

## TANTALEX LITHIUM ANNOUNCES IMPRESSIVE MANONO LITHIUM TAILINGS PRELIMINARY ECONOMIC ASSESSMENT WITH IRR OF 87,4% AND NPV10 OF US\$764 MILLION

### Key PEA Highlights

Excellent project economics and financial returns

- Robust pre-tax NPV<sub>10%</sub> of approximately \$764 million and 87.4% IRR on a nominal basis, and a pre-tax NPV<sub>10%</sub> of approximately \$638 million and 82.3% IRR on a real basis.
- Rapid payback of 1 year after first production using a Life of Mine spodumene concentrate price of US\$2,800/t SC5.5 (FOB, Africa) as forecast by Fastmarkets, an internationally recognized price reporting agency.
- Project Capital Cost Estimate (CAPEX) of US\$147,7M including contingencies,
- Life-of-Mine (LOM) of 6 years with an estimated annual production of 112,000 t of spodumene concentrate

Low risk plant operation and tailings reclamation

- Ready to use tailings dump resources to feed beneficiation plant with minimum cost of mining, crushing, grinding, and processing.
- Process plant nameplate capacity is 1.26Mtpa of run-of-mine (**ROM**) ore based on robust flowsheet using learnings from other lithium producers.
- A number of opportunities have been identified to improve capital and operating costs and plant capacity. The exploration program is being finalized with a focus on increasing indicated resources and extending life of project.

**Toronto, Ontario, October 6<sup>th</sup>, 2022** – Tantalex Lithium Resources Corp. (CSE: TTX – FSE: DW8 – OTCQB: TTLXF) (“**Tantalex**” or the “**Corporation**”), is pleased to report results from its Preliminary Economic Assessment (“**PEA**”) for its majority owned Manono Lithium Tailings project in the Democratic Republic of Congo.

The PEA was prepared by Sedgman Novopro of Montreal, Canada with Mineral Resource and Mining contributions from MSA Group in accordance with National instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101). An NI 43-101 Technical Report will be prepared and posted on [www.tantalexlithium.com](http://www.tantalexlithium.com) and the Company's profile on [www.SEDAR+.com](http://www.SEDAR+.com) within 45 days of the date of this news release. The key financial metrics are compelling, and the Company Board has recommended the Project to proceed to a Feasibility Study.

**Eric Allard, President and CEO** commented: “This PEA is perfectly aligned with the results of our Maiden Resource Report filed in January 2023. It was our decision to focus our efforts on completing this PEA as a priority which now allows us to progress on our Feasibility and ESIA Studies. We have sized the project scope in order to use existing infrastructures but as the Manono region develops into an important lithium mining region, we are confident that energy and logistics costs will significantly reduce.

Additionally, we will pursue with our resource definition works to increase the Life of Mine on both the Tailings Property and our highly prospective hard rock lithium Pegmatite Corridor.”

## Executive Summary

Key metrics are shown below in Table 1 for the Manono PEA assume a weighted average lithium concentrate price of \$2,800 USD/t FOB Africa, based on Fastmarkets average forecast price from 2025-2026 and adjusted for a 5.5% Li<sub>2</sub>O spodumene concentrate (SC 5.5) product. Lithium price forecast is discussed in more detail in Appendix 1.

**Table 1: Key Financial Metrics**

Key Metrics	Unit	Value
Life of Mine (LOM)	Years	6
LOM Average ROM Grade	% Li <sub>2</sub> O	0.76
Process Plant Recovery	%	51
LOM Average Production (SC5.5)	Mtpa	112,167
Total LOM Production (SC5.5)	Mt	673,002
Plant & Infrastructure Capital	US\$M	148
Operating Cash Cost US\$/t, Mine Gate	US\$/t SC5.5	402
Operating Cash Cost US\$/t, FOB Africa (incl. royalty and marketing)	US\$/t SC5.5	1,002
Royalty	%	3
LOM Lithium Price Assumption (SC5.5, FOB Africa)	US\$/t SC5.5	2,800
Project NPV10% (inclusive of Royalties, pre-tax) – nominal	US\$ Million	764
Project IRR (%) (inclusive of Royalties, pre-tax) - nominal	%	87.4
Payback from start of production	Years	1

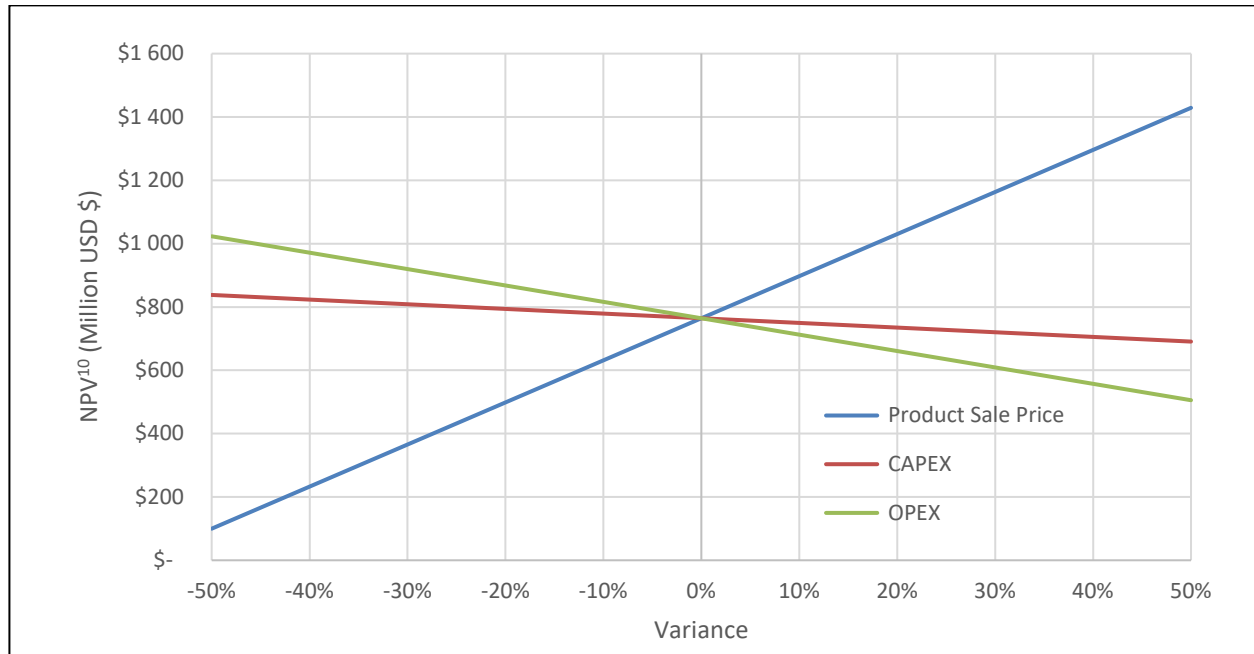
The PEA has been completed with the assistance of highly experienced and reputable independent consultants, including:

- Mineral resource modelling and estimation – MSA Group
- Flowsheet development, engineering and cost estimation – Sedgman Novopro

The PEA was completed to an overall estimating accuracy of +/-35% (Class 5 estimate) and has a base date of Q4 2023. The Project is based on a 112,167 tpa spodumene mining and processing operation with the Study demonstrating very strong financial metrics. The preliminary economic evaluation indicates the Manono Lithium Tailing Project will generate significant net cash flows over an initial 6-year life-of-mine (LOM) with a capital payback of 1 year following first production.

Sensitivity analysis was completed to determine the impact of various factors on the project economics (see Figure 1). Lithium price has the largest influence on the Project financials. For every 10% increase in the lithium concentrate price, the project NPV10 increases by US\$ 133 Million. The Project demonstrates it is resilient to capital escalation with a 10% increase in the total project capital cost, reducing the NPV10 by only US\$ 14 Million.

**Figure 1: Sensitivity Diagram showing the impact of various sensitivities to the Project economics.**



### Next Steps

The results of the PEA study demonstrate that the Manono Lithium Tailings Project has the potential to be technically and economically viable as a producer of lithium spodumene concentrate. This section lists recommendations for updating the resource, optimizing the process flowsheet and completing a Feasibility Study (FS).

### Mineral Resource

A strategy to drill the sloped area of the stacked tailings of the K deposit is currently being investigated, with the aim of providing sufficient data for higher confidence estimates for this material. This would allow to transfer these currently classified inferred resources into the Measured and indicated category.

### Recovery Methods

Additional metallurgical testing will be performed during the FS as the bulk samples tested to date are not considered fully representative when compared with the core rejects samples presented in the MRE. New samples for K, G, and I dump, based on the existing drill hole rejects grade and granulometry, have been prepared and sent to laboratory for future metallurgical testing during the FS.

There are several opportunities to optimize the process flowsheet by conducting additional testing of the representative samples. The testing will include as a minimum the following:

- Confirm DMS parameters on the representative samples;
- Confirm flotation parameters on the representative samples;
- Gravity separation for tin and tantalum concentrate recovery;
- Gravity separation of slimes (-106 $\mu$ m) to recover spodumene, tin and/or tantalum;
- A technology trade-off for mica removal.

Significant opportunities exist to increase the project robustness and financial metrics, notably:

- Energy to be taken from the nearby Piana Mwanga hydroelectric dam currently being refurbished



- Recovery of tin and tantalum contained in the tailings.

The Feasibility Study execution is estimated at \$4.0 million and involves additional exploration drilling, mineral processing test work, Geotechnical investigation, completion of the ESIA program, engineering and cost estimation producing an AACE Class 3 estimate. Predicated on a potentially positive FS outcome, an investment decision to develop the Manono Lithium Tailings Project is expected to occur in CY2024.

## Technical Summary - MANONO LITHIUM TAILINGS PEA

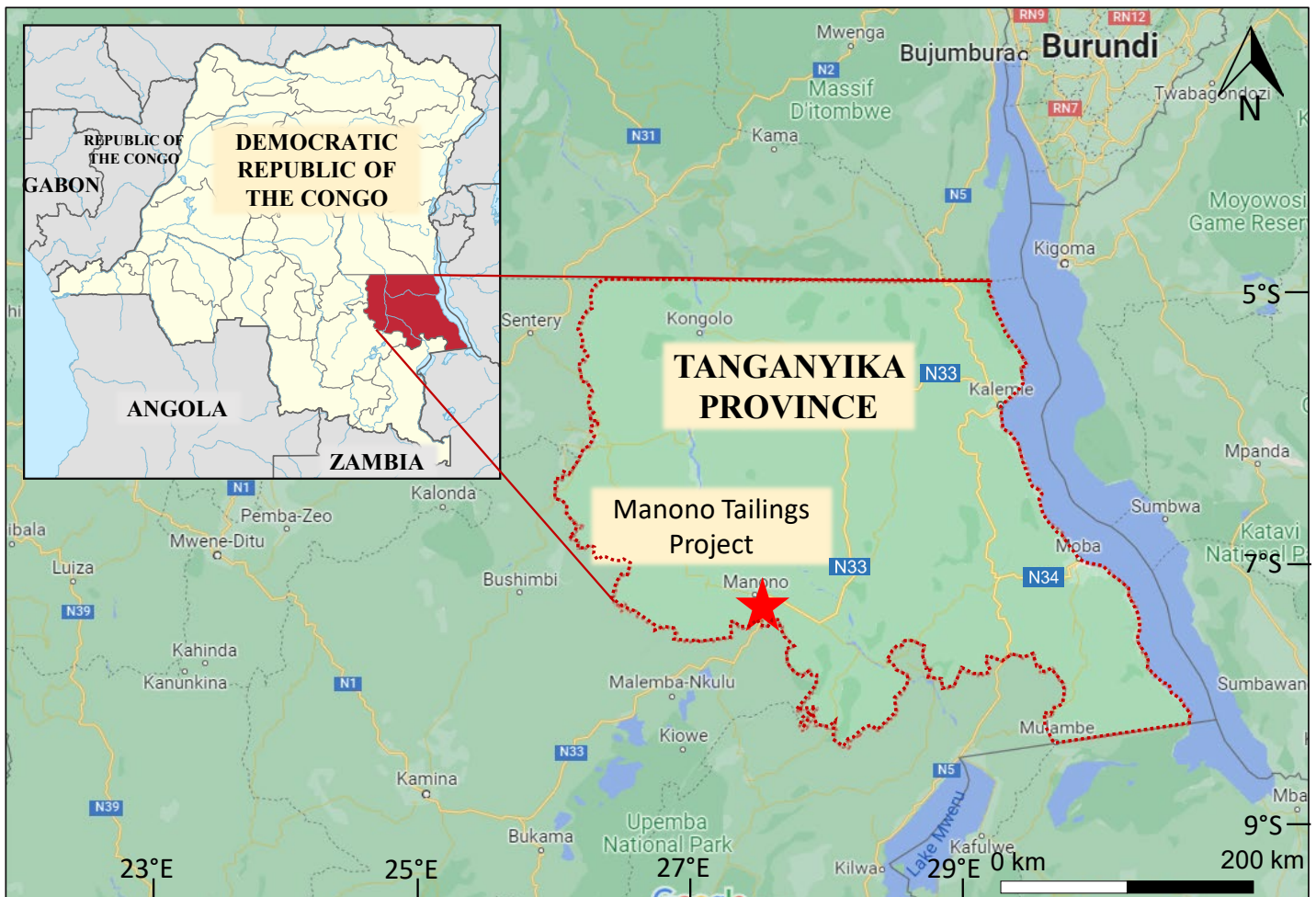
### Introduction

Tantalex Lithium Resources Corporation (Tantalex) is a Canadian exploration company listed on the Canadian Securities Exchange, the Frankfurt Stock Exchange and the United States OTCQB Venture Market. Tantalex Lithium Resources owns 52% of the Manono lithium-tin-tantalum tailings deposit, located 490 km north of Lubumbashi, in the Tanganyika Province of the Democratic Republic of Congo (DRC) (see Figure 2).

The Manono Lithium tailings are located within the Tailings Exploitation Permit PER 13698, which is located adjacent to the town of Manono. It consists of 11 tailings dumps spanning a length of 12 km from the southwest towards the northeast. The license is held by Minocom Mining SAS, of which Tantalex holds 52%; 18% is held by MINOR SARL and the remaining 30% by state owned company Cominière SA. The Manono Lithium Tailings Project has a mineral resource estimate of 3.77 million tonnes at 0,86% Li<sub>2</sub>O in the Measured classification, and 1.69 million tonnes at 0,42% Li<sub>2</sub>O in the Indicated category, and 6.63 million tonnes of Inferred Mineral Resources at a grade of 0,49% Li<sub>2</sub>O;

The PEA has assumed a processing plant capable of treating 1.6 Mtpa of run-of-mine (ROM) ore. SEDGMAN NOVOPRO (SN) were engaged to complete sufficient engineering to generate a capital and operating estimate with an accuracy of +/-35% (Class 5). The MSA Group (Pty) Ltd (MSA) completed the relevant mineral resource estimate components of the PEA, which are discussed further within this announcement. All costs and financials are presented in US dollars unless stated otherwise.

**Figure 2: Manono Lithium Project Location**





## Mineral Resource

### Geology

The Manono Lithium tailings are technogenic deposits, created from the processing of material from the Manono-Kitolo deposit, which was mined from 1919 to the mid-1980's for tin and columbite-tantalite (coltan). Nine out of the eleven tailings were drilled, of which five form this Mineral Resource Estimate. The tailings deposits stretch over a length of 12 km, in a northeast-southwest direction, immediately adjacent to the mined pits. Several of the deposits consist of a mixture of material types, typically pegmatite and laterite, with some clay material being present in minor quantities in specific deposits.

The deposits are named alphabetically, with a suffix used to differentiate between coarse (c) and fine (f) material. The nine tailings that make up the project are from north to south named Cc, Cf, Ec, Hc, Hf, Gc, Gf, Ic and K (see Figure 3).

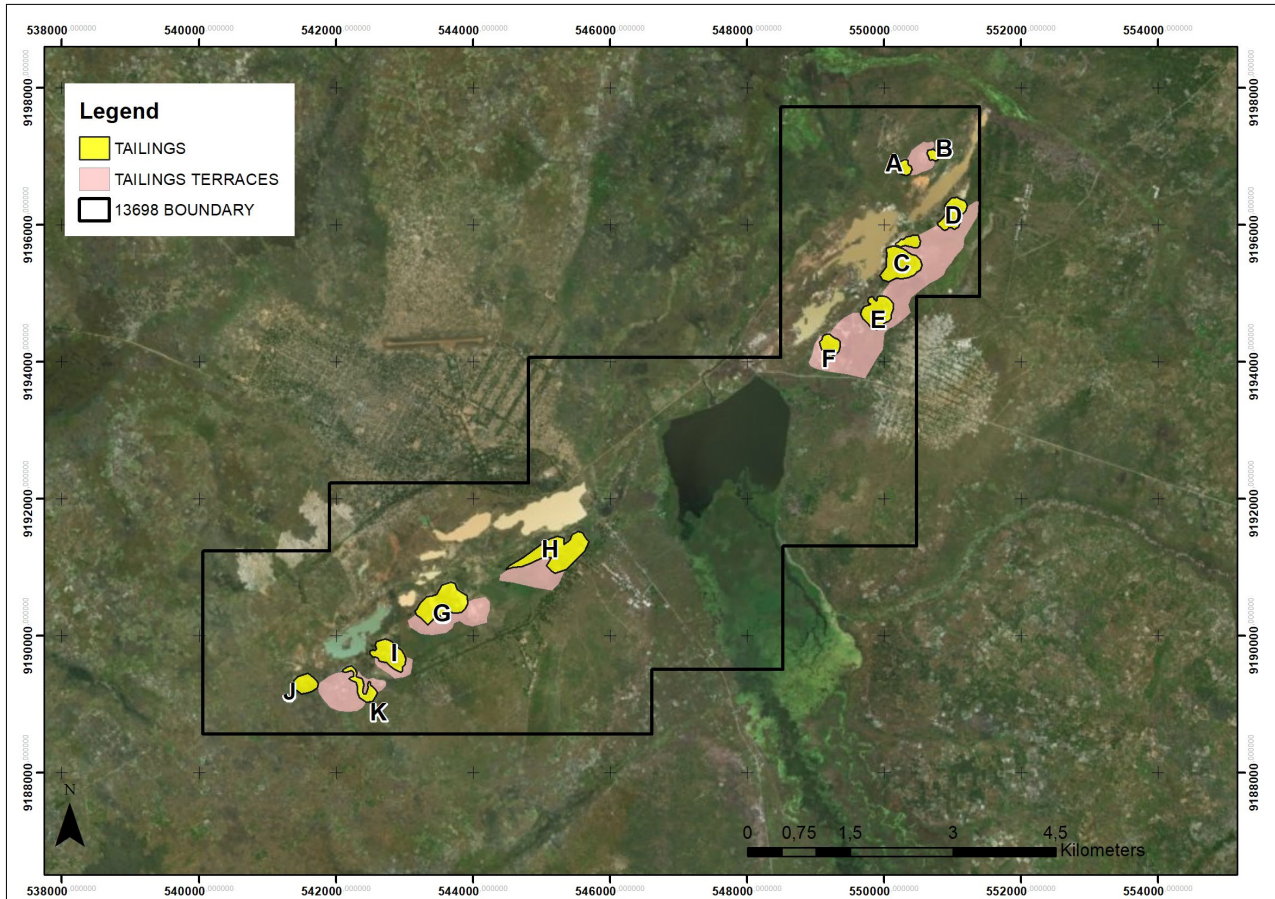
The lithium mineralization is primarily hosted in spodumene with minor lepidolite. Tin mineralization is hosted in cassiterite and tantalum in tantalite.

The nine tailings deposits have been evaluated by air core drilling, completed from September 2021 to July 2022. A total of 368 drillholes, amounting to 11,922.4 meters of drilling, have been completed, which took place over two phases.

Drilling was orientated vertically, with the densest drilling found on the K deposit, where holes were spaced 40 m apart. The Gf and Hf deposits were drilled at a spacing of 80 m. The remaining deposits were drilled on an irregular spacing ranging from 20 m to 80 m. Most of the drilling has intercepted the contact representing the pre-depositional surface. The positions of the tailings deposits relative to one another are shown in Figure 3.



Figure 3: Manono Lithium Tailings Project Area



## Mineral Resource

The Mineral Resource was estimated using The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Best Practice Guidelines (2019) and is reported in accordance with the 2014 CIM Definition Standards, which have been incorporated by reference into National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101).

The Mineral Resources were classified into the Measured, Indicated and Inferred categories for each deposit and reported at a cut-off grade of 0.20%  $\text{Li}_2\text{O}$  (Table 2). The cut-off grade was calculated based on a mining cost of 2.17 USD/tonne, a processing cost of 11.18 USD/tonne, transport cost of 361 USD/tonne, G&A costs of 76.5 USD/tonne, marketing costs of 178.4 USD/tonne, a mining recovery of 99%, process recovery of 63% and a lithium price of 2800 USD/tonne for spodumene concentrate (SC6), which the QP considers will satisfy “reasonable prospects for eventual economic extraction”. No Mineral Resources for the Ec, Hc and Hf deposits were declared.

**Table 2: Manono Mineral Resources at 0.20% Li<sub>2</sub>O Cut-Off Grade – 23 August 2023**

Deposit	Classification	Tonnes (Mt)	Li <sub>2</sub> O %	Sn ppm	Ta ppm
Cc	Inferred	2.99	0.32	-	-
Ic	Inferred	0.51	0.49	583	29
Gc	Indicated	0.29	0.78	579	30
	Inferred	0.51	0.84	554	29
Gf	Indicated	1.39	0.35	183	22
	Inferred	0.13	0.33	209	26
K	Measured	3.77	0.86	305	25
	Inferred	2.33	0.67	652	35
<b>Li<sub>2</sub>O, Sn and Ta Mineral Resources</b>					
<b>Total</b>	Measured	3.77	0.86	306	25
	Indicated	1.69	0.42	252	24
	<b>Measured &amp; Indicated</b>	<b>5.46</b>	<b>0.73</b>	<b>289</b>	<b>25</b>
	Inferred	3.48	0.66	614	33
<b>Li<sub>2</sub>O only Mineral Resources</b>					
<b>Total</b>	Inferred	2.99	0.32	-	-

**Notes:**

1. All tabulated data have been rounded and as a result minor computational errors may occur.
2. Mineral Resources are not Mineral Reserves, have no demonstrated economic viability.
3. Li<sub>2</sub>O % grades calculated by applying a factor of 2.153 to Li % grades.
4. Mt = Million tonnes, ppm = parts per million
5. Inferred Li<sub>2</sub>O, Sn and Ta Mineral Resources are totalled for the Southern Sector dumps (Ic, Gc, Gf and K).
6. Inferred Li<sub>2</sub>O only Mineral Resources are for the Cc dump.

The Mineral Resources presented in this Technical Report represent an update to the Mineral Resource estimate with an effective date 23 August 2023 and now includes tin and tantalum.

Additional drilling is recommended for several deposits in order to improve the confidence in the Mineral Resource estimates.

## Mining

The tailings dumps will be reclaimed by an excavator at each of K, I and G dumps and loaded onto dump trucks for transport onto an overland conveyor that will feed a stockpile at the process plant.

A series of three, 900 mm wide belt overland conveyors will transport a total of 240 tonnes per hours to the process plant stockpile approximately 3,300 m from the reclaimed dump blending pad. The first two segments of the conveyors will be enclosed by guarding and be elevated approximately 1.5 m off the ground on concrete pedestals, elevating higher at the location of the two transfer towers. The final, 295 m conveyor section will be elevated on trestles at approximately 6 m high and to allow for safe crossing over a major road and population center.

Measured, Indicated and Inferred mineral resources were included in tailings dumps reclaiming schedule as potential mineral inventory, and while the Indicated were primarily targeted to show where additional resource drilling should be targeted, the inclusion of Inferred, and the nature of a PEA has removed the possibility of the declaration of an Ore Reserve.





The tailings dumps reclaiming schedule indicates approximately 55% of the LOM production is in the Measured and Indicated Mineral Resource category and 45% is in the Inferred Mineral Resource category.

The Company has concluded it has reasonable grounds for disclosing a Production Target, given that the PEA only focused on the mining of a high-grade part of the Mineral Resource Estimate (Dumps I, G and K). So, the PEA only covers 7.58Mt of the estimate at 1.26Mt of ROM ore to the mill each year.

The mining rate required to ensure continuous mill feed, and the production targets, is determined by the production schedule, however the rate needs to be cognizant of mining fleet size, equipment productivities and shift arrangements.

## Processing

Material from the tailings dumps will be processed into a 5.5wt% Li<sub>2</sub>O concentrate using a robust process flowsheet consisting of crushing, dense media separation and flotation, dewatering and bagging.

The Manono tailings dumps has two broad ore types that will be presented to the process plant:

- Coarse grained spodumene
- Fine grained spodumene

The process flowsheet is based on a typical hard rock spodumene resource, which is amenable to both Dense Media Separation (DMS) and froth flotation to achieve a target concentrate grade of 5.5% Li<sub>2</sub>O, and incorporates the current understanding of resources size, grade, mineralogy and crystal grain size, as well as information from Heavy Liquid Separation (HLS) test work undertaken to date.

Stockpiled material in proximity to the processing facility is reclaimed by front end loader onto a belt conveyor that feeds a vibrating screen with a 5 mm deck. Oversize material falls into a double roll crusher and is returned to the belt conveyor. Screen undersize material is transported onto a wet vibrating screen with a 500 µm deck. Wet screen oversize is transferred into the DMS (Dense Media Separation) plant feed tank, while the wet screen undersize falls into a pump box for feeding into the wet grinding and flotation plant.

A two stage DMS plant is used to produce 5.5 wt% Li<sub>2</sub>O concentrate where the primary DMS floats (tailings) are transported by a series of moveable conveyors to the TSF. Secondary DMS floats (middlings) are pumped to wet grinding and the flotation plant, followed by dewatering by a centrifuge and are then sent to the bagging plant. Secondary DMS sinks are dewatered by a centrifuge and then sent to the bagging plant.

Figure 4 shows a schematic of Manono process flowsheet, which uses conventional processing technologies, however it is a 4<sup>th</sup> generation spodumene concentrator adopting learnings and optimizations from existing spodumene operations to ensure high efficiency through every process unit operation. These optimizations include:

- • Maximize mineral liberation for effective coarse and fine spodumene recovery
- • Minimize slimes losses
- • Effective rejection of gangue minerals including mica and iron silicates
- • Efficient milling, desliming and float conditioning to maximize fines recovery
- • Maximize plant availability by employing high wear resistant materials of construction and duty/standby equipment where necessary

## Crushing and Screening

The 15,000 tonnes process plant stockpile will be reclaimed by a front-end loader and fed onto a belt conveyor that will transport the material onto the vibrating, crusher sizing screen. The 5mm screen deck will divert oversized material into a double roll crusher, that will return the material onto the crusher feed conveyor. Spray water will be used on this screen deck



to push finer material to the undersize. Screen undersize will flow onto a vibrating wet sizing screen with a 500 µm deck. The wet sizing screen will divert the oversize material into the DMS plant feed tank and the undersize into the wet grinding plant feed pump box.

### **DMS Plant**

The wet screen oversize material will be combined with Ferrosilicon (FeSi) media to increase the specific gravity of the slurry to 2.65 t/m<sup>3</sup> before entering the primary DMS cyclones. The primary DMS cyclone overflow (floats) will be dewatered through a screen to 15% moisture and transported by a series of grasshopper conveyors to the Tailings Storage Facility (TSF). Primary cyclone underflow (sinks) will be combined with additional FeSi to increase the specific gravity to 2.85 t/m<sup>3</sup> before entering the secondary DMS cyclones. Overflow from the secondary cyclone (middlings) will be pumped to the wet grinding plant. Secondary cyclones underflow is transferred to a dewatering centrifuge. FeSi media is recovered from primary and secondary DMS cyclones through drain and rinse screens, and magnetic separators.

### **Wet Grinding**

Wet screen undersize and DMS middlings are pumped to a ball mill for wet grinding. The product slurry is pumped to a hydrocyclone with a cut point of 300 µm. Cyclone overflow (-300 µm) is fed to the flotation plant and the underflow (+300 µm) is recycled back to the ball mill.

### **Flotation Plant**

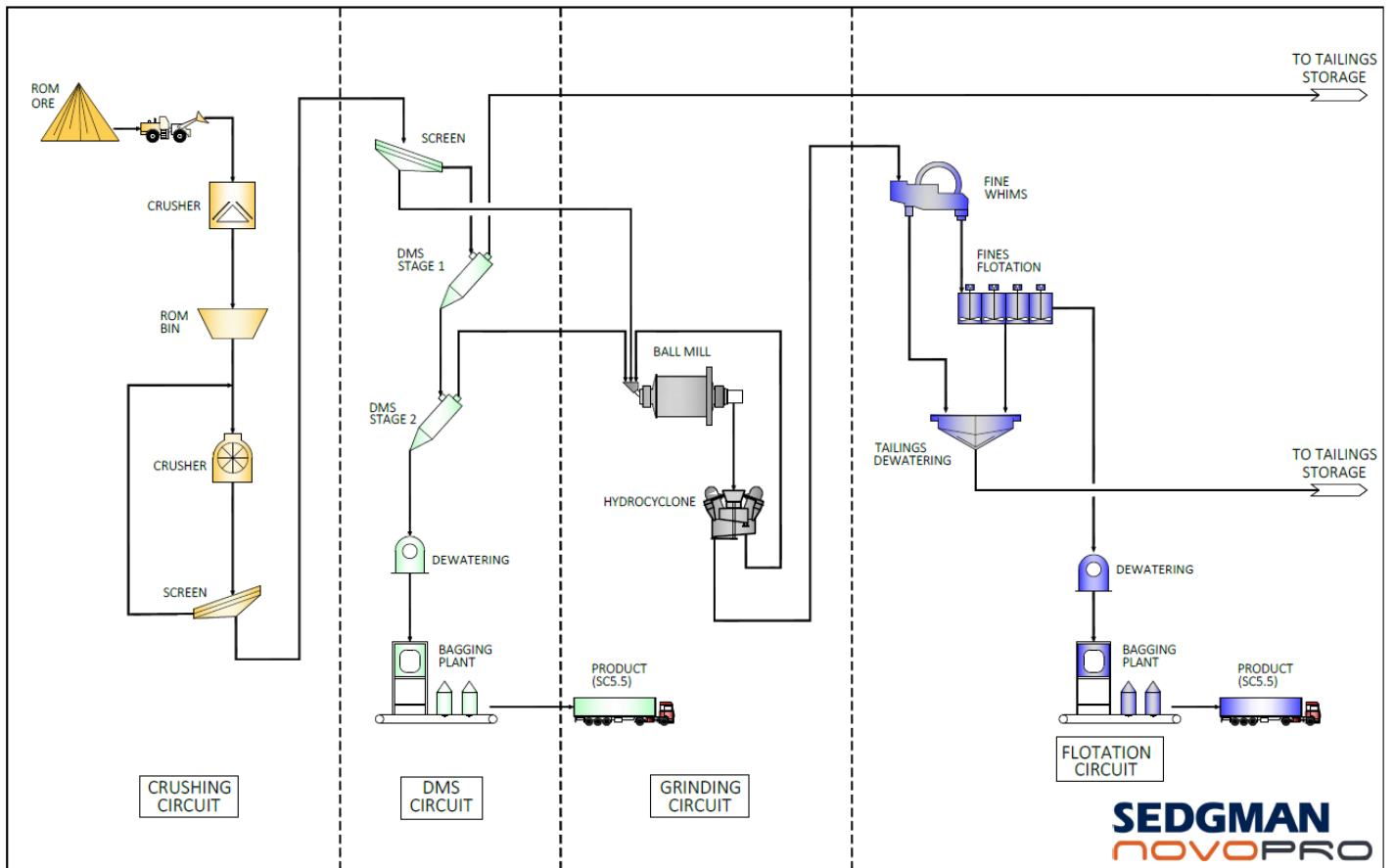
The ball mill cyclone overflow is pumped to a high intensity scrubber followed by a desliming cyclone and a magnetic separator. The iron-deficient slurry is then pumped into two-stages of mica reverse flotation cells. The floated mica is pumped to the tailings thickener with the remaining slurry being pumped into a dewatering cyclone.

The mica-deficient, dewatered slurry passes through a high-density scrubber and a desliming cyclone before being pumped into four-stages of lithium spodumene flotation cells. Tailings from the rougher and scavenger cells are pumped to the tailings thickener while the concentrate is pumped to the cleaner cells. Concentrate from the first cleaner stage is pumped into the second stage cleaner to produce a final product concentrate that is pumped to the dewatering centrifuge. Tailings from the cleaner cells are pumped to the tailings thickener.

### **Product Dewatering and Bagging**

Spodumene concentrate from the DMS and Flotation plants is pumped into dedicated screen bowl centrifuges for final dewatering, targeting 5% moisture. The dewatered concentrate is transferred into dedicated storage bins to feed the product bagging plants. Each concentrate type will have a dedicated bagging plant that will include automatically filling 1 tonne bulk bags, bag labeling, and transporting the filled bags on an accumulating conveyor for forklift handling. The 1 tonne bulk bags will be removed from the accumulating conveyors by forklifts for storage on wooden pallets in a covered area at the process plant. Forklifts will maneuver the palletized bags onto transport trucks that will deliver the bags to a warehouse location in Lubumbashi. From Lubumbashi, the palletized bags will be loaded onto 26 tonne capacity trucks for transport to the port of Dar es Salaam, Tanzania.

Figure 4: Manono spodumene concentrate process flowsheet



### Tailings Dewatering

A single high-rate thickener will collect various tailings streams generated throughout the process plant. These streams consist of effluent from the DMS plant, fines in the desliming cyclone overflow, overflow from the dewatering cyclones, magnetic separation tailings, mica reserve flotation concentrate and spodumene flotation tailings.

The solids present in the feed streams will settle to the bottom of the thickener and water is recovered through the overflow weir. The recovered water is pumped to the process water pond. The underflow slurry will be pumped to the TSF at 55% moisture.

### Reagents

The DMS Plant will use ferrosilicon (FeSi) as the densifying agent. The FeSi will be stored in waterproof steel drums under a roof at the process plant.

The flotation plant will require several reagent types, that will be stored in plastic totes under a roof at the process plant. The reagents will include a frother, amine collectors and sodium-based compounds as regulators. A flocculant will be added to the tailings thickener to assist in solids settling. The flocculant will be stored in plastic totes under a roof at the process plant, near the thickener.

### Infrastructure

All associated infrastructure required to support the Manono operation is included in the PEA. Capital provisions were included for the following items: power generation, site roads, accommodation and mess facilities, water supply, wastewater treatment, administration buildings, telecommunications, security, warehouse, maintenance and tailings storage facility, bulk fuel farm, laboratory, and emergency response facilities.



Energy consumption is estimated at 4MW and has been costed using diesel generators. Significant improvement can be made by incorporating the options for energy supply from Piana Mwanga hydroelectric dam located 70km from Manono and currently being refurbished.

### **Export route**

The export route considered in the PEA for bringing material to site and export of product is the N33 between Manono to Lubumbashi, a distance of approximately 600km.

Estimate has been made with current road conditions which allow 6x6 trucks carrying 20 tons.

An allowance of USD\$ 10 million has been allocated in the CAPEX for improving certain sections of the road prior to start up of the operations.

### **Tailings Management**

Primary DMS tailings pass a dewatering screen to achieve 13% moisture and are directed to a series of conveyors running from the process plant to dry stacking at the Tailing Storage Facility (TSF). The system consists of mobile grasshopper conveyors which direct the solids to an end section that distribute the solids in an arc via a stacker conveyor.

Tailings from the flotation thickener underflow at 55% moisture are pumped via an above ground pipeline to a spigot system along the western side of the TSF.

The TSF is sized to store a total of 10 million tonnes of tailings, over the six-year plant life. The TSF is located southeast of the process plant, sloping eastward at an average grade of 3.8%. The natural slope will ensure that the final tailings pile does not exceed a height of 24 m. The entire 494,000 m<sup>2</sup> area will be lined with EPDM.

### **Environmental Studies, Permitting and Social or Community Impact**

Collection of baseline data for the Manono Lithium tailings project has been ongoing since October 2022 by a local DRC contactor. The baseline studies were designed and implemented to support requirements for future planning and permitting purposes. The baseline studies will be peer reviewed by an independent consultant to ensure all activities are compliant with international lending standards. An active program has already been taken for communicating and consulting with the local communities.

### **Capital Expenditures**

The estimate meets the minimum requirements of a Class V estimate as defined in AACE International Recommended Practice No. 18R-97. The CAPEX estimate has an intended accuracy of  $\pm 35\%$ . The total Direct CAPEX to bring the Project to operation is estimated to be \$80,611,000 with a total of \$34,157,000 allocated for the Indirect costs. An additional \$10,000,000 allowance is allocated for the road's rehabilitation. An estimated budget of \$22,954,000 is allocated to Contingency, which brings the total CAPEX of the Project to \$147,722,000.

The capital estimate has been developed using preliminary MTOs and unit pricing obtained from either contractor or vendor supplied quotations. Approximately 70% of total equipment supply value for the Manono Lithium Project was based on budget quotes for the Project. 90% of the total mobile equipment costs are based on budget quotes received during this phase of the project. Concrete, structural, piping, electrical and instrumentation are all factored amounts based on the mechanical equipment costs. Civil works and architectural are based on MTOs and using in-house unit rates extracted from similar projects. Factored amounts have been calculated from the direct installed capital cost for construction indirects, freight, commissioning, first fill, vendor representative, construction management (EPCM) components and Owner's cost.

Contingency is intended to cover items that are included in the scope of work as described in this report but cannot be accurately defined due to the normal range of variability of quantities, productivity, unit rates, the current level of Engineering

and other factors that affect the accuracy of the expected final cost of the Project. The total for Contingency calculated 20% of the total (direct + indirect) costs.

Table 3 below presents the Project CAPEX Summary.

**Table 3: Project CAPEX Summary**

Item No.	Area	Total	Remarks
<b>A</b>	<b>DIRECT COSTS</b>	<b>\$ 80,611,000</b>	
A.1	Civil	\$ 10,073,000	Refer to Detailed Estimate
A.2	Concrete	\$ 4,829,000	15% of Mech
A.3	Structural	\$ 5,794,000	18% of Mech
A.4	Architectural	\$ 2,547,000	Refer to Detailed Estimate
A.5	Mechanical	\$ 32,191,000	Refer to Detailed Estimate
A.5	Mobile Equipment	\$ 4,254,000	Refer to Detailed Estimate
A.6	Piping	\$ 9,657,000	30% of Mech
A.8	Electrical	\$ 6,438,000	20% of Mech
A.9	Instrumentation & Telecommunication	\$ 4,829,000	15% of Mech
<b>B</b>	<b>INDIRECT COSTS</b>	<b>\$ 34,157,000</b>	
B.1	Construction indirects	\$ 4,031,000	5% of Directs
B.2	Freight, handling, and logistics	\$ 9,673,000	12% of Directs
B.3	Commissioning & (1) year operational & capital spare	\$ 1,612,000	2% of Directs
B.4	First fill	\$ 2,429,000	1.3% of Mechanical+FeSi
B.5	Vendor Representative	\$ 290,000	1% of Mechanical
B.6	EPCM Services	\$ 9,673,000	12% of Directs
B.7	Owner's costs	\$ 6,449,000	8% of Directs
<b>A+B</b>	<b>Total Before Contingency</b>	<b>\$ 114,769,000</b>	
<b>C</b>	<b>Contingency</b>	<b>\$ 22,954,000</b>	
C.1	Project Recommended Contingency	\$ 22,954,000	20% of (Directs + Indirect)
<b>A+B+C</b>	<b>Total Costs</b>	<b>\$ 137,722,000</b>	
<b>D</b>	<b>Road Rehabilitation Allowance</b>	<b>\$ 10,000,000</b>	
<b>A+B+C+D</b>	<b>Total Project Budget</b>	<b>\$ 147,722,000</b>	<b>USD</b>

### Operational Expenditures (OPEX)

The estimate meets the minimum requirements of a Class V estimate as defined in AACE International Recommended Practice No. 18R-97. The OPEX estimate has an intended accuracy of  $\pm 35\%$ . The total estimated OPEX is \$44.9M per year or \$402.00 per tonne lithium spodumene produced (dry basis). Of this cost, \$36.4M per year or \$325.50 per tonne are direct production costs (81%) and \$8.5M per year or \$76.50 per tonne are indirect production costs (19%).

The project OPEX was based on Process Flow Diagrams and Mass Balances, Load Lists and Layouts. Other supporting data includes vendor pricing and specifications, and historical data from previous projects. The full-rate operating hours for the process plant used in the OPEX estimate was 7,600 hours per year. Annual spodumene production was 112,167 tonnes per year on a dry basis and 118,071 tonnes per year on a wet basis. No contingency has been considered for the OPEX for the project.



The OPEX summary excludes the following which are only captured in the cash flow.

- a) Product Transport; (Included only in cash flow);
- b) Marketing; (Included only in cash flow);
- c) Royalties; (Included only in cash flow);

Table 4 presents a summary of the Annual Operational Expenditures (OPEX) for the Project.

**Table 4: Project OPEX Summary**

WBS / Item	Item Description	OPEX Summary			Notes
		112,167 MTPA			
		USD/yr	USD/MT	% of Total	
<b>A</b>	<b>DIRECT COSTS</b>				
1.01	Diesel - Generators	\$ 19,700,000	\$ 176.00	44%	\$ 2.40 USD/L
1.02	Diesel - Fleet	\$ 3,408,000	\$ 30.50	8%	\$ 2.40 USD/L
1.03	Reagents & Consumables	\$ 6,796,000	\$ 61.00	15%	DMS, Flotation, Product Packaging, Comminution
1.04	Maintenance	\$ 4,318,000	\$ 38.50	10%	5% of Direct Costs
1.05	Mobile Equipment Maintenance	\$ 639,000	\$ 6.00	1%	15% of Mobile Equipment Direct Costs
1.06	Direct Manpower	\$ 1,497,000	\$ 13.50	3%	65 total on payroll
<b>A</b>	<b>Total Direct Costs</b>	<b>\$ 36,358,000</b>	<b>\$ 325.50</b>	<b>81%</b>	
<b>B</b>	<b>INDIRECT COSTS</b>				
2.01	Indirect Manpower	\$ 3,413,000	\$ 30.50	8%	93 total on payroll
2.02	Insurances	\$ 3,141,000	\$ 28.50	7%	1% of Gross Revenue
2.03	G&A	\$ 1,000,000	\$ 9.00	2%	Allowance
2.04	Community Development Fund	\$ 943,000	\$ 8.50	2%	0.3% of Gross Revenue
<b>B</b>	<b>Total Indirect Costs</b>	<b>\$ 8,497,000</b>	<b>\$ 76.50</b>	<b>19%</b>	
<b>A+B</b>	<b>Total Direct + Indirect Costs</b>	<b>\$ 44,855,000</b>	<b>\$ 402.00</b>	<b>100%</b>	
<b>(A+B+C)</b>	<b>TOTAL OPEX incl. Contingency</b>	<b>\$ 44,855,000</b>	<b>\$ 402.00</b>	<b>100%</b>	

### Product Transport

The product transport cost is based on a quote received from a local transport agency (C. Steinweg Bridge). The cost is \$361 per tonne and includes the manpower, the maintenance, the diesel and the tire replacements to bring the material to an African port. Several segments of the journey from Manono to Dar es Salaam were provided as seen below in Table 5.

**Table 5: Product Transport Cost Basis**

Item	Cost	Unit
Manono to Mitwaba	\$85	USD/ton
Mitwaba to Lubumbashi	\$35	USD/ton
Lubumbashi Handling Cost	\$21	USD/ton
Lubumbashi to Dar es Salaam	\$220	USD/ton
<b>Total</b>	<b>\$361</b>	<b>USD/ton</b>

### Financial Analysis

An engineering economic model was prepared for the Project to estimate annual cash flows and assess sensitivities to certain economic parameters. The Project shows a pre-tax cumulative net revenue of \$1,274M, a pre-tax NPV (10% discount) of \$764M, with an IRR of 87.4% on a nominal basis. The project shows a pre-tax NPV (10% discount) of \$638M, with an IRR of 82.3% on a real basis.

The cash flow estimate includes only revenue, CAPEX, and OPEX costs. Product transport, marketing and royalties were all included as additional costs within the cash flow model. Corporate obligations, financing costs, and taxes at the corporate level are excluded.

The implementation schedule currently estimates the construction timeline to be from March 2024 to October 2025 across 20 months. Each year contains 10 months of construction; thus the CAPEX is spent by 50% across 2024 and 50% across 2025.

Key metrics are shown below in Table 6 for the Manono PEA assumes a weighted average lithium concentrate price of \$2,800 USD/t FOB Africa, based on Fastmarkets average forecast price from 2025-2026 and adjusted for a 5.5% Li<sub>2</sub>O spodumene concentrate (SC 5.5) product.

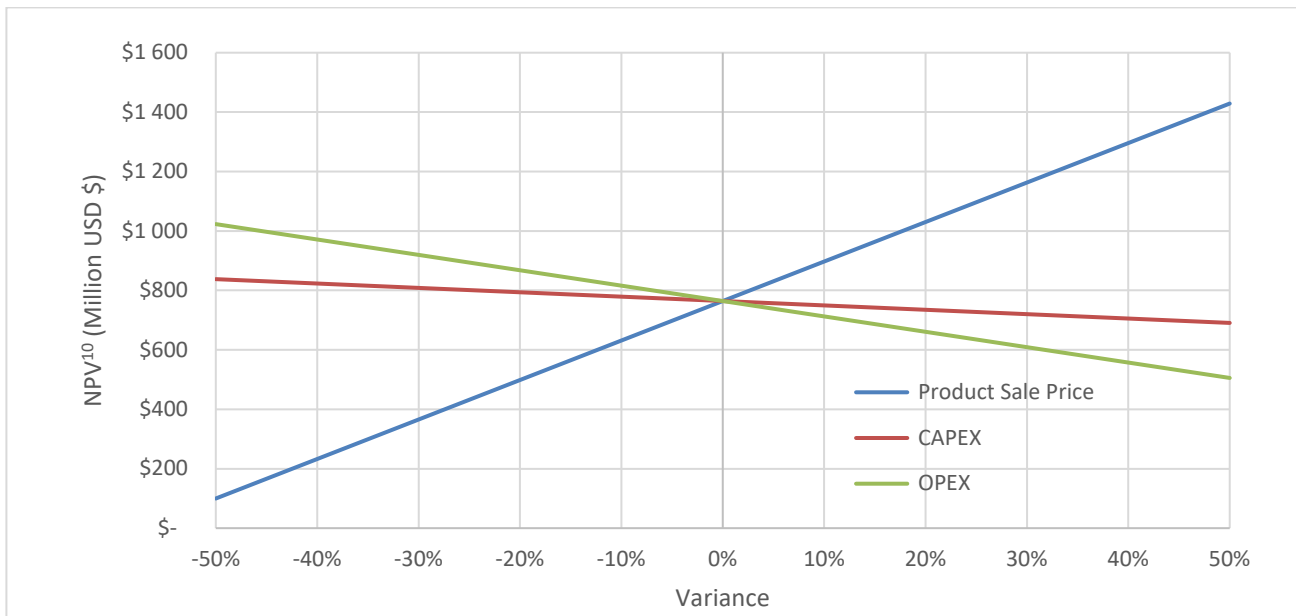
**Table 6: Key Project Financial Metrics**

Key Metrics	Unit	Value
Life of Mine (LOM)	Years	6
LOM Average ROM Grade	% Li <sub>2</sub> O	0.76
Process Plant Recovery	%	51
LOM Average Production (SC5.5)	Mtpa	112,167
Total LOM Production (SC5.5)	Mt	673,002
Plant & Infrastructure Capital	US\$M	148
Operating Cash Cost US\$/t, Mine Gate	US\$/t SC5.5	402
Operating Cash Cost US\$/t, FOB Africa (incl. royalty and marketing)	US\$/t SC5.5	1,002
Royalty	%	3
Long Term Lithium Price Assumption (SC5.5, FOB Africa)	US\$/t SC5.5	2,800
Project NPV10% (inclusive of Royalties, pre-tax) – nominal	US\$ Million	764

Key Metrics	Unit	Value
Project IRR (%) (inclusive of Royalties, pre-tax) - nominal	%	87.4
Payback from start of production	Years	1

A sensitivity analysis was completed to determine the impact of various factors on the project economics (see Figure 5). Lithium price has the largest influence on the Project financials. For every 10% increase in the lithium concentrate price, the project NPV<sub>10</sub> increased by US\$ 133 Million. The Project demonstrates it is resilient to capital escalation with a 10% increase in the total project capital cost, only reducing the NPV<sub>10</sub> by US\$ 14 Million.

**Figure 5: Sensitivity Diagram showing the impact of various sensitivities to the Project economics.**



## Project Development

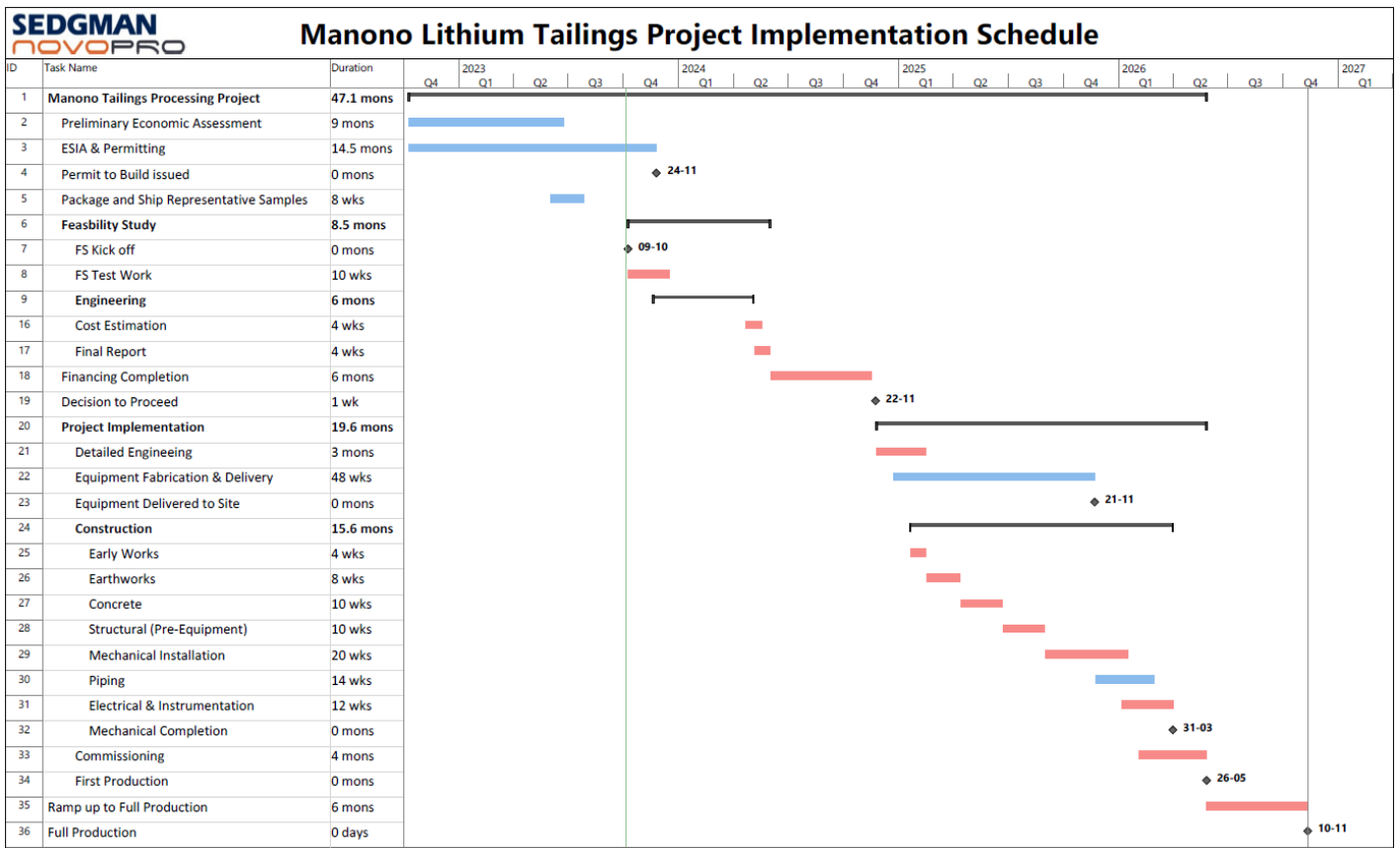
The PEA has demonstrated that the Manono Lithium Tailings Project has no critical technical flaws, and the FS is anticipated to commence in October 2023. Predicated on a potentially positive FS outcome, an investment decision to develop the Manono Lithium Tailings Project is expected to occur in CY2024. Results from the FS will be incorporated during Front-End Engineering and Design (FEED) which is scheduled to commence immediately after FS completion.

Metallurgical testwork is planned in the course of the FS. This work will include grinding, DMS, Flotation and Dewatering tests, which will increase the definition of the process flowsheet. This workstream will allow flowsheet optimisation and vendor testing of preferred equipment for the process plant.

Environmental approvals and permitting for the Project are on the critical path.

A high-level project schedule is provided in Figure 6.

Figure 6: High-level Project Schedule



**Filing of Report**

The NI43-101 compliant technical report (“Report”) will be filed on SEDAR within the next 45 days.

The Qualified Person for the Mineral Resource estimate is Mr. Rui Goncalves (BSc Hons, MSc (Eng.)) who is a geologist with 13 years of experience in base and precious metals exploration, mining geology and Mineral Resource estimation. He is a Senior Mineral Resource Consultant for The MSA Group (an independent consulting company), is registered with the South African Council for Natural Scientific Professions (SACNASP) and is a Member of the Geological Society of South Africa (GSSA). Mr. Goncalves has the appropriate qualification and experience to be considered a “Qualified Person” for the style and type of mineralisation and activity being undertaken as defined in National Instrument 43-101 Standards of Disclosure of Mineral Projects.

Neither Mr. Goncalves nor any associates employed in the preparation of the Mineral Resource report (“Consultants”) have any beneficial interest in Tantalex Lithium Resources Corporation.

The qualified person for the above ground infrastructure and support systems is Mr. Jim Brebner P.ENG. who is a mechanical engineer with 35 years of experience executing industrial projects, economic and feasibility studies, process development, and due-diligence reviews, and has participated in multiple mining and processing projects in potash, lithium, and light metals in Canada, United States, Africa, South America and Australia. He is the Engineering Manager at Sedgman Novopro (an independent consulting company) and is registered with the Ordre des Ingénieurs du Québec and the Professional Engineers and Geoscientists of Newfoundland and Labrador. Mr Brebner has the appropriate qualifications and experience



to be considered a “Qualified Person” for the style and type of processing plant and activity being undertaken as defined in National Instrument 43-101 Standards of Disclosure of Mineral Projects.

Mr. Brebner nor any associates employed in the preparation of the PEA report (“Consultants”) have any beneficial interest in Tantalex Lithium Resources Corporation.

The qualified person for the mineral processing is Mr. Antoine Lefavre(P.Eng) who is a Process engineer with 15 years of experience executing industrial projects, economic and feasibility studies, process development, and due-diligence reviews, and have participated in projects for potash, lithium, magnesium products, using both conventional and solution mining for ore recovery in Canada, United States, Africa, South America and Australia. He is lead process engineer in Sedgman Novopro (an independent consulting company), is registered with Order of Engineers of Quebec. Mr. Lefavre has the appropriate qualification and experience to be considered a “Qualified Person” for the style and type of processing plant and activity being undertaken as defined in National Instrument 43-101 Standards of Disclosure of Mineral Projects.

Neither Mr. Lefavre nor any associates employed in the preparation of the PEA report (“Consultants”) have any beneficial interest in Tantalex Lithium Resources Corporation.

These Consultants are not insiders, associates, or affiliates of Tantalex. The results of the report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there undisclosed understandings concerning any future business dealing between Tantalex and the Consultants. The Consultants are to be paid a fee for their work in accordance with normal professional consulting practices.

#### **Qualified person**

Mr. Rui Goncalves, Pr. Sci Nat, is a Qualified Person and has reviewed and approved this press release. The information in this press release that relates to the estimate of the Mineral Resources for the Manono Tailings Project is based upon, and fairly represents, information and supporting documentation compiled by Mr. Goncalves.

Mr. Jim Brebner, P.ENG. is a Qualified Person and has reviewed and approved this press release. The information in this press release that relates to the Manono Tailings Project PEA report is based upon, and fairly represents, information and supporting documentation compiled by Mr. Brebner.

Mr. Antoine Lefavre, P.ENG, is a Qualified Person and has reviewed and approved this press release. The information in this press release that relates to the Manono Tailings Project PEA report is based upon, and fairly represents, information and supporting documentation compiled by Mr. Goncalves.





## **About Tantalex Lithium Resources Corporation**

Tantalex Lithium is an exploration and development stage mining company engaged in the acquisition, exploration, development and distribution of lithium, tin, tantalum and other high-tech mineral properties in Africa. It is currently focused on developing its lithium assets in the prolific Manono area in the Democratic Republic of Congo; The Manono Lithium Tailings Project and the Pegmatite Corridor Exploration Program.

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

*The information in this news release includes certain information and statements about management's view of future events, expectations, plans and prospects that constitute forward looking statements. These statements are based upon assumptions that are subject to significant risks and uncertainties. Because of these risks and uncertainties and as a result of a variety of factors, the actual results, expectations, achievements or performance may differ materially from those anticipated and indicated by these forward looking statements. Although Tantalex believes that the expectations reflected in forward looking statements are reasonable, it can give no assurances that the expectations of any forward looking statements will prove to be correct. Except as required by law, Tantalex disclaims any intention and assumes no obligation to update or revise any forward looking statements to reflect actual results, whether as a result of new information, future events, changes in assumptions, changes in factors affecting such forward looking statements or otherwise.*

*The Canadian Securities Exchange (CSE) has not reviewed this news release and does not accept responsibility for its adequacy or accuracy.*

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