and gas network, as well as other infrastructure, is a significant advantage in mitigating infrastructure related capital costs.

Table 5 Total Capital Cost Estimate (AU\$ Million)

ITEM	FROM	TO
Direct capital costs (refer to Table 4 for details)	330	340
Indirect costs (EPCM)	46	48
Contingency (10% of direct costs)	33	34
TOTAL CAPITAL COST ESTIMATE	409	422

### **OPERATING COST ESTIMATE**

Operating costs have been estimated for the key areas of the Project: mining, processing, and administration. The operating cost estimates have been derived to an accuracy of  $\pm$  30%. Multiple consultants (as outlined on Page 3) contributed to the study of the mining costs which were estimated based on the equipment sizing required to achieve the production schedule, the nature of the deposit, distance to the ROM, and the distance to stockpile and waste emplacement areas. The haul distance was then applied to the costs on an individual basis.

Processing cost were estimated using models and inputs provided by multiple consultants, suppliers, contractors, industry bodies, and traders as outlined on Page 3. Other parameters used in the study are outlined on Pages 2 and 3. Mining costs are based on total material moved. Crushing and sorting costs are based on magnesite mined. Calcining costs are based on sorted product. Production costs and refining costs are based on tonnage of magnesia (MgO) and other feedstock. Production costs were assessed using the current prices and costs as inputs into models derived from the information obtained during actual test mining, sorting, crushing, calcining, processing, refining, and casting.

Table 6 Operating Costs by Type of Activity (AU\$ per Tonne of Magnesium)

	A\$/T MG	% TOTAL
Crushing	33	0.62
Calcining	632	11.82
Feedstock System	1,555	29.06
Furnace	1,914	35.77
Gas Scrubbing	73	1.37
Refining	378	7.06
Casting	104	1.95
Labour	661	12.35
TOTAL OPERATING COST ESTIMATE	5,350	100.00

Table 7 Operating cost by Category (AU\$ per Tonne of Magnesium)

	A\$/T MG	% TOTAL
Feedstocks (includes magnesite rock)	1,657	30.97
Consumables	453	8.47
Utilities	2,542	47.52
Op Equipment	3	0.06
Maintenance Stores	31	0.59
Personal Protection Equipment Maintenance	2	0.04
Labour	661	12.35
TOTAL OPERATING COST ESTIMATE	5,350	100.00







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Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony Table 8 Operating Costs by Input (AU\$ per Tonne of Magnesium)

	A\$/T MG	% TOTAL
Magnesite	181	3.39
Aluminium	271	5.07
Ferrosilicon	1,204	22.51
Furnace consumables	240	4.49
Power	2,056	38.44
Firing gas	415	7.76
Process gas	50	0.94
Maintenance stores	31	0.59
Labour	661	12.35
Other	239	4.48
TOTAL OPERATING COST ESTIMATE	5,350	100

#### **SENSITIVITY ANALYSIS**

Sensitivity analysis shows the Project to be resilient to changes in capital costs, foreign exchange rates, and input costs. Operating costs are most sensitive to electricity costs, and the price of ferrosilicon. A 10% change in price of electricity changes the magnesium production cost by 3.9%. A 10% change in price of ferrosilicon changes the magnesium production cost by 2.3%. Production cost is inversely related to the foreign exchange rates. A 10% increase in the foreign exchange rate decreases the production cost by 1.6%, while a 10% decrease in the foreign exchange rate increases the production cost by 1.8%.

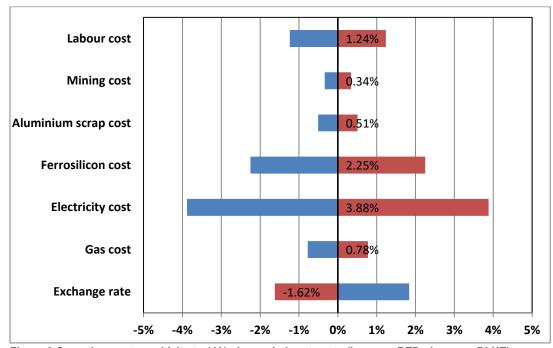


Figure 6 Operating cost sensitivity to 10% change in input costs (increase RED, decrease BLUE)

Sensitivity analysis of the production costs also shows that even with the extreme (+/- 50%) changes to the most sensitive input costs (ferrosilicon and electricity prices) and a decline of the foreign exchange rate to US\$0.50/AU\$1.00, the Project remains economically viable, provided that the magnesium metal price remains above AU\$7,500 per tonne. Most of the global magnesium production at present relies on the silico-thermic method using ferrosilicon as a reagent. As a result, global magnesium price tends to go up in tandem with any increase in the price of ferrosilicon.







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Executive Chairman
Executive Director

Rodney H. Skeet Non-executive Director (Independent)

Anthony G. Wills Non-executive Director (Independent)

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Winchester (Rum Jungle, NT) Magnesium

Sundance (Rum Jungle, NT) Gold, Silver, Tin

Batchelor & G. Alligator (Rum Jungle, NT) Gold, Silver, Zinc, Lead, Nickel, Copper, Cobalt, Tin, Scandium, Lithium, Manganese, Uranium

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Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony Consequently, a period of high ferrosilicon prices is unlikely to coincide with a period of low magnesium prices.

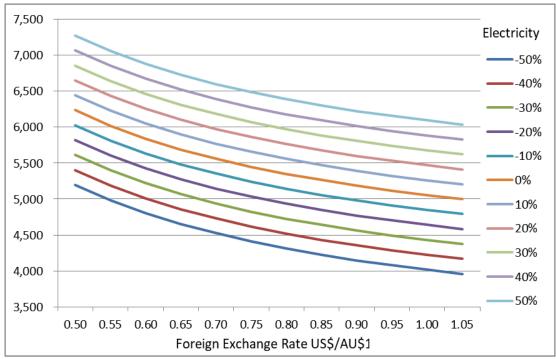


Figure 7 Sensitivity of operating cost to foreign exchange rates and electricity price in AU\$/KWh

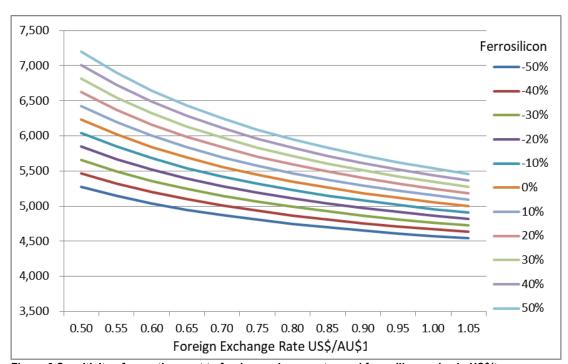


Figure 8 Sensitivity of operating cost to foreign exchange rates and ferrosilicon price in US\$/t

#### **NPV**

The NPV of the Project gross income (before interest, taxes, royalties, and depreciation) was estimated using 12% discount rate over 14 years. The NPV was estimated using magnesium price of AU\$10,000 per tonne, magnesium production cost of AU\$\$5,350 per tonne (mid-point of the







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**Bobrikovo** 

(Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony

production cost estimated range), and capital expenditure of AU\$415 million (mid-point of the capital expenditure cost estimate rage). Assuming the above factors, the NPV of the project was estimated at approximately AU\$1 billion.

#### **NEXT STEPS**

Korab Group has previously released the results of feasibility study assessing the economics of mining and sales of magnesite rock as a direct shipping ore and the economics of processing of some of the magnesite into magnesium oxides (caustic calcined magnesia and dead burned magnesia) at kilns owned and operated off-site by third parties. This Scoping Study assessed the economics of mining of magnesite and processing it into magnesium oxide and then into magnesium metal at the mine and on-site plant owned and operated by Korab Group.

Notwithstanding the availability of the technology relying on a mix of magnesium oxide, ferrosilicon, and aluminium, Korab is also considering another technology that would allow Korab to become a sustainability leader among magnesium producers by taking advantage of the Project's geographical location.

Northern Australia offers plentiful water and solar power, thus enabling this ground-breaking alternative technology to produce magnesium without the use of grid electricity, gas, ferrosilicon, and aluminium. With few modifications of the original production process, Winchester Magnesium Project may be able to produce magnesium using solar power and hydrogen produced on site instead of grid electricity and natural gas or methane. This would make the Winchester Project sustainable and environmentally friendly and would provide stability of input costs (and therefore production costs over the long term). Cost of ferrosilicon, aluminium, electricity, and gas constitute over 75% of total production costs (as shown in Figure 18). An alternative production method which does not rely on these components has a potential to reduce the overall production costs and would also lower the volatility of input costs.

The alternative magnesium production plant utilises several proprietary processes. It includes a hydrogen production module that generates hydrogen in quantities sufficient to fire the calciner which processes magnesite rock into magnesium oxide. The surplus hydrogen is used to convert the carbon dioxide generated during magnesite calcination into ethanol and ethylene. The plant also uses an innovative process relying on solar power and hydrogen to convert the magnesium oxide to magnesium metal, oxygen, and water vapour.

The economics of this alternative environmentally friendly production process able to produce sustainable, zero-carbon, 'green' magnesium metal together with several additional sellable 'bonus' products are currently being evaluated as part of the second scoping study undertaken by Korab. Results of the second scoping study will be released to the ASX later this year.

The Company plans to continue with the preparation of the MMP for magnesium carbonate guarry in parallel with the work on the scoping study assessing the alternative method with the view to potentially commencing the mining and sales of DSO magnesium carbonate rock and third party processing of the rock into caustic calcined magnesia and dead burned magnesia as envisaged in the pre-feasibility studies reported in 2018 and 2019.

The Company plans a drilling campaign aimed at aggressive resource expansion at Winchester magnesium deposit. This drilling program will consist of up to 100 RC and diamond core drill holes for a total of up to 10,000 meters. This drilling campaign will target:

- Areas within the current magnesium open pit envelope to increase the drilling density with the aim of providing data for updated mineral resource estimate.
- Areas outside the current magnesium open pit envelope to in-fill the space between the high density drill-holes that form the basis of the current mineral resource estimate and the multiple







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(Rum Jungle, NT)

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Lithium, Manganese, Uranium

Geolsec (Rum Jungle, NT) Phosphate

Rare Earth Elements
Uranium
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Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE)

Gold, Silver, Zinc, Lead, Antimony lines of RC drilling that were completed in the past and that were not included in the estimation of mineral resource due to the distance between collars.

#### **AVAILABILITY OF FUNDING**

As reported in the prior ASX reports, including the most recent Quarterly Activities Report for the quarter ended on 31 December 2021, Korab Group has received approach from third parties interested in developing the Winchester magnesium deposit as a supplier of magnesium metal. The Company is also in discussions with other third parties regarding potential joint ventures, and potential provision of finance for the development of the Winchester Project. No commercial terms have been agreed between the parties, the discussions are incomplete, and there can be no certainty that any agreement or agreements can be reached or that any transaction will eventuate from these discussions. Accordingly, no investment decision should be made on the basis of this information. As the discussions mentioned above are at an early stage and are incomplete any announcement of the details of these discussions would be premature and speculative. The Company is also seeking funding from car makers, aluminium-magnesium alloy producers, and trading houses. No commercial terms have been agreed between the parties, the discussions are incomplete, and there can be no certainty that any agreement or agreements can be reached or that any transaction will eventuate from these discussions. Accordingly, no investment decision should be made on the basis of this information. As the discussions mentioned above are at an early stage and are incomplete any announcement of the details of these discussions would be premature and speculative.

Korab is also working on securing the development funding from loans and grants available from Australian Federal Government. The Australian Federal Government has recently created AU\$2bn Critical Minerals Facility (CMF) to support the development of critical minerals projects. This loan facility is being used for new critical minerals projects to get them off the ground. Critical minerals targeted by the CMF include magnesium, graphite, lithium, and nickel. The CMF has recently approved an AU\$185m loan facility to support the development of a graphite project in South Australia. Among other sources of funding being targeted by Korab is the AU\$7bn Northern Australia Infrastructure Facility (NAIF) established by the Australian Federal Government to fund large-scale projects in Northern Australia. NAIF has recently committed to providing AU\$140m for the construction of a rare earth project and AU\$255m for critical infrastructure supporting a urea project, both in Western Australia.

#### **MAGNESIUM MARKET ASSESSMENT**

Over 93%-95% of the magnesium used in Europe comes from China. In 2020, China exported 182,000 tonnes of magnesium to Europe. The situation is not much better in Japan which depends on China for 90% of its magnesium use (31,000 tonnes of magnesium metal were imported from China in 2020). As a result of the Chinese production cuts and post-COVID demand recovery, the price of magnesium shot up from AU\$2,550 per tonne in October 2020 to AU\$6,390 per tonne in September 2021 and AU\$14,850 per tonne in October 2021. The magnesium price has since settled to trade around AU\$10,000 per tonne.

Magnesium metal is used as an alloying element in aluminium production to increase aluminium's rigidity and strength. Magnesium alloys provide an interesting potential due to their properties: small specific mass (1.7g/cm3 compared to 2.7g/ cm3 for aluminium and 7.9g/cm3 for steel), the possibility to produce complex parts with thin areas, good impact resistance, good machinability by cutting, higher production rates (20%) than aluminium, good damping capacity, good heat resistance and, finally, good machinability.

Given that aluminium/magnesium alloys are almost five times lighter than steel, they have replaced steel as the preferred material for production of car bodies, gearboxes, transmissions, drivetrains, and other car parts. This weight/strength differential has become especially important in the electric vehicle (EV) industry and the general automotive sector, where the primary goal is to reduce vehicle







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Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony weight. For an EV, lower weight means an increased range, and for an internal combustion engine, it means lower fuel consumption and carbon emissions.

China's Society of Automotive Engineers (SAE) has forecast that the use of magnesium alloy will increase in the long term because of a trend towards lightweight material and carbon reduction targets in the auto industry. SAE expects magnesium consumption to rise from 1.5kg/vehicle in 2015 to 25kg/vehicle by 2025 and 40kg/vehicle by 2030.

According to the China Association of Automobile Manufacturers (C.A.A.M), automakers in China delivered 28,226,616 passenger and light commercial vehicles in 2017. The Chinese Ministry of Industry and Information Technology is targeting 35 million vehicle sales by 2025 and wants new energy vehicles (NEVs) to make up at least one-fifth of that total. Assuming the above growth, within three years, Chinese carmakers will require 875,000 tonnes of magnesium metal per year. Current magnesium production in China totals about 870,000 tonnes per year. It is expected to rise to 1,100,000 tonnes per year by 2025, and 1,300,000 tonnes per year in 2030.

Chinese magnesium production is very energy intensive, consuming huge amounts of coal, ferrosilicon, gas, and electricity. Because much of Chinese magnesium production comes from older smelters that use outdated technologies, they produce significant pollution levels, including toxic compounds and significant carbon emissions.

Even though Chinese magnesium production capacity utilisation is currently quite low (around 60%), this does not mean that China can quickly boost its production. Most of the unutilised capacity is from older, terribly polluting smelters relying on the Pidgeon process and is therefore unlikely ever to be utilised again.

Global magnesium supply risks (especially in Europe, USA, and Japan) are compounded by the fact that less than 9% of global primary magnesium comes from countries with low political risk. As illustrated by Figure 9, over 90% of annual global magnesium production comes out of China, Russia, Kazakhstan, Ukraine, and Iran.

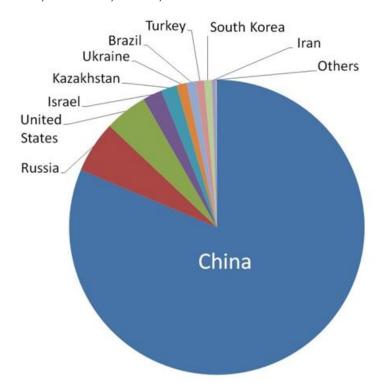


Figure 9 Global primary magnesium production share by country (2020)







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Gold, Silver, Zinc, Lead, Nickel,

Gold, Silver, Zinc, Lead, Nickel, Copper, Cobalt, Tin, Scandium, Lithium, Manganese, Uranium

> Geolsec (Rum Jungle, NT)

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Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead,

Antimony

Magnesium is traded globally in the spot market, in the derivatives market, and by way of long term offtake agreements and sales contracts.

It is Korab's preference to have at least 50%-60% of the potential magnesium production allocated to off-take and sales agreements; however, given that the large proportion of the global magnesium market is operating on a spot, or short term contracts basis, it is feasible to operate the Project without long term offtake or sales agreements.

#### TIMEFRAME FOR DEVELOPMENT AND PRODUCTION

This is a scoping study level estimation. The Company is currently conducting a second scoping study to assess the economics of the alternative production method.

Should the Company proceed with the original production method, the Company has reasonable grounds to believe that the funding for the Project, completion of sales and/or offtakes of magnesium metal at a volume level satisfactory to the Company, and securing required governmental and regulatory Project approvals will take approximately 12-14 months. The construction and commissioning of the magnesium production plant using the original production method is estimated at 19-22 months. This assumption is based on information obtained from our discussions with the relevant counterparties.

However; investors should note that the actual timeframe of the development and production will depend on the actual availability of funding for the Project, completion of sales and/or offtakes of magnesium metal at a volume level satisfactory to the Company, securing required governmental and regulatory project approvals, access to transport, and market factors such as magnesium prices, energy prices, foreign exchange rates, etc. which are outside the control of the Company.

Should there be a delay with securing the funding, sales, or regulatory permits, or should there be an adverse change in any of the remaining aforementioned factors, it may impact on the development and production timeframe.

#### **ACCESS TO TRANSPORT**

Sea transport is available from Darwin Port's East Arm which is located 93km (by road) to the north of the Project. On 15 November 2021, Korab reported that it has executed Heads of Agreement (HoA) with the operator and manager of Darwin Port (the Port) for the export of up to 30,000 tonnes per annum of magnesium metal through the Port. The HoA with Darwin Port includes the following tonnages of magnesium metal and magnesium compounds (the Product) to be exported annually through the Port:

- 1. 30,000 tpa of high-purity magnesium metal (Mg),
- 2. 300,000 tpa of dead burned magnesia (DBM),
- 3. 200,000 tpa of caustic calcined magnesia (CCM), and
- 4. 2,000,000 tpa of magnesium carbonate direct shipping ore (DSO).

This HoA envisages exporting the Product through Darwin Port's East Arm Wharf and includes provisions for sub-leasing of the:

- a) Magnesium metal storage area;
- b) Magnesium oxide storage area (for DBM and CCM);
- c) Bulk ore storage area;
- d) Stockpile pad including drainage;
- e) Stockpiling and recovery equipment; and







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Antimony

f) Access Roads.

HoA also includes provisions for use of the facilities owned by the Darwin Port Manager and which may be reasonably required by Korab to enable Korab to carry out its Product handling operations, which may consist of

- a) Ship loading facilities;
- b) Shuttle conveyers to receive and convey bulk materials;
- c) Truck dump facilities to allow the dumping of bulk materials;
- d) Access Roads; and

The HoA with Darwin Port will allow for exporting of large quantities of high purity magnesium metal to Europe, USA, and ASIA, where users of this critical metal have been suffering repeated shortages and supply interruptions that are likely to continue. The HoA will also allow for more than doubling of the originally planned volume of bulk magnesite ore to be shipped each year through the Port. It will also allow for exporting of various magnesium oxides (DBM and CCM) to Europe, USA, and Asia.

Darwin Port's East Arm Wharf is a multi-user facility with 4 berths spaced along 865 metres of quay line. Berth 2 is used for bulk ore exports and has a rail mounted dry bulk ship loader. The continuous length of wharf facilitates flexibility in berth allocations to visiting ships. East Arm Wharf can accommodate PANAMAX class bulk carriers up to 75,000 tonnes.

East Arm Wharf has a rail mounted bulk minerals ship loader with a maximum capacity of 2,000 tonnes per hour. Bulk minerals, such as iron ore, magnesium carbonate, or manganese, can be delivered to stockpile areas by haulage trucks, or transferred from rail wagons to the stockpile areas using a dedicated rail dump and conveyor systems. The minerals are transported by truck from the stockpiles to the ship loader truck dump for loading onto bulk carriers. Alternatively, processed minerals and pure metal can be loaded on ships via the container handling facility.

Road transport by haulage trucks is available to the Darwin port and to South Australia, Victoria, New South Wales and Queensland via Batchelor Road or Crater Lake Road, and then via Stuart Highway. Darwin to Adelaide railway line runs along Stuart Highway and is transected by Batchelor road approximately 5km from the deposit. Currently there are no rail loading facilities either at Batchelor or near the point where Batchelor road transects the railway line.

#### PROJECT APPROVALS AND PERMITTING

Winchester deposit is located on granted mineral lease ML 30587 held by Korab's wholly owned subsidiary AusMag Pty Ltd. Before the mine and the processing plant can be established, an appropriate Mine Management Plan (MMP) will need to be submitted to the Northern Territory Department of Industry, Tourism and Trade and AusMag will need to receive the authorisation to implement this MMP. The Project will also require environmental and other approvals of this nature.

If the Project is developed in stages, initially as a quarry and then as a magnesium producer, the initial MMP environmental approvals required will be reduced in complexity and scope. Magnesite quarry and associated infrastructure will have a very small physical and environmental footprint. Mobile equipment, including crushers and sorters can be utilised were possible while expanded MMP and environmental approvals to build and operate magnesium plant are being worked on. There are several rock quarries and mines in the vicinity of the town of Batchelor, some abandoned, and some in operation.







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Gold, Silver, Zinc, Lead, Antimony

#### MINERAL RESOURCE ESTIMATES AND COMPETENT PERSON STATEMENT

Current estimate of mineral resource at Winchester is shown in the following table:

**Table 9 Winchester Magnesium Project Mineral Resource Estimate** 

AT 40% MGO CUT-OFF	MASS ('000 TONNES)	MGO GRADE (%)	MGO MASS ('000 TONNES)
Indicated	12,200	43.1	5,258
Inferred	4,400	43.6	1,918
TOTAL	16,600	43.2	7,177

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources, or Ore Reserves is based on information compiled by the Company and reviewed by Malcolm Castle, a competent person who is a Member of the Australasian Institute of Mining and Metallurgy ("AusIMM"). Malcolm Castle is a consultant geologist employed by Agricola Mining Consultants Pty Ltd. Mr Castle has sufficient experience that is relevant to the style of mineralization and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" ("JORC Code"). Malcolm Castle consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

This information was prepared and first disclosed under the JORC Code 2004 on 16 July 2007 in ASX report titled "Acquisition of the Rum Jungle/Batchelor Project in Northern Territory". It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

The Competent Person is not aware of any new information or data that materially affects the information included in the Company's ASX report titled "Acquisition Of The Rum Jungle/Batchelor Project In Northern Territory" reported on 16 July 2007 and, in the case of mineral resources that all the material assumptions and technical parameters underpinning the estimates in the report released on 16 July 2007 continue to apply and have not materially changed. The form and context in which the findings of the report released on 16 July 2007 are presented have not been materially modified. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

#### **OTHER MODIFYING FACTORS**

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study production target and projected financial information are based have been included in this release.

For material modifying factors and assumptions used in this study which are not disclosed elsewhere in this report please refer to Table 10.

Table 10 Material modifying factors

Table 10 Material injurying factors	
MODIFYING FACTOR	COMMENTS
Mineral Resource estimate for conversion to Ore Reserves	No Ore Reserve has been declared.
Cut-off parameters	The mineral resource has been reported at a 40% MgO cut-off grade. This cut-off grade was chosen using the current economic







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Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony

	parameters applicable to the adopted mining and processing methods.
Study status	The Study is a scoping study level. No Ore Reserve has been declared
Infrastructure	The deposit is located 2km east from the town of Batchelor and 93km (by road) from Darwin Port along Batchelor Road and Stuart Highway. Alternative access to Stuart Highway is by way of the Crater Lake Road. Darwin to Adelaide rail line runs approximately 5km from the deposit. High voltage power runs along the Batchelor road next to the deposit. Additional high voltage power lines run across the Project 2 km to the east of the deposit. Gas pipeline runs approximately 3 km east of the deposit. Potable water is available on site. Accommodation is available at Batchelor town, and the alternative accommodation is available in Darwin. Two solar farms with combined capacity of 22MW adjoin the Project.
Transportation	Sea transport is available from Darwin Port's East Arm which is located 93km (by road) to the north of the Project. Bulk materials handling facility at East Arm includes 850m rail spur, 1,500T/H rail bottom dump station, stockpiles, haul roads and a 2,000T/H travelling gantry shiploader. The shiploader is designed for Panamax class ships. Road transport by haulage trucks is available to the Darwin port and to South Australia, Victoria, New South Wales and Queensland via Batchelor road and then via Stuart Highway. Darwin to Adelaide railway line runs along Stuart Highway and is transected by Batchelor road approximately 5km from the deposit. Currently there are no rail loading facilities either at Batchelor or near the point where Batchelor road transects the railway line. On 15 November 2021, Korab reported that it has signed Heads of Agreement with the operator of Darwin port. HoA envisages exporting of 30,000 tonnes of magnesium metal and various tonnages of other products through Darwin Port East Arm Wharf and includes sub-leasing of the land, access to various port facilities, and use of loaders, and other equipment. HoA provides the basis for the final port agreement.
Mineral Resources Classification	The mineral resources estimates that were used to underpin this report are classified solely as indicated mineral resources.
Marketing (Off-take or Sale Agreements)	It is preferred by Korab that the Company enters into long-term sale or off-take agreements for at least part of the magnesium metal production before it commences the development of Winchester Project as a magnesium metal producer. Korab is in discussions with number of parties regarding potential off-take and long-term sales agreements.
Mine Permitting	Winchester deposit is located on granted mineral lease ML 30587 held by Korab's wholly owned subsidiary AusMag Pty Ltd. Before the mine and the processing plant can be established, an







## **KORAB HOUSE**

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**Environmental studies** 

#### **Issued Capital**

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**Listing Codes** 

ASX: KOR BERLIN: C6S

#### **Directors**

Andrej K. Karpinski
Executive Chairman
Executive Director

Rodney H. Skeet Non-executive Director (Independent)

Anthony G. Wills Non-executive Director (Independent)

### **Projects**

(Rum Jungle, NT)

Magnesium

Sundance (Rum Jungle, NT) Gold, Silver, Tin

Legal

Batchelor & G. Alligator (Rum Jungle, NT)

Gold, Silver, Zinc, Lead, Nickel, Copper, Cobalt, Tin, Scandium, Lithium, Manganese, Uranium

> Geolsec (Rum Jungle, NT) Phosphate

Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead,

Antimony

appropriate Mine Management Plan (MMP) will need to be submitted to the Northern Territory Department of Industry, Tourism and Trade and AusMag will need to receive the authorisation to implement this MMP. The Project will also require environmental and other approvals of this nature. If the Project is developed in stages, initially as a quarry and then as a magnesium producer, the initial MMP environmental approvals required will be reduced in complexity and scope. Magnesite quarry and associated infrastructure will have a very small physical and environmental footprint. Mobile equipment, including crushers and sorters can be utilised were possible while expanded MMP and environmental approvals to build and operate magnesium plant are being worked on. There are several rock quarries and mines in the vicinity of the town of Batchelor, some abandoned, and some in operation.

Environmental impact studies have been undertaken in the past (2000-2002) regarding the development of the Project as a magnesium producer. Given the time that has elapsed since their completion, new environmental studies will be required. If the Project is developed in stages, initially as a quarry and then as a magnesium producer, the initial environmental studies will be reduced in scope. Magnesite quarry and associated infrastructure will have a very small footprint. Mobile equipment, including crushers and sorters can be utilised were possible while environmental studies regarding magnesium production are being completed. There are several rock quarries and mines in the vicinity of the town of Batchelor, some abandoned, and some in operation.

Costs Refer to the body of the report.

Revenue factors Refer to the body of the report.

Market assessment Refer to the body of the report.

Economic Refer to the body of the report.

Winchester deposit is located within the granted Mineral Lease (mining licence) ML30587. ML30587 has an area of 352 ha and was granted up to 20 October 2040 prior to which date it can be renewed. The lease can be renewed multiple times. Korab's wholly owned subsidiary Melrose Gold Mines Pty Ltd owns rights to 100% of gold mineralisation within the Project. Polymetallica Minerals Ltd owns 90% of rights to uranium mineralisation within the Project. No Ore Reserve has been declared. No material naturally occurring risks have been identified. The Project is owned 100% by Ausmag Pty Ltd, a wholly owned subsidiary of Korab Resources Ltd, Korab Resources Ltd has the sole marketing rights to magnesium carbonate, magnesium oxides, and magnesium metal, and there are no marketing agreements in place with third parties. The Company continues to undertake relevant studies to support necessary government approvals processes. There are reasonable







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Gold, Silver, Zinc, Lead, Nickel, Copper, Cobalt, Tin, Scandium, Lithium, Manganese, Uranium

> Geolsec (Rum Jungle, NT)

Phosphate
Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE)

	grounds from the studies conducted to date to expect that all necessary Government approvals will be received within the timeframes anticipated. The Company is yet to commence Pre-Feasibility and Feasibility studies into the production of magnesium metal. Pre-Feasibility studies into mining magnesium carbonate at Winchester and DSO sales of the rock and production of magnesium oxide off-site have been reported in March 2018 and September 2018.
Mining factors and assumptions	No Ore Reserve has been declared. Conventional truck and shovel method is proposed. For slope, bench, widths, and other mining factors see the body of the report. Of the Mineral Resources scheduled for extraction in this Scoping Study production plan 100% are classified as Indicated. Project has a gas pipeline, and high voltage power lines crossing the Project. Two solar farms with 22MW capacity are adjacent to the Project.
Metallurgical factors and assumptions	No Ore Reserve has been declared. Refer to the body of the report for process and metallurgical information obtained from test mining and processing.
Native Title	Winchester deposit and the mineral lease are located wholly on freehold land and no native title approvals would be required to establish a mine and the processing plant. However, any sacred sites and sites of anthropological or historical significance that are located within the Project area would need to be protected.
Social	Winchester mine would utilise own staff for most activities although it is envisaged that mining contractor may be retained to operate the magnesite quarry. Other than contractor's staff, there would be number of personnel directly employed by AusMag Pty Ltd involved in establishing and operating the mine and processing plant. Winchester magnesite quarry and Winchester magnesium processing plant have potential to generate significant royalties' income for the Northern Territory government over the life of the Project. In addition to providing revenue stream for the Territory government, Winchester Project would also directly benefit Territorians by supporting local businesses and providing jobs. Whilst there is no legal requirement to utilise local and/or indigenous owned businesses as contractors, local businesses and labour that have indigenous owners and/or employees would be given preference subject to usual commercial conditions.







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(Rum Jungle, NT)
Phosphate
Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony

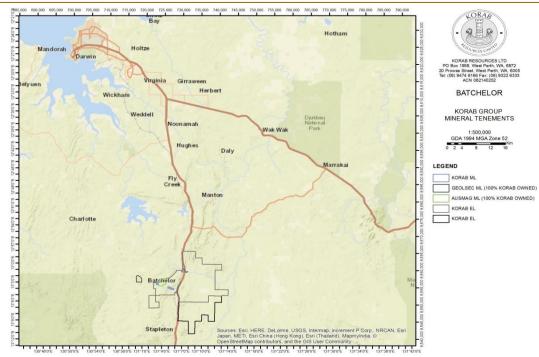


Figure 10 Location of Korab Group's mineral assets in the Northern territory

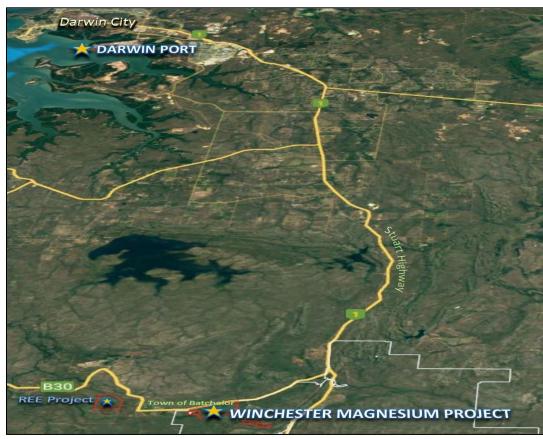


Figure 11 Location of Korab Group's mineral tenements (exploration leases in white and mining leases in red) and Winchester Magnesium Project relative to Darwin Port and basic infrastructure







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Lithium, Manganese, Uranium

Geolsec (Rum Jungle, NT)

Phosphate Rare Earth Elements Uranium (Sub-leased to third party)

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Bobrikovo (Luhansk, UKRAINE)



Figure 12 Test mining of magnesium at Winchester during the wet season (after blasting Level 0)

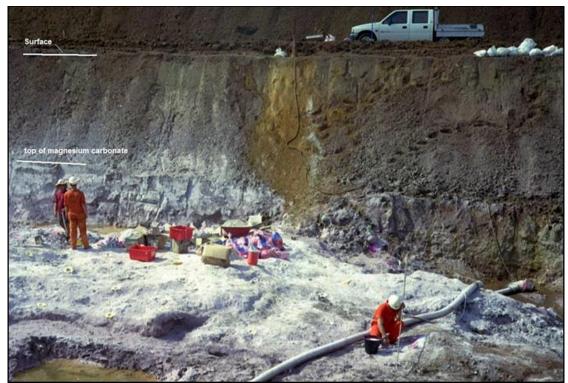


Figure 13 Test mining of magnesium at Winchester during the wet season (preparing to blast Level -1)







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Rare Earth Elements
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Figure 14 Pilot plant used to produce magnesium metal from Winchester Project



Figure 15 Close-up of the furnace (left) and slag decanting after magnesium metal was extracted (right)









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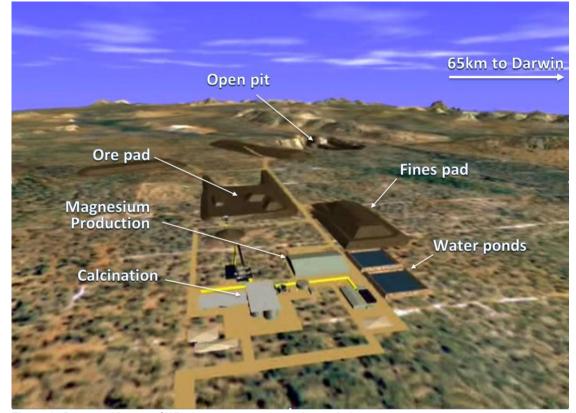


Figure 16 Proposed layout of Winchester magnesium mine and plant



Figure 17 Solar farms at Batchelor (Batchelor 1 and Batchelor 2) adjacent to the Winchester Project







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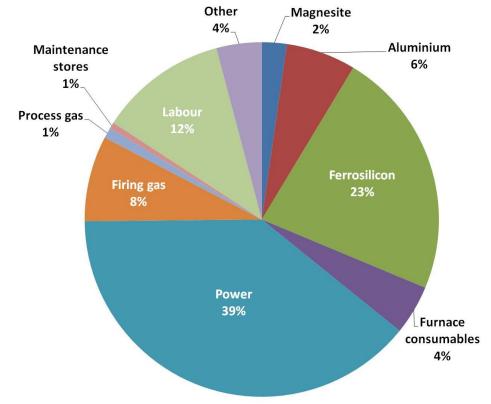


Figure 18 Production cost components by input category

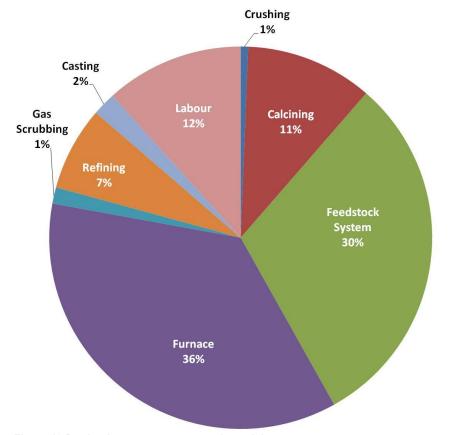


Figure 19 Production cost components by activity







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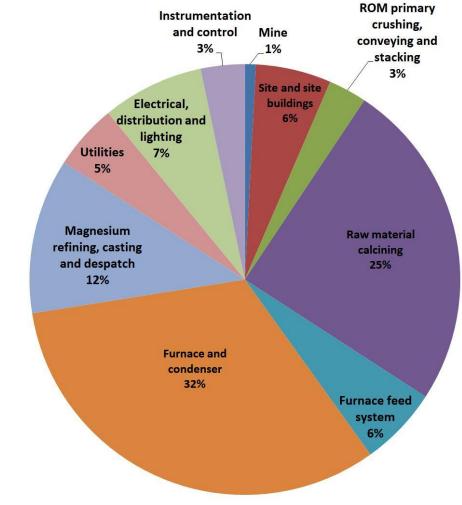


Figure 20 Capital cost components by category

- END-

This report has been authorised by the Board of Directors of the Company

#### **INVESTOR RELATIONS CONTACT**

Andrej K. Karpinski - Executive Chairman

Australia: (08) 9474 6166 International: +61 8 9474 6166

#### **ABOUT KORAB RESOURCES**

Korab Resources Ltd is an international mining and exploration company with operations in Australia and Europe. Korab's projects include Winchester magnesium carbonate deposit at Batchelor in the Northern Territory of Australia, Geolsec phosphate rock deposit also at Batchelor, and other gold, silver, copper, cobalt, nickel, and polymetallic projects in Australia and overseas. More information about Korab's projects can be sourced from Korab's website at <a href="https://www.korab.com.au">www.korab.com.au</a>. Korab's shares







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Geolsec
(Rum Jungle, NT)
Phosphate
Rare Earth Elements
Uranium
(Sub-leased to third party)

Mt. Elephant (Ashburton, WA) Gold, Copper

Bobrikovo (Luhansk, UKRAINE) Gold, Silver, Zinc, Lead, Antimony are traded on Australian Securities Exchange (ASX) and on the Berlin Stock Exchange (Berliner Börse) through Equiduct electronic trading platform.

#### **DISCLAIMER AND CAUTIONARY STATEMENT**

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "expected", "feel(s)", "believe(s)", "will", "may", "anticipate(s)", "should", "envisage(s)" and similar expressions are intended to identify such forward-looking information. This information includes, but is not limited to statements regarding future exploration results, resources, or reserves, and production. Anyone reading this report is cautioned not to place undue reliance on these forwardlooking statements. All of such statements are subject to risks and uncertainties (many of which are difficult to predict and which generally are beyond the control of the Company) that could cause actual results to differ materially from those expressed in, or implied or projected by, the forwardlooking information and statements. These risks and uncertainties include, but are not limited to: those relating to the interpretation of exploration results (including drill results), the geology, grade and continuity of mineral deposits and conclusions of economic evaluations; risks relating to possible variations in reserves, grade, mining dilution, ore loss, and recovery rates; risks relating to changes in project financial and technical parameters; risks relating to the potential for delays in exploration programs, project evaluation/review, completion of feasibility studies and project development; risks related to commodity prices and foreign exchange rate fluctuations; risks related to failure to secure adequate financing on a timely basis and on acceptable terms; risks related to delays in obtaining governmental, or other permits and approvals; risks related to security of tenure; and other risks and uncertainties related to the Company's prospects, properties and business strategy. Any forwardlooking information contained in this report is provided as of the date of this report. Except as required under applicable listing rules and securities laws, the Company does not intend, and does not assume any obligation, to update this forward-looking information.



