

# **Executive Summary of the Technical Reports on the Initial Mineral Resource Estimate and Preliminary Economic Assessment for the Las Navas Project, Cañaveral, Spain**

Key Features				
Project Name	Las Navas Project, located within the Ampliacion de Retamar Exploration Permit No. 10C10220-00, Cañaveral, Extremadura, Spain			
Compliance	This Technical Statement is an executive summary of Micon International Limited's (Micon) Independent Technical Reports on the initial mineral resource estimate (MRE) and preliminary economic assessment (PEA) written in accordance with the requirements of Canadian National Instrument 43-101 (NI 43-101); this technical statement is provided for illustrative purposes only; it is not a Technical Report and should not be considered as such.			
Declaration	Micon does not have, nor has it previously had, any material interest in JESAMPA 2018 S.L. or related entities (Jesampa). The Technical Reports summarized in this Technical Statement were prepared in return for fees based upon agreed commercial rates and payment of those fees is in no way contingent on the results of the work carried out by Micon. This Technical Statement is intended to be used solely by Jesampa subject to the terms and conditions of its agreement with Micon.			
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Persons	PEA: Charley Murahwi, MSc., P.Geo., FAusIMM; Richard Gowans, B.Sc., P.Eng.; Christopher Jacobs, CEng, MIMMM, MBA; Nigel Fung, B.Sc.H., B.Eng., P.Eng.; Samer Hmoud, M.Sc., MAusIMM(CP); Jane Spooner, M.Sc., P.Geo., FCIM			
Effective Date	MRE: October 30, 2019			
	PEA: December 31, 2019			
Prepared for	JESAMPA 2018 S.L.			
Prepared by	Micon International Limited			
Purpose	MRE: to provide an initial estimate of the mineral resources for the Las Navas deposit and to prepare an Independent Technical Report on the initial resource estimate in accordance with the requirements of NI 43-101.			
	PEA: to conduct a preliminary economic assessment for the Las Navas Project based on the MRE and to prepare an Independent Technical Report on the PEA in accordance with the requirements of NI 43-101.			
	The Independent Technical Reports were written to support the public disclosure of the initial mineral resource estimate and the preliminary economic assessment for the Las Navas Project.			
Sources of Information	Data supplied by Jesampa; Previous (1989-1990) exploration reports on Las Navas Project area by E. N. ADORA; drill hole databases and 3D models; observations made during the site visit by Micon, represented by Charley Murahwi, P.Geo.; CRS Ingenieria, S.L. internal exploration assessment reports; discussions with Jesampa management and staff familiar with the property; the authors are indebted to Juan-Leon Coullaut, Managing Director of CRS Ingenieria, S.L. for his contribution to the Technical Report.			
Personal Inspection	Micon (represented by Charley Murahwi, MSc., P.Geo., FAusIMM) visited the Las Navas Project in August, 2019. During its visit, Micon discussed the geologic model, verified the drill hole collar positions, witnessed twin-hole drilling, examined drill cores, reviewed drill hole logs, reviewed mineralization types and discussed the Quality Assurance/Quality Control protocols used by Jesampa.			



Location of the Las Navas Project, Cañaveral, Extremadura, Spain. Source: Google Earth, 2020.

# INTRODUCTION

Micon International Limited (Micon) was retained by JESAMPA 2018, S.L. (Jesampa) to review the exploration program covering the Las Navas-Grimaldo sections of the Ampliacion de Retamar Exploration Permit No. 10C10220-00 (Permit), to estimate the mineral resources for the Las Navas deposit and to prepare an independent Technical Report on the mineral resource estimate (MRE) in accordance with the requirements of Canadian National Instrument 43-101 (NI 43-101).

Micon was also retained by Jesampa to conduct a preliminary economic assessment (PEA) for the Las Navas Project and to prepare an Independent Technical Report on the PEA in accordance with the requirements of NI 43-101.

The exploration property is located in the Extremadura District of Spain. Adequate exploration and recon-naissance diamond



drilling have been conducted on the Las Navas deposit to enable an initial mineral resource estimation. Micon completed this maiden resource estimate for the Las Navas deposit in December, 2019.

The purpose of these Independent Technical Reports was to support the public disclosure of the initial MRE and the subsequent PEA for the Las Navas deposit.

# PROPERTY DESCRIPTION AND LOCATION

The Permit is located approximately 36 kilometres (km) north of Caceres, in the autonomous region of Extremadura, a western Spanish region bordering Portugal, and is approximately 300 km by road from Madrid. The focus of the Technical Reports is the Las Navas-Grimaldo area, located in the southeast section of the Permit.

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Las Navas-Grimaldo Area Mineralized Pegmatites. Source: Jesampa, 2019.

# **OWNERSHIP**

Jesampa is the exploration permit holder and owns all the exploration projects within the Permit including the Las Navas and Grimaldo Projects. Jesampa has signed, in favour and for the benefit of Libat Consultoria Recursos Subterraneos, s.l., CIF B90328451 (CIF), a royalty agreement that reaches up to three per cent (3%) of the net smelter return (NSR) from projects within the Permit.

# **GEOLOGY AND EXPLORATION**

# Regional Setting

The Ampliacion de Retamar No. 10C10220-00 is located in the Iberian Massif which forms the pre-Mesozoic basement of the Iberian plate. The Iberian plate was subjected to deformation and metamorphism and was intruded by granitoid bodies during the Varisca or Hercynian orogeny. Post Hercynian deformations occurred during the Alpine cycle. The granitoid bodies are genetically related to mineralized pegmatites in the Permit.

# **Property Geology and Mineralization**

The Las Navas-Grimaldo area is currently the best known and the most promising lithium bearing area within the Permit. Mapping by Jesampa has identified swarms of pegmatite dykes and veins, oriented NNE-SSW with moderate dips of 25° to 50° WNW.

These pegmatites are enriched in lithium (Li), caesium (Cs), rubidium (Rb) and tin (Sn). Drill hole core logging and x-ray diffraction (XRD) analyses have so far shown that the dominant lithium mineral is lepidolite.

# Deposit Types

The Li, Cs, Sn, and Rb mineralization in the Las Navas-Grimaldo area is related to the pneumatolytic and hydrothermal phases of the magmatic consolidation process, permeating the contact between the granites and

the embedding rocks. The deposits belong to the Rare-Element (low temperature and pressure) pegmatites of the lithium, cesium and tantalum type. These pegmatites are characterized by the abundance of lithium, with cesium, rubidium and tantalum to a lesser extent.

# Status of Exploration

Geological mapping has confirmed that the mineralized pegmatites in the Las Navas area are extensively developed with potential to yield sizeable resources. Mobile metal ions (MMI) geochemical sampling results indicate three distinct coincident Li-Rb-Cs-Sn-Nb+Ta anomalies to the south, east and west of the Las Navas area. These geochemical anomalies indicate the possibility of several other mineralized pegmatites not exposed at surface.

Follow-up geochemical sampling is planned to define the orientation/strike direction of the anomalies prior to trenching and diamond drilling.

# **METALLURGY**

The limited preliminary tests conducted by ADARO in 1990 and the preliminary mineralogical and chemical analyses completed in 2019 by M.Plan International Limited, AGQ Mining and Bioenergy Consultants were deemed sufficient to characterize the Las Navas deposit, and hence to draw upon metallurgical information available from similar deposits already being exploited. These metallurgical investigations were used to conceptualize a processing flow sheet for the Las Navas deposit using the principle of analogies, i.e., adopting the technology being applied at similar deposits elsewhere and applying the same processing route as a basis for a preliminary economic study. On this basis, a conceptual flow sheet and process design criteria was developed.

869

339

668

Average Grade

1,942

1,348

Li (ppm) Rb (ppm) Cs (ppm) Sn (ppm)



# MINERAL RESOURCE ESTIMATE

The mineral resource for the Las Navas area has been estimated using the Inverse Distance cubed (ID3) technique. The mineral resource is constrained by an optimized pit shell as detailed in Section 14.0 of the MRE and PEA Technical Reports. The optimization indicates

a cut-off grade of 0.5% lithium oxide (Li<sub>2</sub>O).

Li<sub>2</sub>O (%)

0.97

0.98

**Tonnes** 

(Mt)

17.16

41.33

0.00

Category

Inferred

Inferred

Zones

Domain 1

Domain 2

Domain 3

	7.						
Total	Inferred	58.49	0.98	4,553	1,523	494	631
Mineral Resou	ırce Estimate d	of the Las Nav	as Deposit a	s at October 3	30, 2019. Cut-oi	ff grade of 0.5%	) <u>.</u>
Source: Micor	2010						

MINING METHODS
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# Pit Optimization

The pit optimization was undertaken on the mineral resource block model.

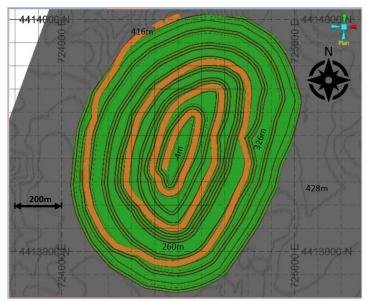
Preliminary optimization was performed using Datamine NPVS™ software and was used to constrain the resource model.

Cost, economic and physical parameters were applied to the optimization process and the software generated nested pits based on the Lerchs Grossman (LG) algorithm for incremental price factors applied to the lithium carbonate base price of USD 15,000/tonne (t).

Optimized pits generated at various price factors were selected for the various phases (pushbacks) and for the final pit to be incorporated into a mine production schedule.

The pit optimization parameters used a breakeven cut-off grade of 0.50% Li<sub>2</sub>O, including the unit mining cost, and generated an incremental mill cut-off grade of approximately 0.47% Li<sub>2</sub>O for rock that was previously determined to be within the pit shell.

The selected optimized pit shell used as the final pit for the mine production schedule contained a life-of-mine (LOM) plant feed tonnage of approximately 55.6 million tonnes (Mt) at a grade of 0.975% Li<sub>2</sub>O.



Plan View of the Pit Design. Source: Micon, 2019.

Li₂O_pct Cut-off	Tonnage (Mt)	Li₂O (%)	Li (ppm)	Rb (ppm)	Cs (ppm)	Sn (ppm)
0.5	58.49	0.98	4553	1523	494	631
0.6	53.47	1.02	4738	1582	515	619
0.7	48.89	1.05	4896	1602	496	624
0.8	40.84	1.11	5173	1574	420	655
0.9	32.56	1.18	5498	1562	378	681
1	24.62	1.26	5851	1574	334	695
1.1	19.87	1.31	6097	1678	366	684
1.2	12.56	1.41	6535	1784	427	635
1.3	11.56	1.42	6607	1802	439	632
1.4	7.65	1.45	6749	1713	301	622
1.5	0.85	1.54	7151	1416	232	511

4,502

4,574

Las Navas Inferred Resource Sensitivity Table as at October 30, 2019. Source: Micon, 2019.

# Pit Design, Development and Schedule

A conceptual pit design was created from the bottom up using PEA design parameters and the selected final pit shell as a template.

The proposed method of mining is by conventional open pit methods using drilling, blasting, loading and hauling with rigid frame dump trucks and hydraulic shovels. Waste from the pit will initially be composed of overburden and dumped in the topsoil stockpile. As the pit develops, hard waste rock will be excavated and stored on separate waste dumps.

Mining will be undertaken by a contractor. Preproduction waste rock will be used to construct site roads, including the main haul roads, and will also be used for the construction of the tailing storage facility.

A conceptual production schedule has been produced using Datamine NPVS™ software. The production schedule is based on mining 1,300,000 tonnes per year (t/y) of lepidolite mineralized material.

The mining rate was predetermined based on marketing studies that were used to determine the scale and throughput of the processing plant.

The LOM is expected to be 43 years, with approximately 55.6 Mt of lepidolite material mined and fed to the mill at an average grade of 0.975% Li<sub>2</sub>O.

# **RECOVERY METHODS**

In the absence of comprehensive testwork, the selected recovery methods were purely conceptual, based on the principle of analogies. The conceptual process design comprised conventional grinding and flotation to produce a lithium mica concentrate followed by roasting, leaching, purification and precipitation to produce a battery grade lithium carbonate product.



# **PROJECT INFRASTRUCTURE**

The Las Navas Project is located near major infra-structure including, roads, railway, electric power lines, ports and airports. It has sufficient land holdings for exploration and development purposes to include processing facilities, dumps, stockpiles, leach pads and tailings disposal facilities.

# **MARKET STUDIES AND CONTRACTS**

Given the timeframe for development of the Las Navas Project, and on the basis of market analysis, it is considered that a long term price of USD 15,000/t of lithium carbonate, f.o.b. plant, is reasonable for the purpose of the PEA and that the assumption that 25,000 t/y lithium carbonate can be sold for use in secondary battery manufacture is also reasonable.

# ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

The Project currently has all the required permits for exploration, including exploration roads, drilling, trenching and minor excavations.

All internationally and nationally recommended and required studies and standards for this Project will need to be followed, and all environmental permits acquired, before the Project can advance to the preliminary feasibility study (PFS) stage.

# **CAPITAL AND OPERATING COSTS**

# Capital Costs

The total initial capital cost of the Project is estimated at USD 499 million, which includes USD 326 million in Direct and Indirect Processing Plant Costs, USD 103 million in other direct and indirect costs, plus Owner's Costs of USD 5 million and a contingency of USD 65 million.

Annual sustaining capital costs, from Year 2 onward, are estimated to be 2.5% of the initial capital cost per year for a LOM total of USD 524 million. In addition, provision is made for USD 10 million in closure.

Area	Initial Capital (k USD)	LOM Sustaining Capital (k USD)	Total LOM Cost (k USD)
Pre-construction/Access Road	5,000	5,250	10,250
Power Line	30,000	31,500	61,500
Mining	3,000	3,150	6,150
Concentrator	49,000	51,450	100,450
Hydrometallurgical Plant	204,000	214,200	418,200
Tailings Disposal	10,000	10,500	20,500
Infrastructure-Building	20,000	21,000	41,000
Total Direct Costs	321,000	337,050	658,050
Freight & Transportation	4,000	4,200	8,200
Admin & Overhead	30,000	31,500	61,500
Project Studies	1,000	1,050	2,050
Concentrator Indirect	14,000	14,700	28,700
Hydrometallurgical Indirect	59,000	61,950	120,950
Total Indirect Costs	108,000	113,400	221,400
Owners Costs	5,000	5,250	10,250
Contingency 15%	65,000	68,250	133,250
Total Capital Costs	499,000	524,000	1,023,000

Initial and LOM Sustaining Capital Cost Estimate.

Category	LOM Costs (M USD)	Ave. Annual Costs (k USD)	USD/t Milled
Mining of Waste	1,598.2	37,166	28.73
Mining of Mineralized Lepidolite	278.1	6,468	5.00
Processing – Concentrator	783.2	18,214	14.08
Processing – Hydrometallurgy	4,283.2	99,609	77.00
General and Administration	278.1	6,468	5.00
Total Production Cost	7,220.8	167,925	129.81

Summary of Operating Costs. Source: Micon, 2019.

# **Operating Costs**

Total LOM estimated cash operating costs average USD 129.81/t milled, comprising USD 33.73/t for mining, USD 91.08/t for processing and USD 5.00/t for general and administration.

The operating mining costs consist of USD 5.00/t of mineralized rock mined and USD 4.00/t of waste rock mined for an average cost of USD 4.12/t of rock mined, which represents a mining cost of USD 33.70/t of mineralized rock delivered to the mill, taking into consideration the waste mining at a ratio of 7.18 t of waste per tonne of mill feed mined.

Processing of the mill feed averages USD 91.08/t which comprises USD 14.08/t for the concentrator and USD 77.00/t for hydrometallurgical treatment.

### **ECONOMIC EVALUATION**

Micon has evaluated the economics of the Project on the basis of a discounted cash flow model, from which net present value (NPV), internal rate of return (IRR), payback and other measures of project viability can be determined. Assessments of NPV are generally accepted within the mining industry as representing the economic value of a project after allowing for the cost of capital invested.

The objective of the study was to determine the potential viability of the proposed development of the Retamar Lithium Minerals Production Project. In order to do this, the cash flow arising from the base case has been forecast, enabling a computation of the NPV and IRR to be made.

The sensitivity of NPV and IRR to changes in the base case assumptions are then examined.

# Production and Revenue

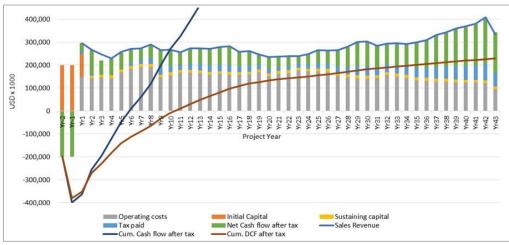
The prices for Lithium Oxide and Lithium Carbonate (Li<sub>2</sub>CO<sub>3</sub>) are based on USD rates and, unless otherwise stated, financial results are also expressed in US dollars. The base case cash flow projection assumes a constant price for Li<sub>2</sub>CO<sub>3</sub> of USD 15.000/t.

Cost estimates and other inputs to the cash flow model for the Project have been prepared using constant, second quarter 2019 money terms, i.e. without provision for escalation or inflation.

Micon has applied a real discount rate of 10% in its base case evaluation, approximating the weighted average cost of capital (WACC) for the Project.

Corporate tax is charged at 25% of net income after deductions for depreciation and a processing

<sup>\*</sup>LOM is 43 Years. Source: Micon, 2019.



Net Annual Cash Flow (After Tax). Source: Micon, 2019.

allowance. Depreciation is deductible on a straight-line basis at 20% on all assets. No tax holiday or depletion allowances have been accounted for.

A three percent (3.00%) royalty agreement with CIF has been accounted for in the cash flow model.

### Base Case Cash Flow

This preliminary economic assessment is preliminary in nature; it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized.

ltem	Units	LOM
Mine Production		
Ore	Mt	55.6
Waste	Mt	399.5
Total Mined	Mt	455.2
Processing		
Mill Feed	Kt	55,626
Li <sub>2</sub> O Mill Feed	% Li <sub>2</sub> O	0.98%
Lithium Carbonate Sold	Kt	817
Total Sales Revenue	USD M	12,256
Operating Costs	USD/t milled	USD M
Mining Operating Costs	33.73	43,635
Lithium Carbonate Production	91.08	93,438
G&A	5.00	6,468
Total Operating Costs	129.81	143,541
Total (CIF) Royalty Paid	USD M	368
Capital Costs		
Construction - Initial Capital	USD M	499
Sustaining Capital	USD M	524
Site Closure	USD M	10
Total Capital Expenditure	USD M	1,033
Working Capital	USD M	30
	Pre-tax	After Tax
Net Cash Flow (USD M)	4,792	3,391
Net Present Value (at 10% disc. rate)	386	229
Internal Rate of Return (IRR)	18.2	15.5
Payback Period (undiscounted)	5.4	5.8
Payback Period (discounted)	8.5	10.4

Key Project Indicators. Source: Micon, 2019.

Before tax, the base case demonstrates an IRR of 18.2%. At an annual discount rate of 10%, the Project has a net present value (NPV<sub>10</sub>) before tax of USD 386 million.

After tax, the Project has an IRR of 15.5% and, at an annual discount rate of 10%, the Project NPV<sub>10</sub> after tax is USD 229 million. The base case undiscounted payback period after tax is 5.8 years. Discounted at 10% per year, the after-tax cash flow shows a payback period of 10.4 years, leaving a tail of more than 30 years of planned production.

For the PEA, mining production was matched to process plant throughput rate of 1.3 Mt/y and no allowance made for stockpiling of low-grade. In Micon's opinion, stockpiling could potentially be used in order to increase the grade of the mill feed early in the operating period, from an average 0.975% mined up to around 1.26% Li<sub>2</sub>O. As the Project moves forward, there will be opportunity to create strategic pushbacks and stockpiling strategies that will increase the mill feed grade in the earlier years and thus help to accelerate cash flows and increase the NPV and IRR of the Project.

# Sensitivity Study

The sensitivity of post-tax project NPV $_{10}$  and IRR to changes in capital expenditure, operating costs and all revenue factors (including recovery and concentrate price) was tested over a range of 25% above and below base case values.

The charts suggest that the Project is most sensitive to revenue drivers, namely price and recovery. At a discount rate of 10%, the Project NPV is negative when the product price is reduced by more than 15%. The Project is also quite sensitive to changes in operating cost, NPV<sub>10</sub> being reduced to zero for an increase in operating costs of more than 25%. Sensitivity to capex is relatively low, with Project NPV remaining positive for adverse changes of up to 60% in capital.

# Conclusion

Micon concludes that the Project is potentially economic under the base case assumptions for product price, process recoveries, capital and operating costs, and appears sufficiently robust to withstand adverse changes in capex assumptions of over 60% and operating cost assumptions of more than 25%.

The proposed project format presents an opportunity to viably produce lithium carbonate product.

The Project currently has a production life of 43 years, although future iterations may increase the grade and shorten the life of plant operations to approximately 20 years, if sufficient market is available.

There are other product opportunities at Retamar which have not been evaluated in this report. These include potential for recovery of rubidium, cesium and tin. These products,



especially the tin, could materially improve the economics of the Project and this opportunity should be investigated as the Project moves forward.

# INTERPRETATION AND CONCLUSIONS

## Overview

The PEA suggests that the Las Navas Project can potentially be developed as an economically viable supplier of the lithium carbonate to the market for some 43 years.

The PEA is preliminary, as with any mining project. The resource must be developed into a reserve through further, more definitive studies. This PEA is based only upon an inferred resource, which is the lowest level of assurance. Further work is required to upgrade the resource to the measured and indicated categories.

The Project's PEA level economic performance estimated by the Technical Report indicates a post-tax IRR of 15.5% and an NPV of USD 229 million. A sensitivity analysis suggests that the Project is most sensitive to revenue drivers, namely price and recovery (identical), and is also quite sensitive to changes in operating cost, while sensitivity to capital expenditure is relatively low.

The 10% discounted after tax payback period is 10.4 years.

The Project will provide over 413 full-time employment opportunities at its peak (including 288 in the mine and 125 in the plant), as well as a number of additional opportunities for local industries to grow through the provision of support services.

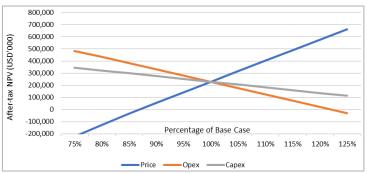
Consideration was given in the design to the number and nature of the chemicals used in the flotation process and how best to minimize their consumption through recovery and recycling, as well as via water treatment to remove dissolved metals.

Site layout has not yet been considered. The Project team will need to estimate building footprints and establish possible locations for all infrastructure in the next phase of study.

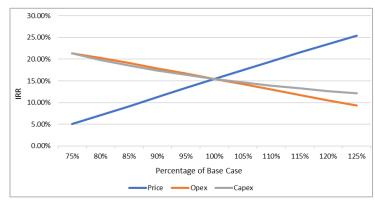
Future work should consider the various waste streams produced by the processes and ensure that all waste streams are treated adequately so as to be relatively inert and free from toxic materials when released into the environment or otherwise stored on site.



Drill Hole LN001 Intersection with Lepidolite Mineralization (Pinkish-Purplish Zones). Photo by Micon, 2019.



NPV<sub>10</sub> Sensitivity Diagram. Source: Micon, 2019.



IRR Sensitivity Diagram. Source: Micon, 2019.

Flotation tailings will be filtered and washed before being dry stacked, so as not to present a source of future ground and run-off water contamination.

# Geology/Mineralization

Geological mapping has successfully established the distribution and partial continuity of the mineralized pegmatite bodies in the Las Navas – Grimaldo area. MMI geochemical results indicate the possibility of several other mineralized pegmatites not exposed at surface. However, the internal structure of the pegmatite bodies and zoning, if present, remain to be fully investigated.

Drill core logging of the two twin drill holes drilled during the 2019 campaign and XRD analyses conducted on bulk drill core and channel samples indicate that lepidolite is the dominant lithium mineral in the Las Navas area.

Based on the favourable geology and MMI sampling results, it is concluded that additional drilling along strike and at depth has the potential to significantly increase the mineral resources. However, increasing the size of the resource should not be the primary focus of the Project until the existing inferred resource is upgraded to at least the Indicated category.

# Metallurgy/Processing

The metallurgical/mineralogical investigations carried out to date are only of a preliminary nature; however, they are adequate to enable the conceptualization of a processing flow sheet for the Las Navas deposit using the principle of analogies.



# Risks and Opportunities

The risks and opportunities of the Project in its current format are discussed below.

### Mineral Resource

Environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant issues may materially affect the estimate of mineral resources.

The mineral resource estimate will always be sensitive and vulnerable to fluctuations in the price of lithium products. Other than this, Micon believes that at present there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which could adversely affect the mineral resource estimated above. However, mineral resources, unlike mineral reserves, do not have demonstrated economic viability.

Market demand for lithium mineral products is increasing as more and more lithium is required for the expanding battery and energy storage industries. This is resulting in a squeeze on supply into the ceramics industry, a void Jesampa hopes to help resolve.

According to Jesampa, the Project enjoys strong support from the community, as well as from local politicians, and environmental NGOs.

# Control of Plant Feed Composition

The processing of lepidolite mineralization requires particular flotation conditions and reagents. This will potentially require a tight control of the mining operation and the management of the various materials delivered to the process plant.

# Products, Prices and Demand

There is up-side potential with regards to additional elements being considered for recovery and sale.

Available information on lepidolite pricing is very limited but Micon has carried out extensive assessment of the markets based on purchased reports, information presented at conferences, discussions with industry participants and more importantly, with potential off-takers.

Micon has reviewed the volume and pricing information and has independently confirmed that the projections contained in the PEA are reasonable at the present time.

The marketing opportunity of contained rubidium, cesium and tin has not yet been fully explored, but it could provide an additional source of revenue.

# Process Performance

The Project economics are driven by the recovery of the lithium and the operating unit cost of the process plant. Reagent dosage control will be key, as will maintaining the separate water circuits and preventing cross-contamination.

# Mining

The forecast mining cost represents around 30% of total operating production costs and is estimated using

typical industry contractor rates for open pit operations of this scale.

The mining schedule presented in the PEA was based upon a selected optimized overall pit shell, and four smaller contained pit shells that were generated based upon a set of input parameter assumptions and were used as guidelines for the mining of the various mine phases.

The annual mining production was set at a predetermined processing rate of 1.3 Mt/y, based upon market research. As the Project moves forward there will be opportunity to increase the mining rate, create strategic pushbacks and utilize stockpiling strategies that will increase the mill feed grade in the earlier years and thus help to accelerate cash flows and increase the NPV and IRR of the Project. There will also be opportunities to investigate the economic impact that the recovery and sale of the other contained elements may have upon the mining schedule and the subsequent cash flow model.

Future mine design work should take into consideration future geotechnical work and recommendations, as well as operational considerations.

# Foreign Exchange Rate

All costs and revenues were established in USD for this study. The foreign exchange rate used as a basis for the estimate was EURO 0.89/USD 1.0.

# **Conclusions**

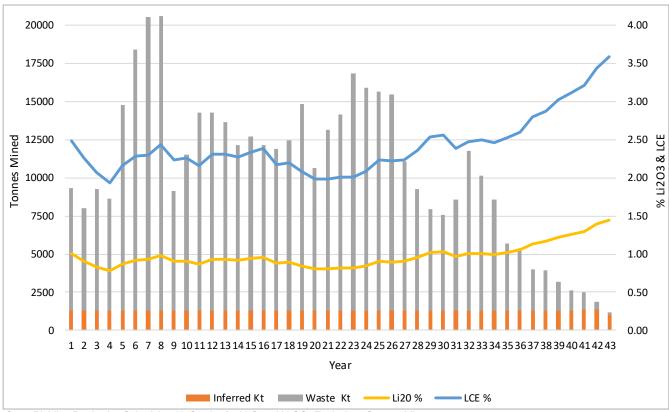
Potentially, Jesampa has the opportunity to produce a pure lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) product on site from the lepidolite mineralization.

The estimated capital cost is comparable to similar mining projects (USD 499 million) and economic returns are reasonably attractive with a post-tax IRR of 15.5% and an NPV $_{10}$  of USD 229 million.

Undiscounted payback is just under 6 years leaving a tail of 37 years of planned production thereafter.



Hand Specimen from the Las Navas Pegmatite Deposit (quartz – grey; albite – white, muscovite – silvery white; lepidolite – purplish white; cassiterite – black). Photo by Micon, 2019.



Open Pit Mine Production Schedule with Grades for Li<sub>2</sub>O and Li<sub>2</sub>CO<sub>3</sub> Equivalent. Source: Micon, 2019.

Post-tax, undiscounted net cash flow from the 43 years operation is almost USD 3,391 million.

Market demand for the lithium mineral products is increasing as more lithium is required for the expanding battery and energy storage industries and this is resulting in a squeeze on supply into the ceramics industry, a void Jesampa hopes to help resolve.

Jesampa reports that the Project enjoys strong support from the community, including local politicians and environmental NGOs.

Jesampa is also in discussions with a number of local businesses towards collaboration on future opportunities, including contractor mining, power supply, local fabrication and product transportation.

The results of the PEA suggest that this deposit is worthy of further drilling to upgrade the resource and advancement to further economic studies including a PFS.

In the meantime, it would be prudent for Jesampa to begin all environmental work and permitting processes that could be required for future Project development.

### RECOMMENDATIONS

# Overview

The PEA presents a potentially attractive Project. It is recommended, therefore, that the Project continues to the next stage of development which should be the completion of a PFS, once there has been adequate drilling performed to upgrade most or all of the current inferred resource to the category of measured or indicated.

# Recommendations for the Next Phase of Project Development

Preliminary Feasibility Study

The next step in developing the Project should be the completion of an economic and technical PFS, in order to confirm the initial findings of the PEA, test various mining and processing options and to help source the necessary capital required for further drilling and potential advancement to the feasibility level of study.

# Mineral Resources

In order to advance the Project to the PFS level, infill drilling is recommended to upgrade the resource to the indicated and measured categories. Priority should be given to upgrading the mineral resource, as opposed to increasing the size of the resource. Additionally, by-products (tin, feldspar and quartz) should be seriously considered in the next resource estimate as they may have a significant positive impact on the economics of the Project.

Detailed petrographic and mineralogical studies should be conducted to establish the quality of the resource and the spatial distribution of the deposit components (i.e. Li, Rb, Cs and Sn) within the pegmatite dykes. It will also be important to determine the chief lithium minerals and to investigate zoning in the pegmatite bodies. Petrographic/mineralogic samples should be collected at no more than ½ m intervals in drill cores across the entire intersection length.

Beyond the resource upgrading stage, additional exploration drilling is also recommended in order to evaluate the potential for new near surface resources.



# Mining

The PFS will require a more detailed mine plan, and detailed designs for the pushbacks, as well as the final pit. The future detailed mine plan will be the basis for a mining contract proposal.

Future mine planning work should investigate a variety of pushback strategies, stockpiling strategies and mining rates, along with various mill throughput rates, in order to maximize the Project's NPV, IRR and payback period.

A trade-off study for open pit versus underground mining should also be conducted to determine if underground mining can be made economically viable and at what depth, although initial grades of the inferred resource at depth do not appear to be adequate to support underground mining costs.

# Metallurgy/Processing

Comprehensive metallurgical investigations are a prerequisite for the Las Navas deposit to move on to the PFS stage of project development.

Detailed metallurgical testwork is recommended using a range of representative samples from the deposit to encompass the following:

- Comprehensive high definition mineralogy.
- Extensive grindability and hardness tests.
- Mineral separation (gravity, heavy liquid and heavy media).
- · Ore sorting.
- Magnetic separation.
- Flotation development and optimization.
- Pyrometallurgy (concentrate roasting and acid roasting).
- Hydrometallurgy (impurity removal and high-quality lithium product recovery).
- Pilot plant testing.
- Environmental testing.

# Processing Plant

"Mini-pilot" flotation work is recommended to confirm lepidolite recovery figures and to better define the composition of the lithium carbonate product from this material.

Additional reagent recovery and water treatment investigations are also proposed, in order to maximize recycling potential and to confirm the quality of the recycled water.

The equipment costs for the crusher plant, concentrator and hydrometallurgical circuits are based on the concept of being modular, pre-assembled/containerized packages, in order to minimize, as far as possible, on-site construction activities. This concept should be carried forward into the PFS, although trade-off studies may be warranted to confirm and quantify the economic benefits of such an approach.

# Environmental and Permitting

Completion of a baseline study is required and should be undertaken in the near future. Additional drilling to develop the site hydrology and groundwater management plan is needed. Humidity cell and other testwork on the anticipated waste materials is required. Plant and site water balances, and a detailed design of the water management facilities will be required in the future.

In consultation with regulators and other stakeholders, limited ongoing monitoring for surface and groundwater quality and quantity is recommended.

A route for the power line should be proposed along with the locations and surface area of all infrastructure. These areas should be investigated with regards to occurrence of historic, archaeological and/or current community structures, artifacts or activities.

Most importantly, a program to establish the location of the tailings storage facility and all related engineering and planning should be initiated.

Finally, a comprehensive closure plan will be required in the future and some forethought and planning for this should be initiated in order to expedite the permitting process.

# **Budget**

In line with these recommendations, Jesampa has proposed a budget of USD 4.140 million for further work to be undertaken. Micon believes that the proposed budget is reasonable and justified and recommends that Jesampa conduct the planned activities subject to availability of funding and any other matters which may cause the objectives to be altered in the normal course of business activities.

Expense	Amount (k USD)
Drilling (8,700 m)	1,650
Geotech & Hydrology	63
Testwork	340
Process – Concentrator+hydrometallurgy	165
Water treatment	33
Engineering	
Mine Design & Scheduling	176
Process Plant & Site	242
Studies	
Power Supply	17
Market Studies	22
Hydrology	55
Tailings & Waste Rock	99
Environmental Permitting	341
Final Report Compilation	88
Study Expenses	
Site visit costs	40
PFS fees	650
Contingency	159
Total	4,140

Budget for the Next Phase of the Project. Source: Micon, 2019.

# JESAMPA 2018 S.L.

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