THE MSA GROUP

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Specialist Consultants to the Mining Industry

Tantalex Lithium Resources Corp.
Manono Tailings Project
Democratic Republic of Congo

NI 43-101 Technical Report – 13 December 2022 Mineral Resource Estimate

Prepared By The MSA Group (Pty) Ltd for:
Tantalex Lithium Resources Corp.

Prepared by:

Rui Goncalves Pr. Sci. Nat

Effective Date: 13 December 2022
Report Date: 26 January 2023

MSA Project No.: J4587

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IMPORTANT NOTICE

This report was prepared as a National Instrument NI 43-101 Technical Report for Tantalex Lithium Resources Corp (Tantalex) by The MSA Group (Pty) Ltd (MSA), South Africa. The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in MSA's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Tantalex subject to the terms and conditions of its contract with MSA. Except for the purposes legislated under Canadian provincial securities law, any other uses of this report by any third party is at that party's sole risk.

CERTIFICATE OF QUALIFIED PERSON

I, Rui Goncalves, Pr.Sci.Nat., do hereby certify that:

1. I am a Senior Mineral Resource Consultant of:

   The MSA Group (Pty) Ltd
   Henley House, Greenacres Office Park,
   Victory Park, Randburg, 2195
   South Africa

2. This certificate applies to the technical report titled "Tantalex Lithium Resources Corp., Manono Tailings Project, Democratic Republic of Congo, NI 43-101 Technical Report – 13 December, that has an effective date of 13 December 2022 and a report date of 26 January 2023 (the Technical Report).

3. I graduated with a BSc (Hons) degree in Geology from the University of Pretoria in 2010. In addition, I obtained a Master of Science degree in Engineering from the University of Witwatersrand in 2021

4. I am a registered Professional Natural Scientist (Geological Science) with the South African Council for Natural Scientific Professions (SACNASP) and a Member of the Geological Society of South Africa.

5. I have worked as a geologist for a total of 13, during which time I have worked in a number of roles in precious and base metal exploration, mine geology and Mineral Resource estimation. I have conducted Mineral Resource estimates and reviews for a wide range of commodities and styles of mineralisation including copper-cobalt, gold, tin, nickel, platinum group elements, rare earth elements and niobium. Specific tailings experience includes copper-cobalt deposits in the Democratic Republic of Congo.

6. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

7. I visited the Manono Tailings property for two days from 29 to 30 April 2022.

8. I am responsible for the preparation of items 1 to 12 and 14 to 24.

9. I have not had prior involvement with the property that is subject of the Technical Report.

10. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

11. I am independent of the issuer according to the definition of independence described in section 1.5 of National Instrument 43-101.

12. I have read National Instrument 43-101 and Form 43-101F1 and, as of the date of this certificate, to the best of my knowledge, information and belief, those portions of the Technical Report for which I am responsible have been prepared in compliance with that instrument and form.

13. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 26 day of January, 2023.

"signed and stamped"

(Rui Goncalves, Pr. Sci. Nat)

Statement of Certification by Author

I, Antoine Lefaivre, P.Eng., as an author of the Technical Report titled "*Tantalex Lithium Resources Corp., Manono Tailings Project, Democratic Republic of Congo, NI43-101 Technical Report – 13 December*" effective date: January 26th, 2023, do hereby certify that:

1. I am a Lead Process Engineer at Novopro Projects Inc., 1350 Sherbrooke West, Suite 600, Montreal QC, H3G 1J1, Canada.
2. I am a graduate of Ecole Polytechnique, Montreal, Quebec, Canada with a B.Sc. Chemical Engineering 2007.
3. I am a member in good standing of the Ordre des Ingénieurs du Québec, license no. 5002027.
4. I have over 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.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I meet the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am co-author of the report titled "*Tantalex Lithium Resources Corp., Manono Tailings Project, Democratic Republic of Congo, NI43-101 Technical Report – 13 December*" effective date: December 13th, 2022, being author for Item 13.
7. I did not undertake a site visit because of COVID restrictions and the ongoing conflict in DRC.
8. I have not had any prior involvement with the property previous to this Technical Report.
9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the parts of the Technical Report that I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I do not hold, nor do I expect to receive, any securities or any other interest in any corporate entity, private or public, with interests in the properties that are the subject of the Technical Report or in the properties themselves, nor do I have any business relationship with any such entity apart from a professional consulting relationship with Tantalex Lithium Resources Corporation.
11. I am independent of Tantalex Lithium Resources Corporationas defined by Section 1.5 of NI 43-101.
12. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with that instrument and form.

Dated the 26th day of January 2023

(signed and sealed)

Antoine Lefaivre, P.Eng. (Quebec)

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1 SUMMARY

1.1 Property Description and Ownership

Tantalex Lithium Corp. (Tantalex) is a Canadian exploration company listed on the Canadian Securities Exchange, the Frankfurt Stock Exchange and the United States OTCQB Venture Market. The subject of this report is the Manono lithium-tin-tantalum tailings deposit, located 490 km north of Lubumbashi, in the Tanganyika Province of the Democratic Republic of Congo (DRC).

The Manono 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 SAS, of which Tantalex holds 52%; 18% is held by MINOR and the remaining 30% by COMINIERE.

1.2 Geology and Mineralisation

The Manono 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 ore (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.

The lithium mineralisation is primarily hosted in spodumene with minor lepidolite, tin mineralisation is hosted in cassiterite and tantalum in tantalite.

1.3 Exploration Status

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

Drilling was orientated vertically, with the densest drilling found on the K deposit, 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.

1.4 Mineral Resource Estimate

The Manono tailings were visited by Rui Goncalves, who is a Senior Mineral Resource Geologist with MSA and the Qualified Person for this Mineral Resource estimate, on 29 and 30 of April 2022. The occurrences and setting of the lithium mineralisation were observed in the field as well as in a selection of chip samples from the first phase of drilling. No drilling was taking place at the time of the site visit. Reasonable procedures and protocols were used in the drilling.

The assay results received from the primary laboratory (SGS in Johannesburg, South Africa) were subjected to a quality assurance and quality control programme and the assays have been confirmed by check assays completed by ALS. The drilling, logging, sampling and assay data is contained in Microsoft Excel spreadsheets.

For estimation purposes, three dimensional volumes were constructed for each tailings deposit. Where applicable, individual volumes representing pegmatite, laterite and clay layers were modelled for each deposit.

Ordinary Kriging was used to estimate lithium oxide (Li_2O) into a three-dimensional block model for the K deposit. Due to the paucity of the data, inverse distance squared was used to estimate the remaining seven deposits. One deposit (Cf) was not estimated due to insufficient drilling coverage.

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 are classified into the Measured, Indicated and Inferred categories for each deposit in Table 1-1 at a cut-off grade of 0.20% Li_2O. The cut-off grade was calculated based on a mining cost of 2.17 USD/tonne, a processing cost of 11.18 USD/tonne and a lithium price of 4000 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 are declared.

Table 1-1

Manono Mineral Resources per deposit at a 0.20% Li_2O cut-off grade – 13 December 2022

Deposit	Classification	Tonnes (Mt)	Li_2O %
Cc	Inferred	2.99	0.32
Ic	Inferred	0.67	0.42
Gc	Indicated	0.29	0.78
	Inferred	0.51	0.84
Gf	Indicated	1.39	0.35
	Inferred	0.13	0.33
K	Measured	3.77	0.86
	Inferred	2.33	0.67
Total	Measured	3.77	0.86
	Indicated	1.69	0.42
	Measured & Indicated	**5.46**	**0.72**
	Inferred	6.63	0.49

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_2O % grades calculated by applying a factor of 2.153 to Li % grades*
4. *Mt = Million tonnes, ppm = parts per million*

1.5 Conclusions and Recommendations

On behalf of Tantalex, MSA has completed a Mineral Resource estimate for the Manono tailings project. The Mineral Resources presented in this Technical Report represent the maiden estimate for the project.

The QP considers that a Pre-Feasibility Study (PFS) for the project is warranted and studies towards the PFS, including mining studies, metallurgical test-work and an environmental impact assessment (EIA) are in the process of being conducted.

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

2 INTRODUCTION

The MSA Group (Pty) Ltd (MSA) was commissioned by Tantalex Lithium Resources Corp (Tantalex) to complete a Mineral Resource Estimate for the Manono Tailings Project (Manono or the Project). Manono is a lithium-tin-tantalum tailings project located in the Tanganyika Province of the Democratic Republic of Congo.

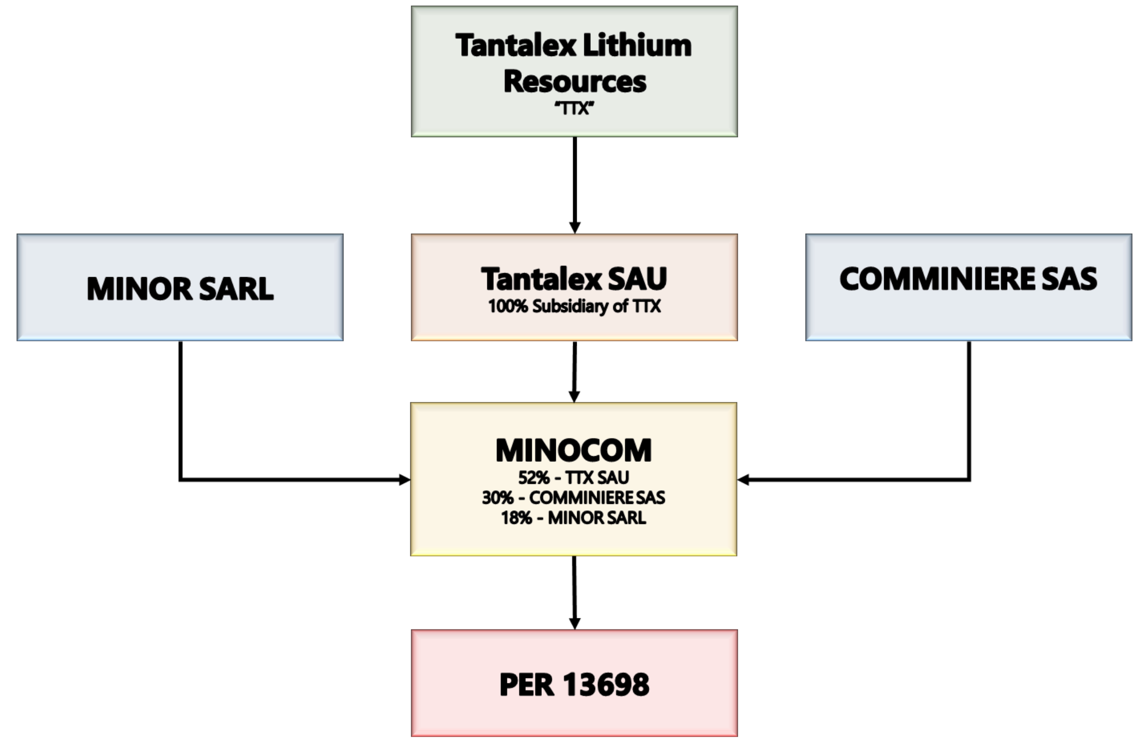
The mineralisation is contained in technogenic deposits, formed from the processing of lithium-caesium-tantalum (LCT) pegmatites of the historical Manono-Kitotolo (MK) mine which operated from 1919 to the mid-1980's. During this time, the mine produced an estimated 140 000 to 180 000 tonnes of tin and 4 500 tonnes of coltan concentrate, while lithium, derived from spodumene, was not recovered.

2.1 Corporate Structure

Tantalex was originally named Tantalex Resources Corporation, which was founded on 21 October 2013. Effective May 26, 2022, Tantalex Resources Corp. changed its name to Tantalex Lithium Resources Corp. to reflect the company's engagement in the acquisition, exploration, development and distribution of lithium, tantalum and other high-tech minerals.

On the 23rd of March 2017, the Manono exploitation license was awarded to MINOCOM, a joint venture between MINOR SARL and COMMINIERE SAS, which held 70% and 30% of MINOCOM respectively. Tantalex, via its 100% held Congolese subsidiary, Tantalex SAU, acquired 25% ownership of MINOCOM from MINOR on the 2nd of July 2021, with an additional 27% acquired on 17 May 2022. TTX SAU currently holds Right of First Refusal on the remaining 18% of MINOR. The company structure for Tantalex is shown in Figure 2-1.

Figure 2-1
Tantalex Corporate Structure



2.2 Scope of Work

MSA has been commissioned by Tantalex to provide an Independent Technical Report on the Company's lithium-tin-tantalum tailings project located in Tanganyika Province of the Democratic Republic of Congo.

This Independent Technical Report has been prepared to comply with disclosure and reporting requirements set forth in the Toronto Venture Exchange (TSX-V) Corporate Finance Manual, Canadian National Instrument 43-101, Companion Policy 43-101CP, Form 43-101F1, the 'Standards of Disclosure for Mineral Projects' (the Instrument) and the Mineral Resource and Reserve classifications adopted by CIM Council in May 2014.

2.3 Principal Sources of Information

MSA has based this Technical Report for the Manono Tailings Project on information provided by Tantalex along with other relevant published and unpublished data.

The Technical Report has been prepared on information available up to and including 27 September 2022, with the Mineral Resource having an effective date of 13 December 2022. The data used to estimate the Manono Tailings Mineral Resources represent the entire database for the drilling completed and there is no relevant material outstanding as of the effective date.

A personal inspection was made by the Qualified Person on the 29th and 30th of April 2022. The author has endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the Technical Report is based. A final draft of the Technical Report was also provided to Tantalex, along with a written request to identify any material errors or omissions prior to lodgement.

All monetary figures expressed in this report are in United States of America dollars (US$) unless otherwise stated.

The locations of all maps are referenced to WGS 84, UTM Zone 35M, unless otherwise stated.

2.4 Qualifications, Experience and Independence

MSA is a minerals exploration, mineral resource consulting and contracting firm, which has been providing services and advice to the international mineral industry and financial institutions since 1983.

This report has been compiled by Rui Goncalves (BSc Hons, MSc (Eng.)), who is a geologist with 13 years' varied experience in the mining industry which includes 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 (MGSSA). Rui Goncalves has the appropriate relevant qualifications, experience, competence and independence to act as a "Qualified Person" as that term is defined in National Instrument 43-101 (Standards of Disclosure for Mineral Projects).

Neither MSA, nor the author of this report, has or has had previously any material interest in Tantalex or the mineral properties in which Tantalex has an interest. Our relationship with Tantalex is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

3 RELIANCE ON OTHER EXPERTS

MSA has not independently verified, nor is it qualified to verify, the legal status of these concessions. The present status of tenements listed in this report is based on information and copies of documents provided by Tantalex, and the report has been prepared on the assumption that the tenements will prove lawfully accessible for evaluation.

Neither MSA nor the authors of this report are qualified to provide extensive comment on legal issues associated with joint venture agreements. Comment on these agreements is for introduction only and should not be relied on by the reader.

Similarly, neither MSA nor the authors of this report are qualified to provide comment on environmental issues associated with the Tantalex Projects.

No warranty or guarantee, be it express or implied, is made by MSA with respect to the completeness or accuracy of the legal or environmental aspects of this document. MSA does not undertake or accept any responsibility or liability in any way whatsoever to any person or entity in respect of these parts of this document, or any errors in or omissions from it, whether arising from negligence or any other basis in law whatsoever.

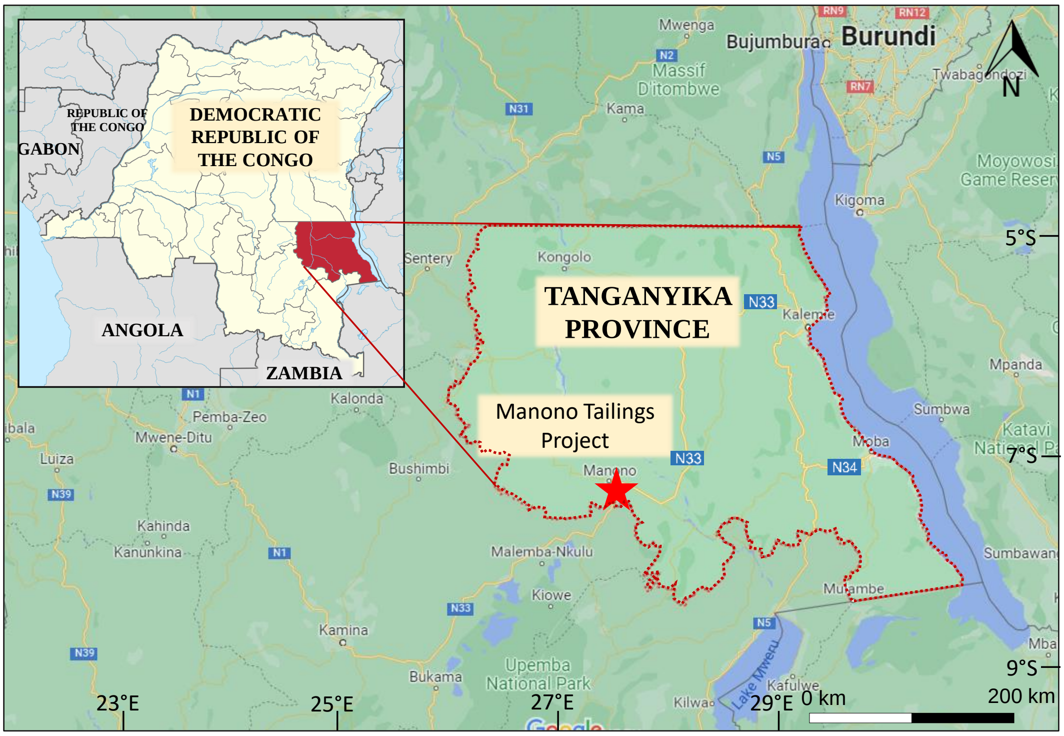
4 PROPERTY DESCRIPTION AND LOCATION

The Manono Tailings Project deposits are technogenic in nature, formed from the deposition of processed material during exploitation at the adjacent Manono tin mine. The Manono mine produced a total of 100 million m^3 of material sourced from eluvial and weathered pegmatites between 1919 and 1982 (AVZ, 2017).

4.1 Location

The Manono Tailings Project is located directly south of the river town of Manono, in the Tanganyika Province of the Democratic Republic of the Congo (DRC). The Project is located approximately 490 km north of the city of Lubumbashi, the second largest city in the DRC. The mining settlement towns of Manono and Kitotolo are partially located within the license boundary, to the west and east respectively. The Project is approximately located at a latitude of 7°17′S and a longitude of 27°24′E. The regional Project location is presented in Figure 4-1.

Figure 4-1
Regional Project location



Source: *Adapted from Wikipedia and Google Maps (2022)*

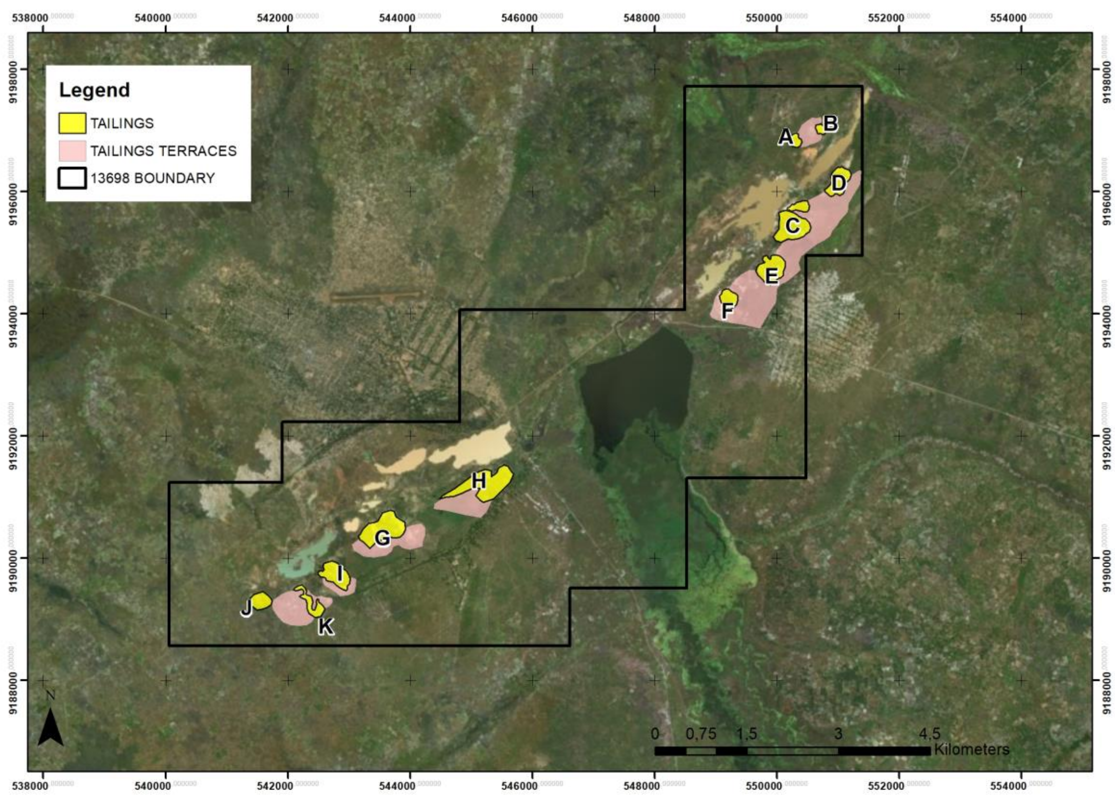
The Project consists of 11 coarse tailings dumps divided into a northern and southern sector and named alphabetically from A to K. The Northern Manono Sector contains dumps A to F while the Southern Kitotolo Sector contains dumps labelled G to K. A 12th overburden dump, labelled dump J, consists of laterite only. A fine tailings terrace is located directly adjacent to the coarse tailing dumps. The tailings dumps are labelled with a suffix "c" and the adjacent fine fraction is labelled "f".

Estimates were generated for 8 tailings dumps as listed below, of which five constitute Mineral Resources:

- C coarse (Cc)
- E coarse (Ec)
- H coarse (Hc)
- H fine (Hf)
- G coarse (Gc)
- G fine (Gf)
- I coarse (Ic)
- K coarse (Kc or just K)

The position of the tailings deposits relative to one another are shown in Figure 4-2.

Figure 4-2
Manono Tailings Project area

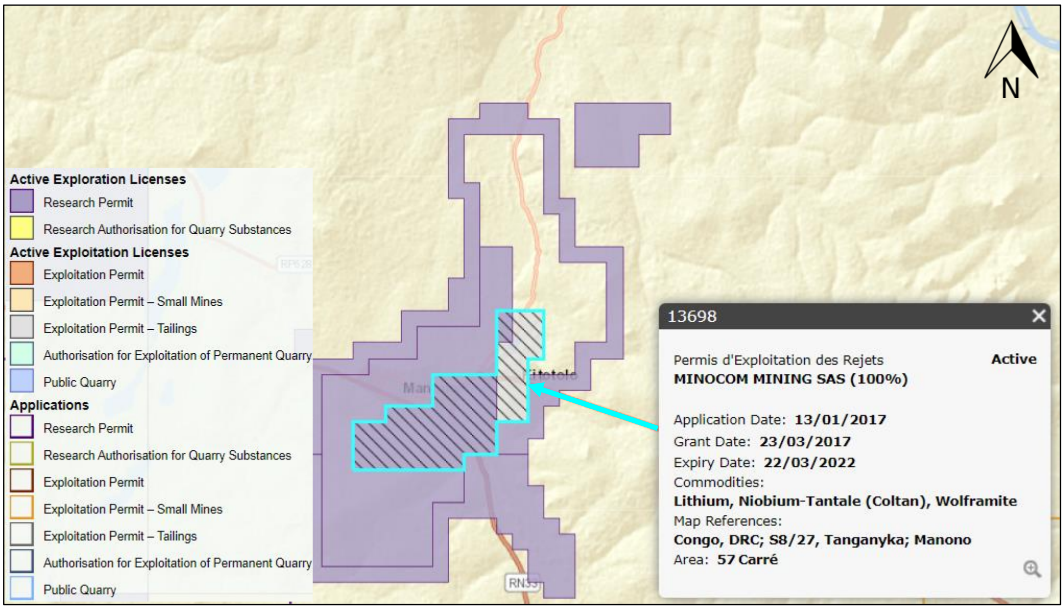


***Source**: Tantalex (2022)*

4.2 Mineral Tenure, Permitting, Rights and Agreements

Tailings Exploitation Permit PER 13698 (57 km^2; Figure 4-3) is held by Minocom Mining SAS, a joint venture with 52% held by Tantalex, 18% held by MINOR and 30% held by the state-owned company COMINIERE. The permit was granted on 23 March 2017. Tailings exploitation licenses are renewable every 5 years and require the submission of an environmental and technical study. A renewal of the current license, which expired on 22 March 2022, is expected, pending the completion of the environmental and technical study studies by Minocom.

Figure 4-3
Manono Tailings Project license area



13698

Permis d'Exploitation des Rejets **Active**
MINOCOM MINING SAS (100%)

Application Date: **13/01/2017**
Grant Date: **23/03/2017**
Expiry Date: **22/03/2022**
Commodities:
Lithium, Niobium-Tantale (Coltan), Wolframite
Map References:
Congo, DRC; S8/27, Tanganyka; Manono
Area: **57 Carré**

Source: *http://drclicences.cami.cd/EN/ (2022)*

4.3 Surface rights

The DRC government has exclusive rights to all land but can grant surface rights to private or public parties. Surface rights are distinguished from mining rights, as these to not entail the right to exploit minerals or precious stones. A mining right does not imply the right for any surface occupation over the surface, other than what is required for the operation.

The 2002 Mining Codes and its amendments, states that subject to any rights of third parties over the surface concerned, the holder of an exploitation mining right has the right to occupy within the granted mining perimeter the land necessary for mining and associated industrial activities, including the construction of industrial plants and dwellings, water use, dig canals and channels and establish means of communication and transport of any type.

Occupation of land that deprives surface right holders of using the surface, or any modification rendering the land unfit for cultivation, entails an obligation on the part of the mining rights holder to pay fair compensation to the surface right holders. The mining rights holder is also liable for damage caused to the occupant's land due to any mining activity, even if such activity has been permitted and authorised.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

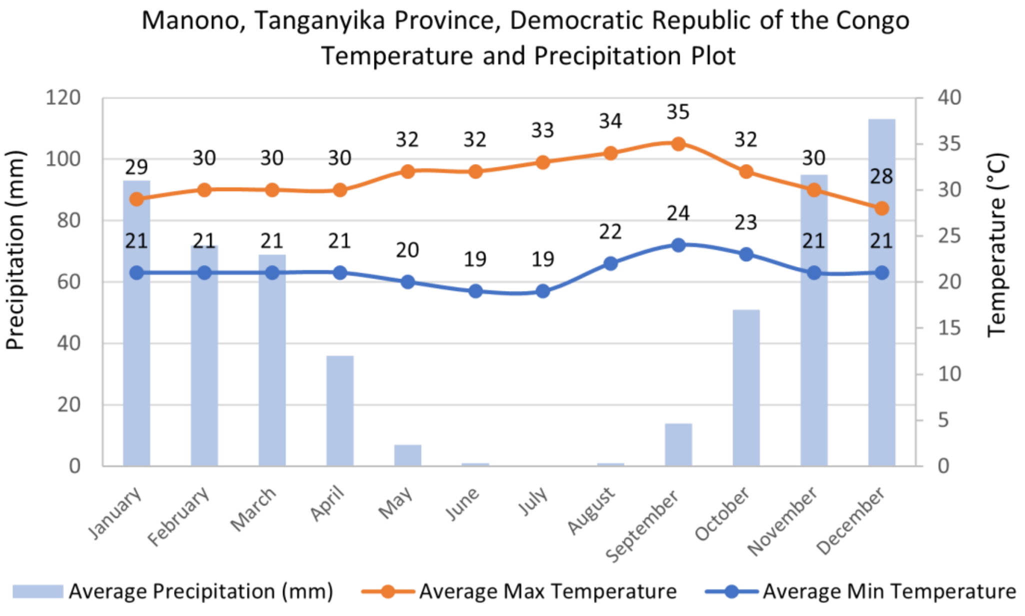
5.1 Topography, Elevation, Drainage and Vegetation

The topography of the Manono Tailings Project area is generally flat with an average elevation of 635 metres above mean sea level (mamsl). The tailings dumps reach a maximum height of approximately 70 m above the surrounding plains. The region supports a variety of vegetation that ranges from dense humid forest and clear forest to savannah and meadowlands. Within the Congo River Basin, the Lukushi river runs from south to north through the Tanganyika Province, passing the towns of Manono and Kitotolo, shortly before joining the major Luvua River.

5.2 Climate

The Project area has a tropical savanna climate with warm temperatures year-round (Figure 5-1). The wet season typically runs from October to March with an average of 19.2 rainy days per month and approximately 1 200 mm of rainfall per year. The dry season typically runs from April to September. The climate is not expected to affect the length of the operating season which typically runs throughout the entire year. Heavy rainfall may occasionally affect access to the site.

Figure 5-1
Manono Temperature and Precipitation Plot



Source: *https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/manono_dr-congo_209598 (2022)*

5.3 Access

Access to the Manono Tailings Project area is gained from Lubumbashi via a 1.5-hour flight to a small airport in Manono. Access may also be gained via road however wet weather conditions may affect road conditions. The road route from Lubumbashi to Manono is approximately 630 km and is currently undergoing an upgrade.

The Project is approximately 215 km south of the Kongolo Railway station on the Great Lakes Line (Second Section). The national railway line is mostly operated by the Société Nationale des Chemins de Fer du Congo (SNCC). Railway lines are not all linked but are generally connected by river transport.

5.4 Local Resources and Infrastructure

Infrastructure in the adjacent mining towns of Manono and Kitotolo is currently limited. Power supply is generated by a solar power plant that was commissioned in March 2018. The solar power plant is the largest off-grid solar power plant in the region and supplies a new isolated network of the Société Nationale d'Electricité (SNEL). The production capacity is 1 MWp (megawatt peak). Since 2018, a hospital, a school, the airport, shops and housing are now connected to electricity (Groupe Forrest International, n.d.)

Water supply is in abundance for both local use and mining activities.

6 HISTORY

The Manono tailings originated from the processing of lithium-caesium-tantalum (LCT) enriched pegmatite material from the historical Manono-Kitolo mine, which operated from 1919 to the mid-1980's. In total, it is estimated that the mine produced 140,000 to 185,000 tonnes of tin and 4,500 tonnes of coltan concentrate while lithium, in the form of spodumene, was not recovered.

6.1 Prior Ownership History of the Manono Tailings Project

PER 13698 was previously held as part of PE12202 by Zaire Etain. This permit expired on 22 March 2017. PE12202 was subsequently changed into two separate licenses, PER 13698 was awarded to COMMINIERE, a state enterprise created by The Minister of Portfolio, to manage several concessions and to enter into joint ventures with partners to develop the mineral potential of these properties. The subsurface license, PR13359 was awarded to Dathcom Mining.

Tantalex is unaware of any previous exploration work undertaken on PER 13698 pertinent to the tailings.

6.2 Historical Mineral Resources and Reserves

Mineral Resources and Reserves have not been previously declared for the Manono Tailings Project.

6.3 Previous Production

There are no records of previous production.

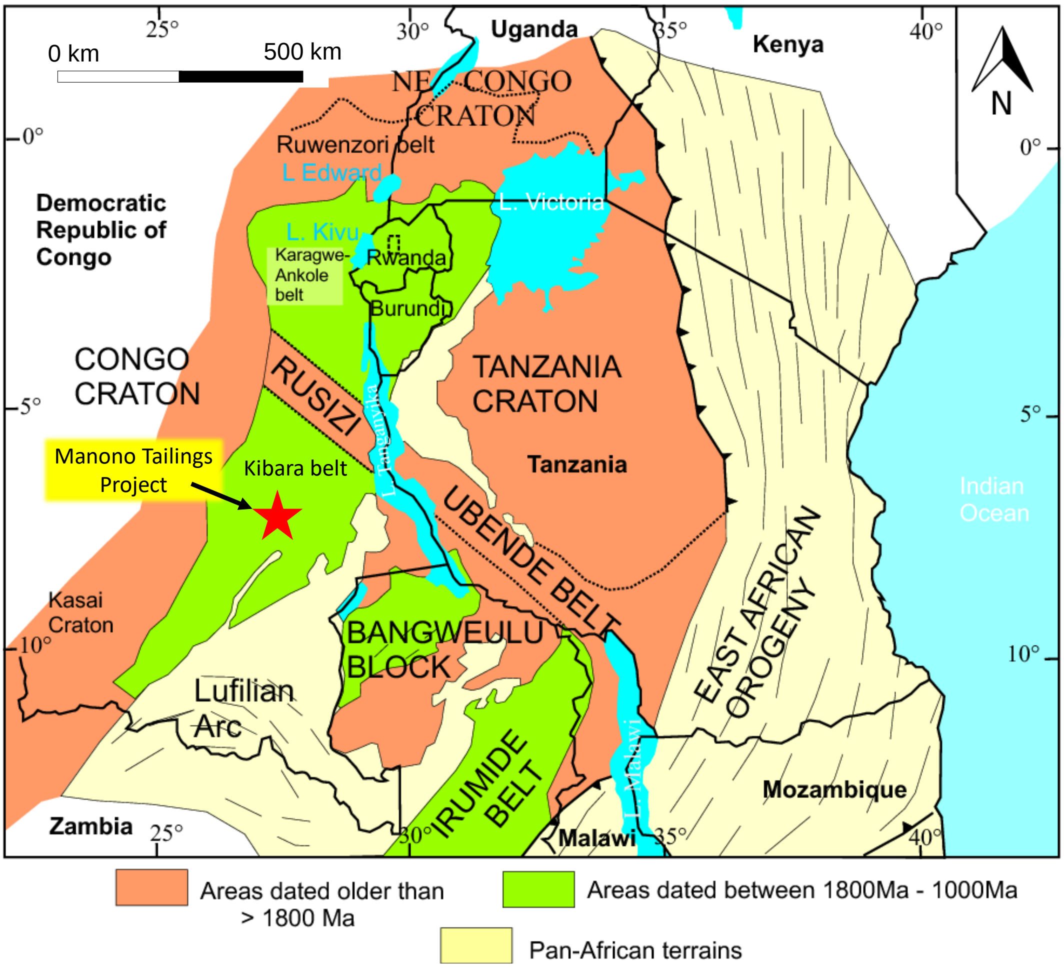
7 GEOLOGICAL SETTING AND MINERALISATION

7.1 Regional Geology

The Manono Tailings Project is located within the northeast-southwest trending Central African Kibara Belt, which together with the Karagwe-Ankole Belt, a Mesoproterozoic intracratonic mobile belt, extend over 1 300 km from Katanga in the DRC to southwestern Uganda through Rwanda and Burundi (Figure 7-1). The southern Kibara and northern Karagwe-Ankole Belts formed between the Archaean-Palaeoproterozoic Congo craton to the west and north, the Archaean Tanzanian Craton to the east, and the Bangweulu Block to the south. Both the Kibara and the Karagwe-Ankole Belts form a large metallogenic province that hosts a variety of granite-related Sn-W-Nb-Ta mineralisation.

The Central African Kibara Belt comprises Palaeo- and Mesoproterozoic clastic sediments with minor metavolcanic rocks that have been intruded by multiple generations of granitoids ranging in age from approximately 1.4 Ga to 1 Ga. The oldest peraluminous granitoids (G1 and G2 granitic orthogneisses) were emplaced between 1.40 Ga and 1.38 Ga during an accretionary stage. The post-orogenic S-type tin-bearing granites (G4 Granites), and associated Sn-Ta-Nb-Li bearing pegmatites, veins and greisen bodies, intruded from 1.00 Ga to 0.95 Ga. The G4 Granites intruded the older Kibaran orthogneisses as well as the Kibaran metasedimentary units during continental collision and post-orogenic uplift (Pohl et al., 2013 Kokonyangi et al., 2006). A number of small stocks of this granite occur in the immediate vicinity of the workings at Manono and Kitotolo sectors (Dewaele et al., 2016).

Figure 7-1
Manono Tailing Project Regional Geology



***Source**: Adapted from Dewaele et al. (2013)*

Structural orientations are related to two major deformation events, D1 and D2. The D1 deformation resulted in an east-west to northeast trending fabric southwest of Manono, which changes to a northeast to north-northeast orientation in the Kalima area. The D2 deformation resulted in a northeast to north-northeast trending fabric. The mineralised veins and pegmatites are frequently orientated parallel to the northeast trending D2 fabrics, although some may have northwest, southeast or east-west orientations (Kokonyangi, 2004 and Kokonyangi et al., 2006).

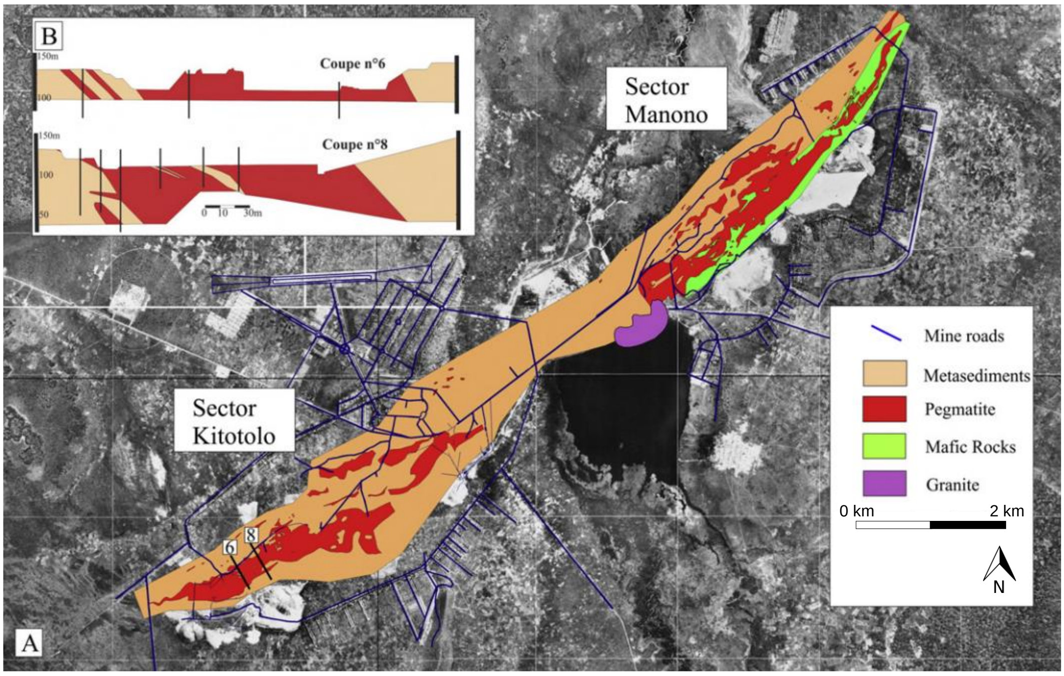
The Manono-Kitotolo deposit is considered the largest pegmatite hosted tin-columbite-tantalite-spodumene deposit in the DRC and one of the largest in the world (Dewaele et al., 2016). Dewaele et al., (2016) dated it at approximately 940 Ma which is consistent with the ages of the postulated parental G4 (tin) Granites and other pegmatites in the region.

Weathering and erosion of the quartz vein- and pegmatite-hosted tin and columbo-tantalite mineralisation has resulted in the significant alluvial and eluvial deposits in the recent and palaeo-drainage basins and floodplains throughout the region.

7.2 Local Geology

The Manono tailings are composed of processed material from the Manono-Kitotolo deposit mined from various open pits that extend over the Manono-Kitotolo deposit area of approximately 800 m by 15 km (Figure 7-2). The Manono-Kitotolo deposit consists of two zones, the Manono-Kuhungwe Sector in the northeast and the Kitotolo Sector in the southwest, separated by the 2 km wide artificial Lake Lukushi.

Figure 7-2
Manono Tailings Project Local Geology



Source*: Adapted from Dewaele et al. (2016)*

Several large pegmatite intrusions have been recognised in the Manono-Kitotolo Sector along with numerous smaller pegmatite intrusions. The Roche Dure pegmatite is the largest intrusive body in the Kitotolo Sector with a strike length of at least 2 800 m and a width of 250 m. Pegmatites occur within the phyllitic or mica-schist host rocks with minor meta-sandstone horizons. In the Manono-Kahungwe Sector, pegmatites crosscut meta dolerites. The general strike of the pegmatites is at a bearing of 055° with a dip varying from 50°N to 50°S but predominantly subvertical (Dewaele, 2016). The pegmatite-metasediment contact shows minor small-scale folding but is largely parallel to the regional foliation orientation (Dewaele, 2016).

7.3 Project Geology

The Manono Tailings Project is composed of nine coarse tailings dumps and fine tailings terraces produced from mining and processing of the various Manono-Kitotolo open pits. The tailings material is typically coarse, ranging from 1 mm to 5 mm sized gravel as shown in Figure 7-3.

Figure 7-3

Manono Tailings Project coarse tailings material

Source: *Goncalves (2022)*

The material composition of each tailings deposit varies, with many being composed of a combination of pegmatite, laterite and/or clay material. Figure 7-4 illustrates the heterogeneity of the deposits, as observed for the Ic deposit. The contrast of the two material types is noticeable with the reddish-brown laterites juxtaposed against white pegmatite material. The J deposit is visible in background which consists exclusively of laterite material.

Figure 7-4
Ic deposit (looking southwest) illustrating the mixed nature of the materials making up these deposits

Source: *Goncalves (2022)*

Few deposits appear to consist of a single material type, the exception to this being the K dump which is primarily composed of pegmatite. The K dump consists of tailings lying over a flat area 675 m by 500 m in extent, with depths up to 15 m in the centre, gradually thinning out to 3 m along the edges. Stacked tailings, up to 20 m high are located in the northwest corner of the K dump, while stacked tailings in a cone-like shaped feature are found in the east of the deposit, attaining a maximum thickness of 45 metres. Figure 7-5 shows the white, pegmatite tailings and the partially vegetated cone-like feature of the K dump.

Figure 7-5
K dump with the stacked, cone-like feauture of the K dump (looking south)

Source: *Goncalves (2022)*

Fine vegetation, consisting of shrubs and tall grass, covers the majority of the tailings deposits. This tends to be thicker in the lower lying tailings of the K, Gf and Hf deposits. Some deposits show evidence of historical and recent artisanal mining activity for cassiterite and coltan as observed by the disturbed ground in the foreground of Figure 7-6 (K deposit).

Figure 7-6
Pegmatite tailings of the K dump, illustrating vegetation cover and historical artisanal mining in the foreground

Source: *Goncalves (2022)*

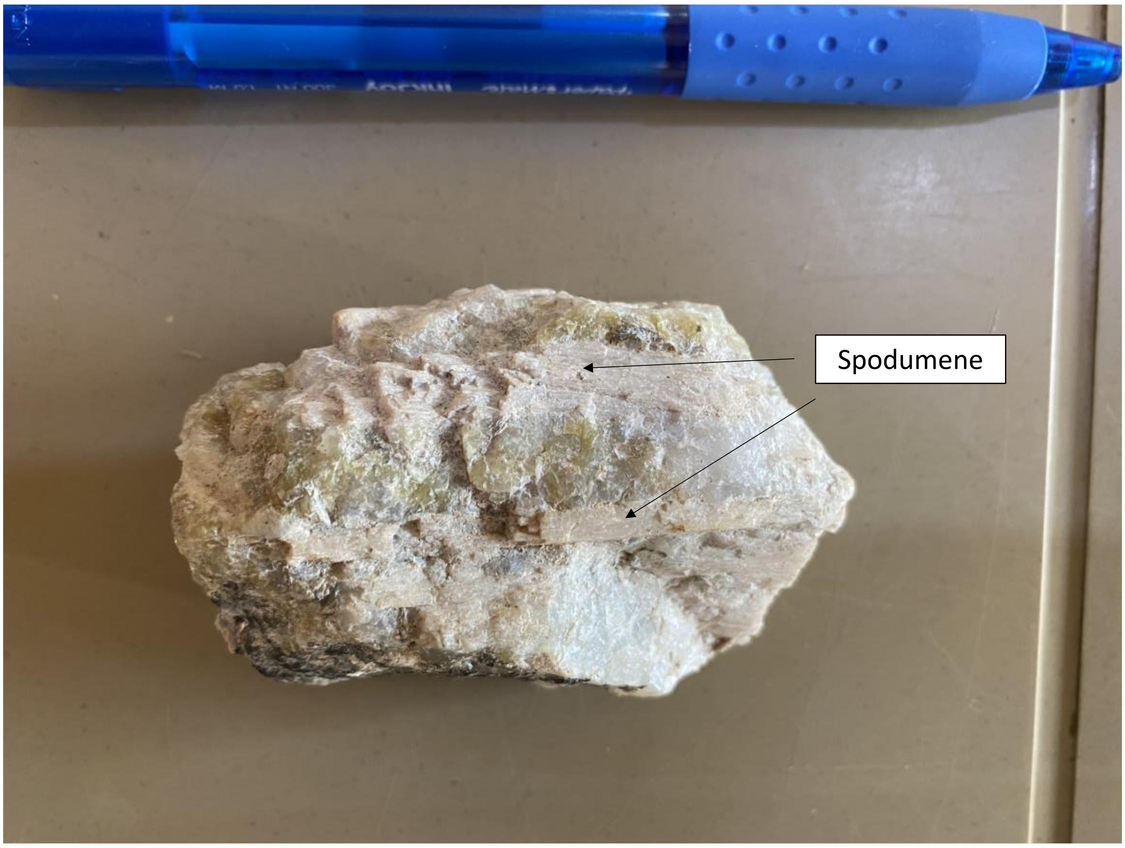
7.4 Mineralisation

The Manono-Kitotolo mine exploited a large pegmatite deposit that produced between 140 000 tonnes and 185 000 tonnes of tin and 4 500 tonnes of coltan concentrate (Scholtz, 2019). The reject processed material was deposited on the coarse tailings dumps and fine tailings terraces that make up the Manono Tailings Project.

Lithium is present in the minerals spodumene and lepidolite, tin is present in cassiterite. The tailings still contain cassiterite currently being mined by artisanal miners. The majority of the pegmatites mined also contain spodumene (and/or lepidolite) and the minerals can be visually identified in the material on the coarse tailings dumps (Scholtz, 2019). The relatively high grade of lithium in spodumene was analysed in two grab samples by BRGM (1.7% to 2% LiO_2) and indicates that lithium was likely not recovered during historical processing (Scholtz, 2019).

A centimetre sized sample of pegmatite recovered from the project area is illustrated in Figure 7-7. This shows visible spodumene crystals which can be easily identified by the presence of prismatic cleavage.

Figure 7-7
Pegmatite sample from Manono illustrating prismatic cleavage



Source: *Goncalves (2022)*

8 DEPOSIT TYPE

The Manono Tailings Project is composed of the reject LCT (Lithium-Caesium-Tantalum) pegmatite material processed at the Manono-Kitotolo mine from 1919 to the mid-1980s. Technogenic deposits are a category of superficial formations created by anthropogenic direct or induced depositional processes.

Tailings from the Manono-Kitotolo open pits were deposited on the ground adjacent to the various open pits. The coarse tailings were deposited over many years into raised heaps that reach heights of 70 m above surface. The fine tailings material was deposited into flat terraces adjacent to the coarse tailings dumps.

Many of the tailings deposits are composite in nature, consisting of layers of pegmatite, laterite and/or clay layers. These were deposited by mechanical means, including most of the deposits denoted as “fines”, with the exception of the Hf and Gf deposits, which are assumed to have formed due to the settling of fine material in standing ponds of water as evidenced by the presence of clay layers in these deposits.

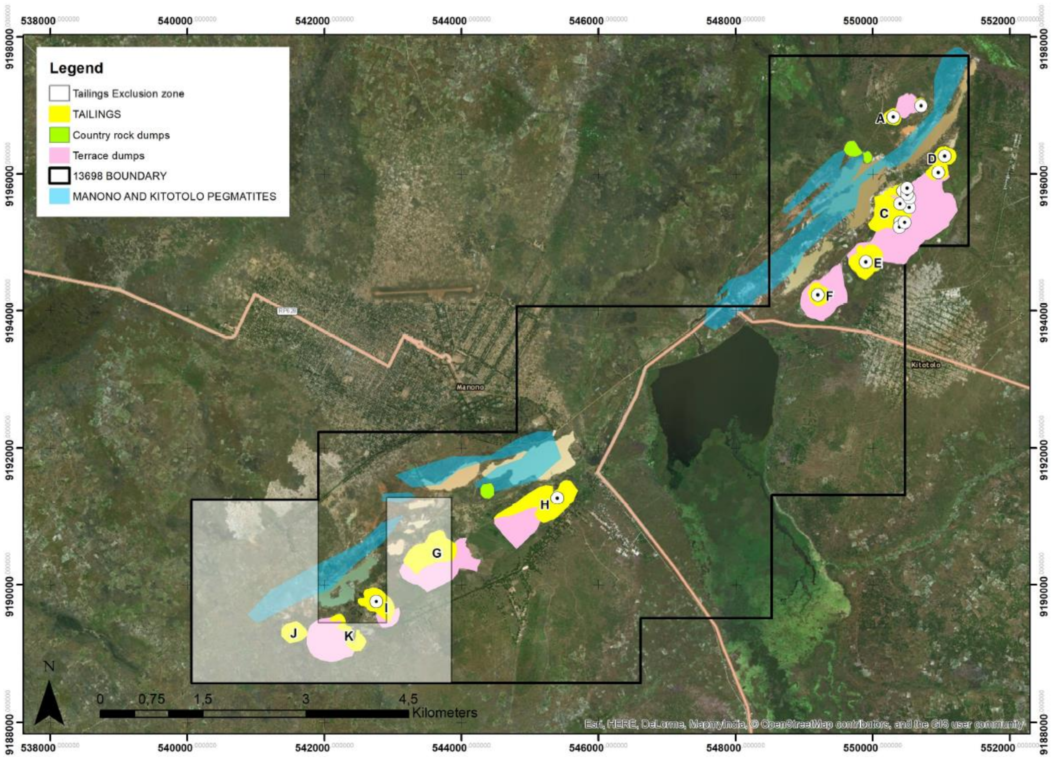
Technogenic deposits such as those at Manono are typical of many mining operations across the globe and often contain concentrations of various metals of economic value due to incomplete recovery during the processing of the raw, in-situ source material. Their extents and depths tend to be well defined and due to their recent formation, the only processes affecting their evolution is erosion due to fluvial or aeolian processes.

9 EXPLORATION

9.1 Previous Exploration

In 2019, a grab sampling program was conducted by Nico Scholtz (a consultant to Tantalex) and the Tantalex field team. The grab sampling was conducted on ten of the coarse tailings dumps and associated fine tailings terraces as indicated in Figure 9-1.

Figure 9-1
Location of grab samples



Source: *Scholtz (2019)*

In total 43 samples were taken from various parts of all the tailings and tailings types. These included tailings dump gravel, lepidolite, various spodumene samples, spodumene pegmatite and weathered samples. Grab samples are not considered representative of the Manono Tailings Project's mineralisation and do not form part of the Mineral Resource estimate. The purpose of the grab sampling was solely for identifying the presence of mineralisation and to ascertain their average grades.

9.2 Bulk Sampling

An initial bulk sampling program was conducted by Nico Scholtz and the Tantalex field team. The bulk sample was collected from the "C" dump and included both the coarse and fine material. The "C" dump was considered to be most representative of the tailings material and was most accessible at the time of sampling. Eighteen bulk sample bags with a weight of approximately 50 kg each were collected for metallurgical testwork purposes (Scholtz, 2019).

9.3 Cobra Drilling

Prior to the commencement of the Mineral Resource drilling campaign, Tantalex undertook a trial drilling campaign using a handheld Atlas Copco Cobra Combi rock drill, which was modified to hold a core barrel for sample collection. A total of 132 Cobra holes were drilled on four deposits, namely the C (56 drillholes), the G (16 drillholes), the H (38 drillholes) and the K (22 drillholes) dumps, totalling 967.8 metres of drilling.

Twenty-two of the Cobra drillholes, representing 101.3 m of drilling, were sampled and assayed. Samples were taken at 3 m intervals, which resulted in 19 samples from 8 drillholes that were submitted to ALS, and 19 samples from 14 drillholes that were submitted to SGS Johannesburg. The samples were all taken from the K dump, results for which are presented in Table 9-1.

Table 9-1
Results of Cobra drilling programme

Drillhole ID	Depth from m	Depth to m	Li_2O %	Sn ppm	Ta ppm
MDC046	0	2.7	0.88	87	10.3
MDC049	0	3	1.26	432	35.8
MDC049	3	4.5	1.16	309	30.2
MDC051	0	3	0.01	79	8.0
MDC051	3	6	0.01	185	13.1
MDC052	0	2.6	0.85	198	22.9
MDC052	2.6	4.3	0.76	258	30.5
MDC053	0	2.5	1.71	443	33.7
MDC055	0	3	1.37	576	46.8
MDC057	0	3	1.27	558	43.6
MDC058	0	3	1.27	454	36.7
MDC059	0	3	0.63	253	23.0
MDC060	0	3	1.45	439	34.0
MDC062	0	3	1.53	394	36.0
MDC062	3	6	1.09	258	35.4
MDC063	0	3	1.49	574	47.6
MDC065	0	3	1.56	508	49.3
MDC065	3	6	1.36	350	31.7
MDC067	0	2	0.34	217	21.1
MDC047	0	3	1.13	320	25.1
MDC047	3	5.6	0.98	382	22.5
MDC048	0	3	1.10	382	24.8
MDC048	3	6	0.14	243	15.9
MDC048	6	7	0.02	176	5.8
MDC050	0	3	1.12	457	24.7
MDC050	3	6	1.01	388	22.5
MDC054	0	3	0.75	779	38.0
MDC054	3	6	0.93	527	37.3
MDC056	0	3	1.09	626	49.4

Table 9-1

Results of Cobra drilling programme

Drillhole ID	Depth from m	Depth to m	Li_2O %	Sn ppm	Ta ppm
MDC056	3	6	1.13	726	35.1
MDC056	6	7	1.44	673	36.5
MDC061	0	3	1.13	499	29.2
MDC061	3	5.8	1.21	395	26.8
MDC061	5.8	6.7	1.09	320	25.5
MDC064	0	3	1.06	557	27.7
MDC064	3	5	1.24	522	35.1
MDC066	0	3	1.07	336	22.2
MDC066	3	6	0.56	352	23.3

The results of the Cobra drilling were not used for Mineral Resource estimation due to the limited penetration into the dump. However, they provided an indication of the magnitude of the grade of tin, tantalum and lithium mineralisation in the four dumps and the motivation to carry out a Mineral Resource drilling programme.

9.4 Geophysical Survey

In 2017, an aeromagnetic geophysical survey was conducted over the Manono Tailings Project area by International Geoscience Services (IGS), funded by the World Bank PROMINES project in support of the Ministry of Mines of the DRC. The high resolution regional airborne survey was flown by New Resolution Geophysics from South Africa, at a line spacing of 400 m, with selected targets being surveyed at a closer spacing of 200 m. IGS was responsible for the management and technical coordination of the project on behalf of the Ministry. Tantalex does not have access to the report resulting from this survey but has acquired the associated data, which is of no direct relevance to the tailings deposits.

10 DRILLING

Drilling at the Manono Tailings Project began in September 2021 and was completed In July 2022 using a track mounted aircore/RC rig with an onboard compressor. Aircore drilling was undertaken using an 80 mm outer diameter core bit and a 30 mm inner core diameter bit. A geologist was present throughout the drilling operation to supervise both the drilling and sampling process.

Drilling took place in two phases, with the first phase ending in November 2021. Tantalex subsequently decided to undertake further drilling, with the intention of providing closer spaced drilling information for higher confidence estimates for several deposits. Phase 2 commenced on 15 June 2022 and concluded on 8 July 2022.

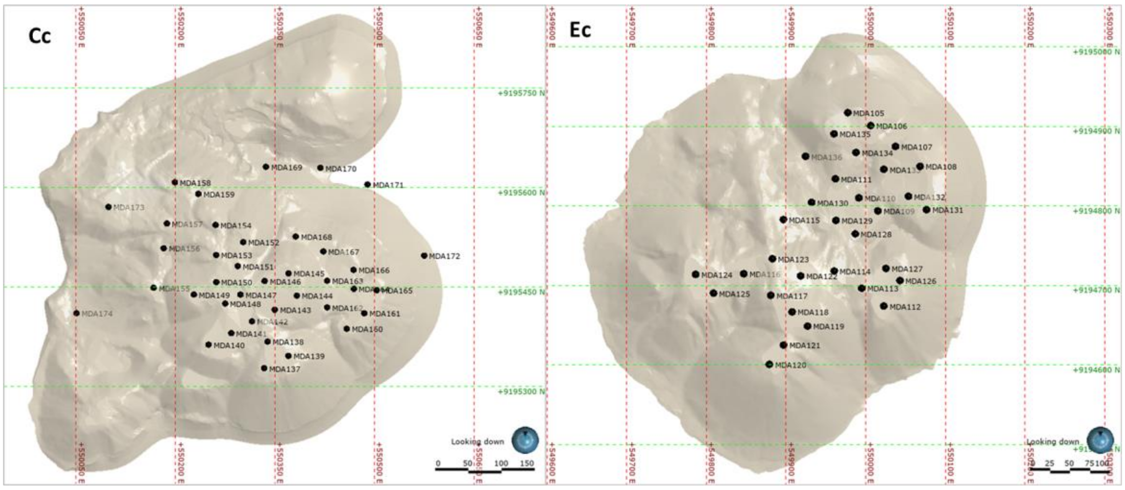
A summary of the two phases of the Tantalex drilling campaign is presented Table 10-1.

Table 10-1
Tantalex drilling campaign summary

Phase	From	To	Type	Number of Drillholes	Metres Drilled
Phase 1	September 2021	November 2021	Aircore	174	9 279.9
Phase 2	June 2022	July 2022	Aircore	194	2 657.0

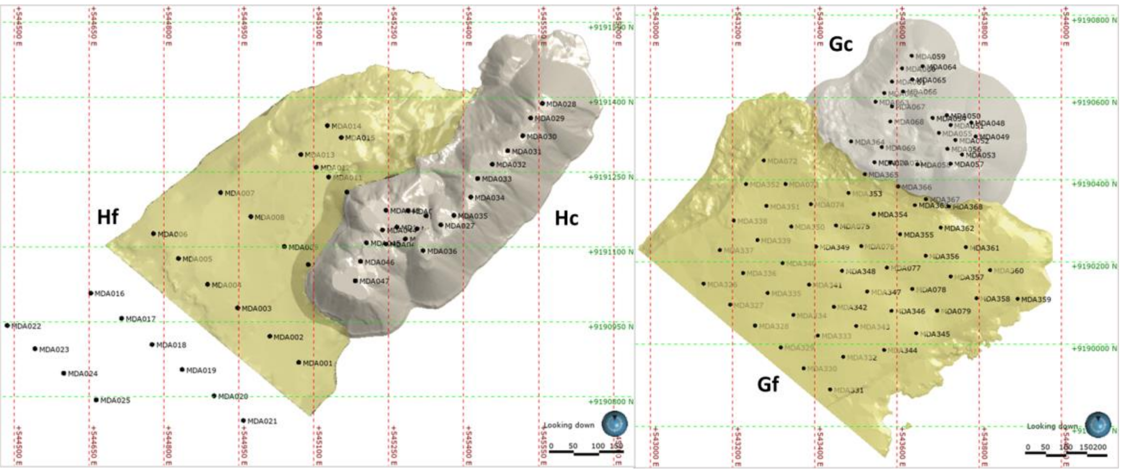
The collar locations for the drilling campaign are presented in Figure 10-1 for the Cc and Ec deposits, Figure 10-2 for the Hc, Hf, Gc and Gf deposits and Figure 10-3 for the Ic and K deposits.

Figure 10-1
Manono Tailings Project drillhole collars for the Cc and Ec deposits



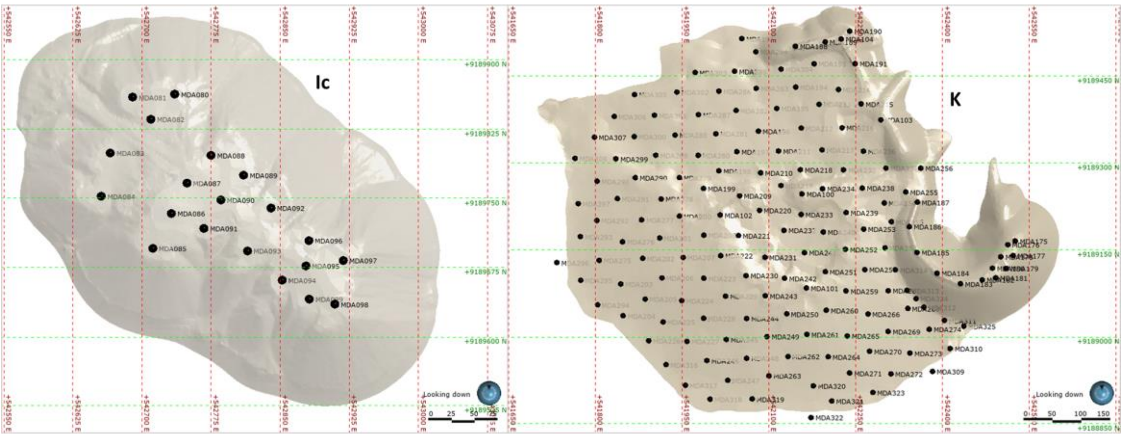
Source: *MSA (2022)*

Figure 10-2
Manono Tailings Project drillhole collars for the Hc, Hf, Gc and Gf deposits



Source: *MSA (2022)*

Figure 10-3
Manono Tailings Project drillhole collars for the Ic and K deposits



Source: *MSA (2022)*

10.1 Drillhole Sample Recovery

The weight of each aircore sample was recorded and used as a proxy to calculate an average sample recovery. On average, each sample weighed between 2.5 kg to 5 kg.

10.2 Collar Surveys

The collar coordinates were surveyed on completion of the hole using a Trimble R4s GNSS (Global Navigation Satellite System) and were captured in the WGS84 UTM35S Zone geodetic system. The Trimble R4s utilises signals from all six GNSS and produces a Real-time Kinematic position (RTK) with a horizontal accuracy of 8 mm and a vertical accuracy of 15 mm (Optron, 2022).

The drillhole collars were marked with a concrete beacon recording relevant details of each hole as shown in Figure 10-4.

Figure 10-4
Concrete plinth over collar MDA050

Source: *Goncalves (2022)*

10.3 Downhole Surveys

All holes were drilled vertically with an approximate average depth of 32 m and a maximum depth of 86 m. Downhole surveying to check hole deviation was deemed not necessary as minimal deviation is expected to occur.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Logging

The geologist logged a wet sieved (+3 mm) portion of between 200 g to 300 g of each 1 m sample interval (Figure 11-1). The sieved sample was transferred to a plastic chip tray prior to detailed logging directly into a Microsoft Excel spreadsheet. Each chip tray contains coarse- and fine-grained material as a representation of the 1 m sampled interval (Figure 11-2).

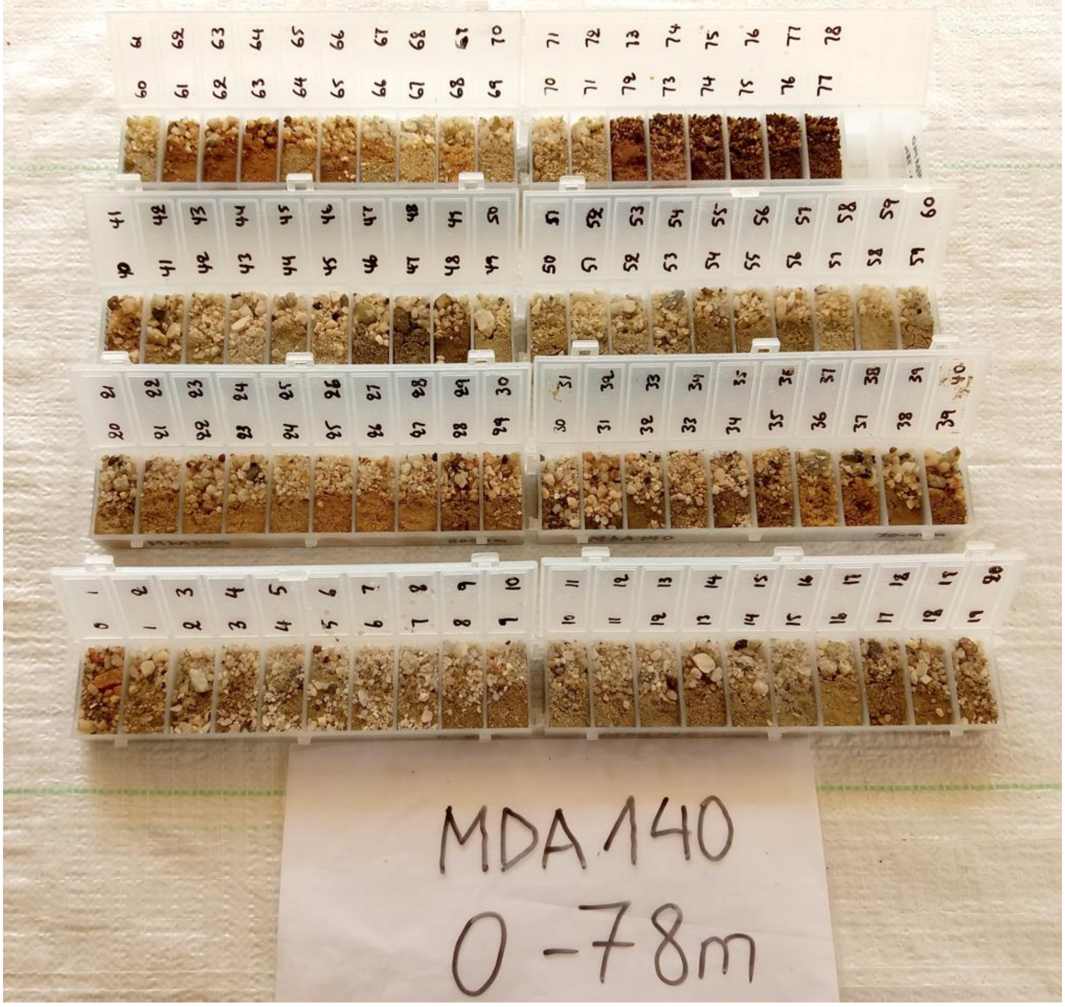
Figure 11-1
Manono Tailings Project geological logging

Source: *Lindhorst (2022)*

The geologist recorded the sample weight, lithology and colour. Any additional grain size, mineralisation and alteration information was generally recorded as a comment.

Once logged, the chip trays were photographed using a digital camera and images are stored on the Tantalex Dropbox™ file hosting service.

Figure 11-2
Manono Tailings Project chip tray photograph example



Source: *Tantalex (2022)*

11.2 Sample Handling

Samples weighing between 2.5 kg and 5 kg were collected at 1 m intervals in large polyweave bags from the rig-mounted cyclone (Figure 11-3).

Figure 11-3
Track mounted aircore rig with mounted cyclone

Samples were transferred into calico bags which are pre-labelled with the drillhole number and the relevant metre interval. Samples were laid out at the drill site in sequential order to ensure all 1 m sample intervals are accounted for and to check that all samples are correctly and clearly labelled. A list of the required QAQC samples to be inserted at regular, predetermined intervals was recorded by the geologist (Lindhorst, 2022).

Samples were collected into larger 50 kg polyweave bags for transport by the Tantalex drivers to the Manono base camp for temporary storage before transportation to the on-site sample preparation facility. The Sample Preparation Facility Manager was responsible for organising the transport of the samples from the Manono base camp to the preparation facility (Lindhorst, 2022).

11.3 Sample Compositing

The 1 m sample intervals were prepared into 3 m composite samples. Each sample was passed through a Jones Riffle Splitter to halve the initial 1 m samples. The three half-samples were combined into a single composite sample and the weight was recorded. The reject half sample of each initial 1 m sample was returned to the original bag and retained for future reference (Lindhorst, 2022).

In the early stages of the drilling campaign, sampling was carried out at 1 m intervals, however, soon afterwards this was changed to 3 m as described above. From a total of 3271 samples, 1126 were taken at 1 m intervals, 90 samples were taken as 2 m composites and 2 samples were taken as 4 m composites (in both cases at the end of a drillhole), while the remainder of the samples were taken at 3 m intervals.

11.4 Sample Preparation

A geologist was responsible for ensuring that the Sample Preparation Facility Manager received the QAQC sample list for insertion of the required QAQC samples. The Tantalex Preparation Facility utilised one of three different protocols for sample preparation during the 2021-2022 drilling program. Sampling Protocol One (the original protocol) was utilised until the breakdown of the on-site sample pulveriser, after which Sampling Protocol Two was implemented. Sampling Protocol Three was further implemented after the breakdown of the on-site roll crusher (Lindhorst, 2022).

11.4.1 Sample Preparation Protocol One

- Samples were weighed and the weights recorded on paper for later digitisation into the 'Sample Preparation Data' Microsoft Excel spreadsheet by the Sample Preparation Facility Manager.
- Sample material was transferred from the calico sample bags to 40 cm by 60 cm sample drying trays. The sample ID was recorded onto a cardboard tag which was placed into the drying tray. The trays were placed onto a metal plate oven and heated for approximately 10 to 20 minutes by a wood burning fire (Figure 11-4).

Figure 11-4
Wood fire ovens and drying pans used to dry samples

- Once dry, samples were allowed to cool for approximately 10 minutes before being transferred back to the original calico sample bag, together with the sample tag.
- The dry samples were weighed and the weights recorded on paper for later digitisation into the 'Sample Preparation Data' Microsoft Excel spreadsheet.
- Samples were screened using a 5 mm sieve. The +5 mm size fraction was weighed and weights recorded for metallurgical purposes, after which it was added back to the sample.
- The entire sample was passed through a roll crusher to reduce the size to 2 mm.
- The crushed sample was passed through a Jones Riffle Splitter in order to obtain a 200 g sample.
- The 200 g sample was sub-sampled into a 100 g sample using the cone and quartering technique. The 200 g sample was homogenised by transfer between containers for three passes. The sample was then formed into a cone and flattened. The two 50 g opposite quarters were selected to make up the 100 g sample.
- The 100 g sample was pulverised to more than 80% finer than 75 µm.
- The pulverised samples were packaged into boxes with the inserted QAQC samples for transport to Lubumbashi.
- The 100 g reject sample was retained for future reference.
- A sample submission form was created in Lubumbashi for inclusion with the samples that were sent to ALS, Ireland by via FEDEX courier service.
- Sample dispatch details were entered into the Assay Register spreadsheet.

11.4.2 Sample Preparation Protocol Two

After the breakdown of the on-site pulveriser, samples were initially prepared as per Protocol One and crushed to reduce the sample size to 2 mm, thereafter:

- The entire 200 g sample was transferred into pulp paper sampling packet for transport to the COPROCO warehouse in Lubumbashi.
- A sample submission form for the ALS affiliated Congolese Analytical Laboratory SARL (COAL) Laboratory was created in Lubumbashi after sample checks.
- Samples were transported to the COAL Laboratory located at the SOMIKA mining site.
- The entire sample was pulverised using a LM3 ring mill to more than 85% finer than 75 µm.
- A 100 g sub-sample was transferred to a labelled, pulp paper sampling packet.
- The 100 g reject sample was placed into a labelled, zip-lock plastic bag.
- The 100 g pulp samples were packed by Tantalex into labelled ALS sample boxes for transport by FEDEX courier services to either ALS, Ireland or to SGS, Randfontein, South Africa. The reject samples are stored in boxes at the COPROCO locked warehouse facility.
- At ALS, Ireland, samples were pulverised to more than 85% finer than 75 µm (technique code PUL-31).

- At SGS, South Africa, samples were pulverised to more than 85% finer than 75 µm.
- Reject pulps are stored in a locked room at the COPROCO Mineral Processing Warehouse located at 21 Nyanza Lubumbashi.
- Sample dispatch details were entered into the Assay Register spreadsheet.

11.4.3 Sample Preparation Protocol Three

- After the breakdown of the on-site crusher, samples were weighed, dried and screened as per Protocol One, thereafter the entire 400 g screened was transported to the COAL Laboratory Lubumbashi;
- The entire sample was crushed at the laboratory to a 2 mm size fraction using a benchtop jaw crusher.
- Reject preparation samples are stored at the COAL Laboratory for future retrieval.

Samples were couriered to either ALS, Ireland or SGS, Randfontein, as per Protocol One and Two.

11.5 Sample Analyses

The sub-samples were analysed at ALS, Ireland, (Irish National Accreditation Board (INAB) accreditation number 173T, ISO 17025) or SGS, South Africa (SANAS accreditation number T0265, ISO 17025).

At ALS, Ireland, samples were analysed using the following techniques:

- Super Trace Na_2O_2 by ICP-MS (technique code ME-MS89L), for Ag ppm, As ppm, Ba ppm, Be ppm, Bi ppm, Ca%, Cd ppm, Ce ppm, Ce ppm, Co ppm, Cs ppm, Cu ppm, Dy ppm, Er ppm, Eu ppm, Fe%, Ga ppm, Gd ppm, Ge ppm, Ho ppm, In ppm, K%, La ppm, Li ppm, Lu ppm, Mg%, Mn ppm, Mo ppm, Nb ppm, Nd ppm, Ni ppm, Pb ppm, Pr ppm, Rb ppm, Re ppm, Sb ppm, Se ppm, Sn ppm, Sr ppm, Ta ppm, Tb ppm, Te ppm, Th ppm, Ti%, Tl ppm, Tm ppm U ppm, V ppm, W ppm, Y ppm, Yb ppm and Zn ppm;
- Na_2O_2 fusion and ICP-AES for high-grades (technique code ME-ICP82b) for Li%
- Lithium Borate Fusion and ICP-MS (technique code ME-MS81) for Ba ppm, Ce ppm, Cr ppm, Cs ppm, Dy ppm, Er ppm, Eu ppm, Ga ppm, Gd ppm, Hf ppm, Ho ppm, La ppm, Lu ppm, Nb ppm, Nd ppm, Pr ppm, Rb ppm, Sm ppm, Sn ppm, Sr ppm, Ta ppm, Tb ppm, Th ppm, Tm ppm, U ppm, V ppm, V ppm, W ppm, Y ppm Yb ppm, Zr ppm;

At SGS, South Africa, samples were analysed using the following technique:

- Na_2O_2 Fusion with HNO_3 acid digest, combined ICP-OES and ICP-MS (technique code GE_IMS90A50) for Ag ppm, Al%, As ppm, Ba ppm, Be ppm, Bi ppm, Ca%, Cd ppm, Ce ppm, Co ppm, Cr ppm, Cs ppm, Cu ppm, Dy ppm, Er ppm, Eu ppm, Fe%, Ga ppm, Gd ppm, Ge ppm, Ho ppm, In ppm, K%, La ppm, Li ppm, Lu ppm, Mg%, Mn ppm, Mo ppm, Nb ppm, Nd ppm, Ni ppm, P%, Pb ppm, Pr ppm, Rb ppm, S%, Sb ppm, Si%, Sm ppm, Sn ppm, Sr ppm, Ta ppm, Tb ppm, Te ppm, Th ppm, Ti%, Tl ppm, Tm ppm, U ppm, V ppm, W ppm, Y ppm, Yb ppm and Zn ppm.

11.6 Sampling Governance, Storage and Security

Geological samples are stored in the ten-sample plastic chip trays in sequential order in the sample warehouse on-site for future retrieval (Figure 11-5).

Figure 11-5
Manono Tailings Project chip sample storage

Source: *Lindhorst (2022)*

The reject half sample of each original 1 m sample interval was returned to the original bag and retained for future reference at the on-site preparation facility. All rejects from the 3 m composite samples are also stored at the on-site preparation facility (Figure 11-6).

Figure 11-6
Sample storage facilities and polyeave bags containing samples

The -2 mm crushed rejects prepared on-site are stored at the on-site preparation facility. All 100 g sample and pulp rejects from the Lubumbashi COAL Laboratory are stored at the COPROCO mineral processing facility in a locked storage room at 2 Nyanza Ave, Kampemba, Lubumbashi DRC. The sample rejects at the Manono site and in Lubumbashi will be kept indefinitely.

Sample rejects processed at ALS, Ireland, have been disposed of. Sample rejects processed at SGS, South Africa, are currently still available at the laboratory and will be disposed of on completion of the project.

11.7 Quality Assurance and Quality Control

Appropriate quality assurance and quality control (QAQC) monitoring is a critical aspect of the sampling and assaying process in any exploration programme. Monitoring the quality of laboratory analyses is fundamental to ensuring the highest degree of confidence in the analytical data and providing the necessary confidence to make informed decisions when interpreting all the available information. Quality assurance may be defined as information collected to demonstrate that the data used further in the Project are valid. Quality control (QC) comprises procedures designed to maintain a desired level of quality in the assay database. Effectively applied, QC leads to identification and corrections of errors or changes in procedures that improve overall data quality. Appropriate documentation of QC measures and regular scrutiny of quality control data are important as a safeguard and form the basis for the quality assurance programme implemented during exploration.

In order to ensure quality standards are met and maintained, planning and implementation of a range of external quality control measures is required. Such measures are essential for minimizing uncertainty and improving the integrity of the assay database and are aimed to provide:

- An integrity check on the reliability of the data.
- Quantification of accuracy and precision.
- Confidence in the sample and assay database; and
- The necessary documentation to support database validation.

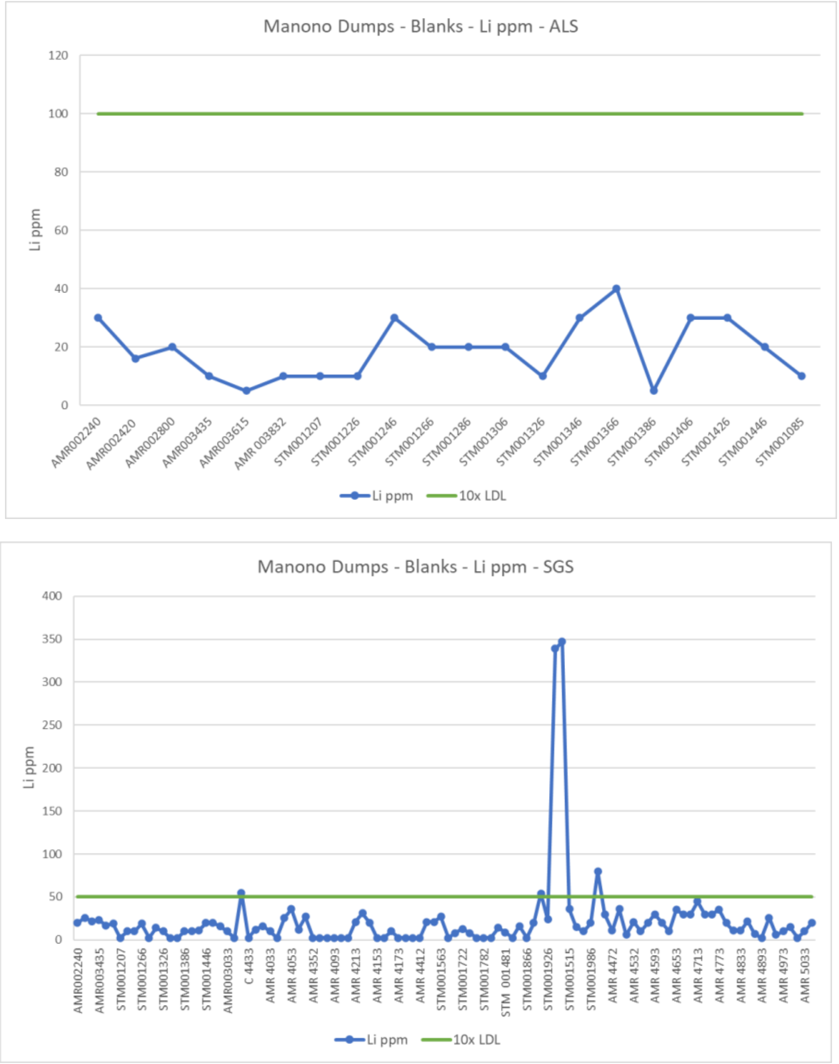
The Manono QAQC programme reserved three in every twenty samples as QC samples (resulting in approximately 16% QAQC samples), usually one duplicate, one Certified Reference Material (CRM) and one certified blank sample.

11.7.1 Blank Samples

Certified blank sample material was purchased from African Mineral Standards (AMIS0439), consisting of silica chips. Blank samples were inserted at a frequency rate of approximately one in every twenty samples, although a lower, irregular frequency was used in the early stages of the exploration programme. A total of 20 blank samples were analysed at ALS and 104 at SGS.

The blank samples were subjected to the same sample preparation and analytical processes and were within the sample stream as the routine field samples. Graphical representations of the blank sample results for lithium are shown in Figure 11-7 for ALS and SGS. The blank analyses for ALS suggest low levels of contamination, with assays reporting well below the acceptance limit of 100 ppm (ten times lower detection limit (LDL)). The SGS laboratory, which has a lower detection limit of 5 ppm Li, suggest low levels of contamination well below the 50 ppm acceptance limit (ten times the LDL). However, elevated values were returned for two samples, AMR4713 and AMR4733, with reported lithium grades of approximately 350 ppm. Given that these failures are an isolated event and the degree of potential contamination is significantly below the lithium cut-off grade considered for the deposit, they will not result in a material impact to the Mineral Resource estimate.

Figure 11-7
2022 Li ppm in blank analyses (ALS and SGS)



Source: *MSA (2022)*

11.7.2 Certified Reference Material (CRM) Samples

CRM samples were purchased from AMIS and OREAS for insertion into the sampling stream at an approximate rate of 1 in every 20 samples. During the early stages of the drilling campaign, a lower rate of insertion was used which varied from 1 in 25 to 1 in 60 samples. Nine different CRM samples were utilised with certified grades ranging from 1603 Li ppm to 7268 Li ppm, 43 Ta ppm to 740 Ta ppm and 85 Sn ppm to 6061 Sn ppm as presented in Table 11-1.

Table 11-1
Manono Project Tailings certified CRM details

CRM Name	Number of CRM samples	Li ppm		Ta ppm		Sn ppm	
		Certified Value	Two Standard Deviations	Certified Value	Two Standard Deviations	Certified Value	Two Standard Deviations
AMIS0338	29	1707	318	43	10	35.6*	7*
AMIS0341	28	5041	222	740	62	-	-
AMIS0342	1	1603	199	169	17	-	-
AMIS0343	33	7150	1525	178	15	85	9
AMIS0355**	23	7268	836	214	42	470	38
AMIS0629	29	2153	251	103	5	1662	104
AMIS0656	5	30700	3200	179	26	573	44
OREAS 140	6	-	-	-	-	1755	122
OREAS 141	5	-	-	-	-	6061	339

***Notes**: * indicates provisional values (not certified values)*
*** indicates ICP analysis*

Two uncertified standards, WJL017 and WJL016, from Wheale Jane Laboratory in Cornwall were inserted into the sampling stream early during the resource drilling campaign, these were used as a temporary measure until certified CRMs were obtained. A total of 6 WJL016 and 5 WJL017 standard samples were used. All eleven were used to analyse for lithium while only nine were analysed for tin and tantalum. Due to their lack of certification, WJL standards were not used in the QAQC analyses.

A summary of the CRM failure rates, percentage of failures and average bias in terms of percentages and absolute differences are shown in Table 11-2. The Li grade of AMIS0656 is above the laboratory detection limit for the method used and no over limit analysis were requested for these five samples. This CRM was used as a check for tin and tantalum assay accuracy.

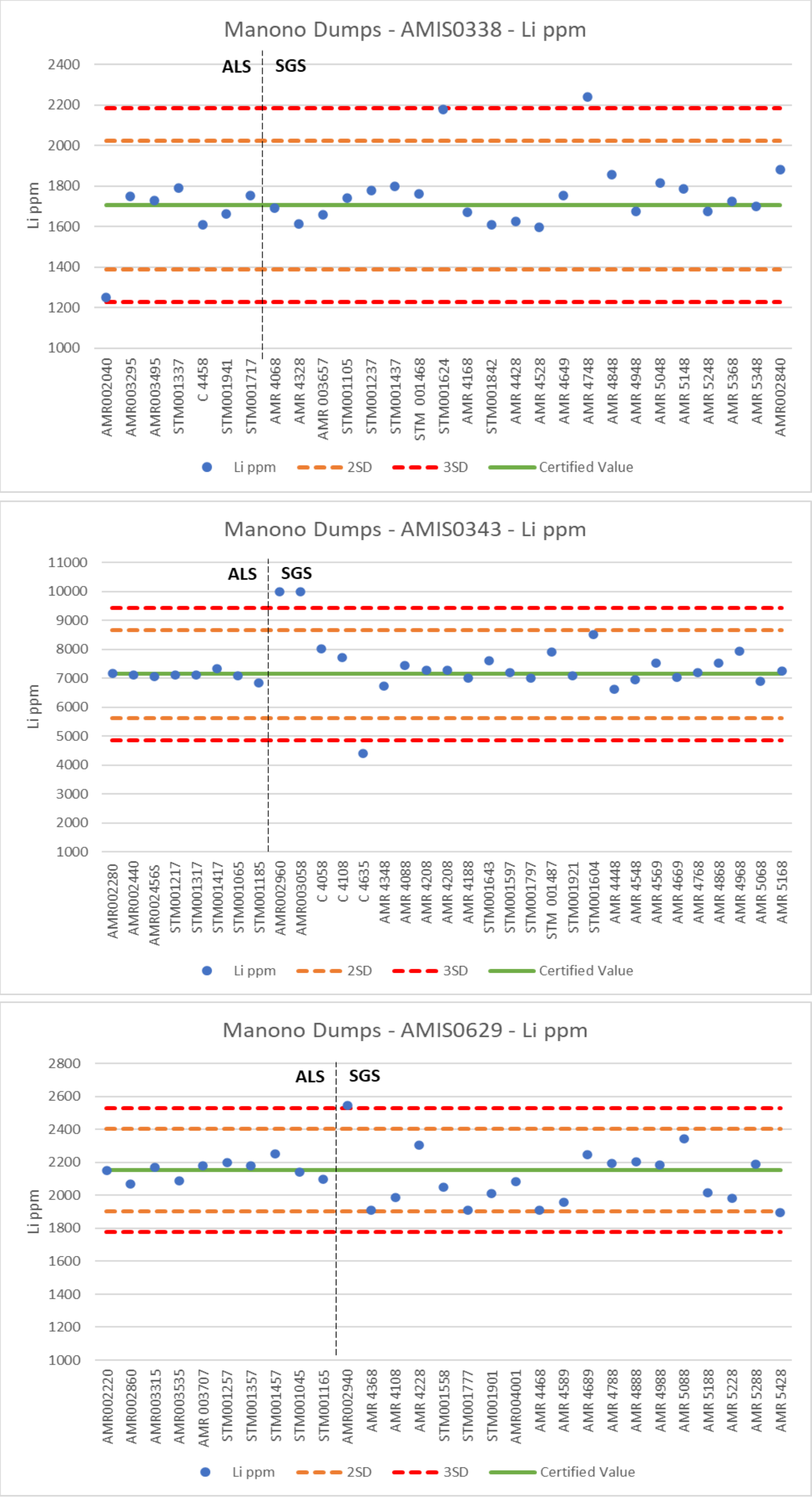
Expressed as percentage terms, there is very low bias between the analyses and the certified values for lithium, with AMIS0342 reporting 11% difference, however this value is based on a single sample. In absolute terms, AMIS0355 shows the largest differences, at 290 ppm while AMIS0338 and AMIS0629 have similar absolute differences of 30 ppm and 33 ppm respectively.

Table 11-2
Summary of CRM failure rates and bias

CRM Name	Certified Value Li ppm	Number of CRM samples	Failure Rate		Differences	
			Number of Samples	Percentage of Failures	Average Bias	Absolute Difference (ppm)
AMIS0338	1 707	29	3	10%	2%	30
AMIS0341	5 041	28	4	14%	-2%	103
AMIS0342	1 603	1	0	0%	11%	181
AMIS0343	7 150	33	3	9%	3%	216
AMIS0355**	7 268	23	2	9%	4%	290
AMIS0629	2 153	29	2	7%	-2%	33
AMIS0656	30 700	5	-	-	-	-

Charts for a representative selection of CRMs for lithium are presented in Figure 11-8. All three CRMs indicate that ALS has acceptable accuracy, with most reported values well within the acceptable limits of the certified value. Only one CRM assay by ALS failed (AMIS 0338), while two failures were noted for SGS. Three of the SGS failures are for AMIS0343, where two values reported well above the limit of detection (>10000 ppm; no over limit analyses were carried out) and one below the lower acceptance limit. The other three failures were minor, being just outside the acceptance limits.

Figure 11-8
Accuracy of Li in CRMs AMIS0343, AMIS0629 and AMIS0338

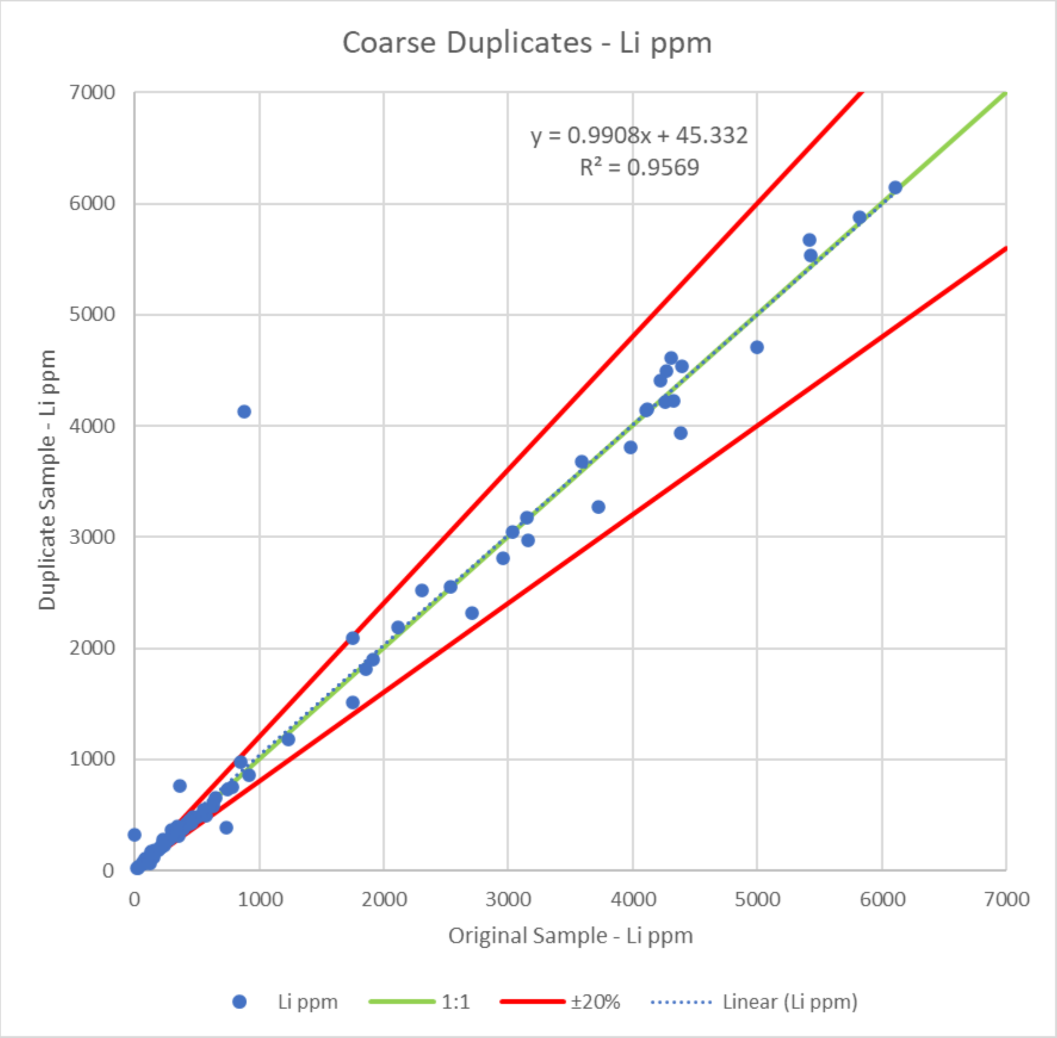


Source: *MSA (2022)*

11.7.3 Duplicate Samples

A total of 108 coarse duplicates were submitted by Tantalex for analyses, thirteen of these were submitted to ALS and the remainder to SGS. A comparison between the original and duplicate assays (Figure 11-9) for lithium shows good precision. This is corroborated by 90% of the samples having a half absolute relative difference (HARD) of less than 10% and 94% of the samples with a HARD of less than 20%. The mean grade of the original samples is 1 404 ppm Li compared to 1440 ppm for the duplicates, the discrepancy in the means can be accounted for a single anomalous sample that showed high bias to the duplicate sample (884 ppm for the original vs. 4130 ppm for the duplicate). Excluding this anomalous sample pair results in comparable mean grades between the two legs and similar grade distributions.

Figure 11-9
Precision of lithium in 108 coarse duplicate pairs



Source: *MSA (2022)*

11.7.4 Second Laboratory Check Assays

Tantalex selected 27 samples assayed by ALS for check assay analysis by SGS. Although there is good correlation for the lithium grades, there is a noticeable bias towards the SGS results (Figure 11-10).

Figure 11-10
ALS versus SGS – Li ppm

The mean of the ALS and SGS assays are comparable, with only a 7% difference and an absolute difference of 47.9 ppm. The inter-lab precision is poor with 56% of the samples having a HARD of less than 10% and 89% of the samples a HARD of 20% as shown in Table 11-3.

Table 11-3
Summary of sample repeatability comparing ALS against SGS

Number of Samples	Mean ALS	Mean SGS	Percentage Difference	Absolute Difference	HARD	
					<10%	<20%
27	701.5	749.4	7%	47.9	56 %	89 %

11.8 Density Measurements

In 2022, a sampling program was conducted by Tantalex to support a dry bulk density calculation for use in the Mineral Resource estimate. Samples were collected from 64 sample locations on five coarse tailings dumps (and associated fine tailings terraces), namely "G", "H", "I", "K" and "C" dumps. Lithologies sampled included pegmatite, laterite and clay (Kinyaga, 2022).

Density samples were collected by driving a steel cylinder into compacted ground with the assistance of an excavator. The steel cylinder was dug out with shovels to prevent any loss of the contained compacted material (Figure 11-11). The cylinder contents were transferred to a sampling bag and the weight (wet and dry) was recorded. Density was calculated using the formula:

$$Density = Weight_{(dry)} \ / \ Volume_{(cylinder)}$$

Two samples, approximately 3 m to 4 m apart, were averaged to calculate the density for one excavation.

Figure 11-11
Bulk density sampling

***Source**: Adapted from Kinyaga (2022)*

The results of the dry bulk sampling program indicate different densities are applicable to different lithologies. Average density was assigned in the Mineral Resource estimate for each deposit based on the density data belonging to that particular tailings dump in order to better reflect the local variability between deposits. A summary of the density data is presented in Table 14-9.

Table 11-4
Density ranges and averages per material type

Material Type	Number of Samples	Minimum	Maximum	Mean
Laterite	22	1.42	1.77	1.65
Clay	6	1.13	1.45	1.29
Metasediment	4	1.52	1.68	1.61
Pegmatite	86	1.35	1.78	1.57
Pegmatite Sand	8	1.42	1.56	1.49
Pegmatite Clay	2	1.44	1.56	1.56

11.9 Adequacy of Drilling Procedures, Sample Preparation, and Analytical Procedures

All aspects of the sample handling, logging, bagging, labelling and sample submission are considered reasonable and acceptable for use in a Mineral Resource estimate. MSA recommends that Tantalex develop in-house Standard Operating Procedures (SOPs) for any future drilling programs covering geological logging, drilling, sampling, QAQC, sample storage and data management.

MSA has reviewed the QAQC data from the 2021-2022 drilling program and is of the opinion that the lithium data is of acceptable quality for use in a Mineral Resource estimate.

Issues related to the precision of the tin and tantalum assays were identified which led to an internal investigation by SGS. This resulted in the need for all the samples to be re-assayed for tin and tantalum. This work is currently ongoing and the results will be incorporated into the Mineral Resource once completed.

12 DATA VERIFICATION

A “Current Personal Inspection” was conducted by the Qualified Person for the Mineral Resource on the 29th and 30th of April 2022.

- No drilling activities were taking place at the time of the site visit. The first phase of the drilling campaign ended in November 2021, with the second phase beginning after the site visit took place, on the 15 June 2022.
- An inspection of K, Gc, Hf and Hc deposits was undertaken. The tailings deposits were observed to align with the topographical surveys generated by Tantalex.
- The collars of 16 Tantalex drillholes were located and the collar coordinates were taken with a handheld GPS. The final surveys of the collar positions correlated reasonably well with the measurements taken with the handheld GPS within the acceptable limit for handheld GPS measurements (Table 12-1).

Table 12-1

List of drillhole collars checked and comparison between surveyed coordinates and handheld GPS measurements

Drillhole ID	Collar Coordinates		GPS Coordinates		Difference (m)	
	X	Y	X	Y	X	Y
MDA001	545070.0	9190869.9	545073.0	9190864.5	-3.0	5.4
MDA002	545012.0	9190921.9	545015.3	9190916.1	-3.3	5.8
MDA048	543780.9	9190539.1	543784.3	9190534.5	-3.4	4.5
MDA050	543721.3	9190556.7	543722.9	9190551.7	-1.6	5.0
MDA051	543730.6	9190533.1	543730.3	9190528.5	0.4	4.5
MDA054	543686.8	9190550.3	543687.4	9190545.5	-0.7	4.8
MDA059	543636.0	9190701.6	543635.9	9190697.4	0.1	4.2
MDA061	543587.8	9190638.4	543589.6	9190634.1	-1.9	4.3
MDA062	543569.1	9190610.9	543570.1	9190606.0	-1.0	4.8
MDA067	543587.7	9190578.4	543591.4	9190574.6	-3.7	3.8
MDA068	543584.0	9190541.6	543586.6	9190538.5	-2.6	3.1
MDA100	542157.1	9189247.0	542157.1	9189242.0	0.1	5.0
MDA101	542164.9	9189084.7	542163.5	9189080.0	1.4	4.7
MDA102	542015.9	9189210.7	542016.9	9189205.6	-0.9	5.1
MDA103	542293.4	9189374.6	542296.1	9189369.3	-2.7	5.3
MDA104	542225.2	9189514.1	542226.2	9189510.2	-1.0	3.8

- The original paper logs were inspected. These are in good condition and stored in a secure location in Manono.
- The chip trays for a selection of the completed drillholes were inspected, including the five drillholes that were available for the K dump, namely MDA100, MDA101, MDA102, MDA103 and MDA104. The logging was found to be an accurate representation of the material contained in the chip trays. The observed mineralisation was compared with the assay data

available at the time and some high lithium grades could be correlated with identifiable spodumene mineralisation.

- The logging and sampling procedures were discussed with Tantalex geologists on site and these were found to be appropriate for the purpose of evaluating the Mineral Resource.

12.1 Check Sampling

As part of a data verification exercise, 16 samples from the K dump were selected from the available reject samples stored at the sample preparation facility and re-submitted to SGS Johannesburg for analysis. The samples were sealed by the QP in order to ensure that these were not tampered with. Confirmation of the intact, sealed samples was received by Mr. Jhoel Mbuya of COAL on the 04th of June 2022 (Figure 12-1).

Figure 12-1
Sealed check samples from Manono at COAL

Source: *Mbuya (2022)*

The samples underwent the same sample preparation and analytical procedure at SGS South Africa as the original Tantalex samples.

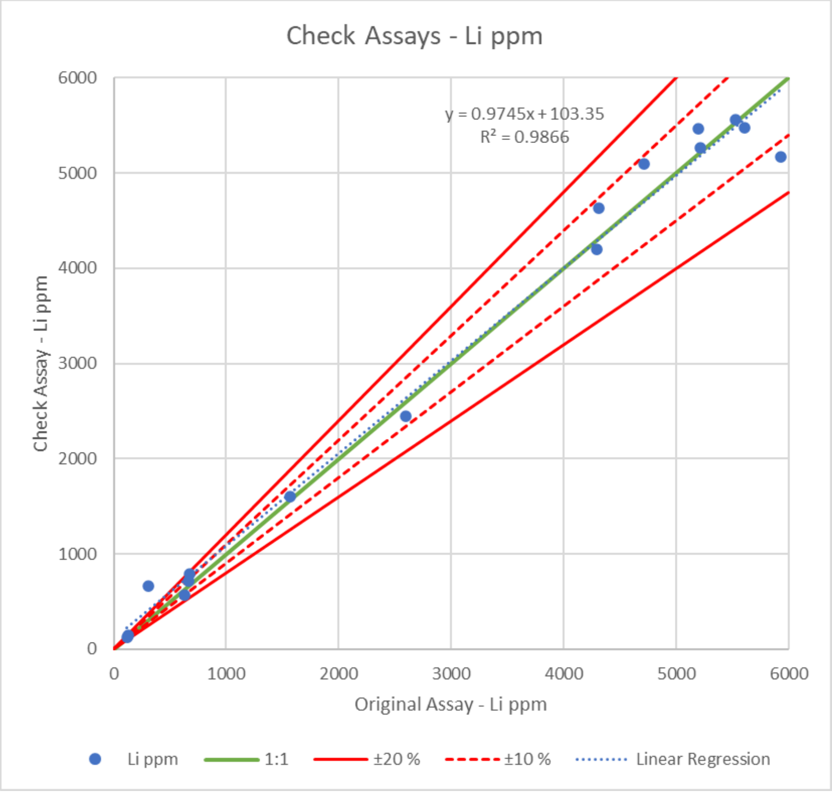
A statistical comparison between the original and check samples for the three main attributes is shown in Table 12-2. The mean lithium grades of the original and check assays are consistent, with a 0.9% difference between the mean values of the two sets of data and a similar coefficient of variation (CV). Only one sample pair was outside the 20% limits and therefore the check assays confirm the original lithium assays.

Table 12-2
Comparison of original vs. check assays

Attribute	Original Assay		Check Assay		Percentage Difference	Percentage Outside 20% Limit
	Mean	CV	Mean	CV		
Li ppm	2967	0.76	2995	0.73	0.9%	6%

Scattergrams were used to compare the check assays with the original assays. Figure 12-2 illustrates the high correlation and minimum bias between the two sets of lithium assay data.

Figure 12-2
Scattergram for lithium – check vs. original samples



12.1.1 Qualified Persons opinion on the check assaying

The check samples for lithium have confirmed the original sample analyses. Similar precision issues were identified for the tin and tantalum assays, relating to the poor replicability of the duplicate samples. A re-analyses programme is currently ongoing for these elements. Only once acceptable correlations can be obtained will tin and tantalum be included in a Mineral Resource estimate, as at this stage only lithium assays have been demonstrated to be acceptable.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

The first metallurgical testwork on the Manono Tailings Project was carried out in 2022 using bulk samples obtained for metallurgical testwork purposes from C-dump, G-dump, and K-dump. The samples were subjected to heavy liquid separation (“HLS”) test at CoreMet Mineral Processing (“CoreMet”) in Pretoria, South Africa.

The purposes of the phase 1 testwork were:

- Establish the mineralogical characterisation of the dump material and determine if there were any significant variabilities across the different dumps.
- Provide information of all the valuable minerals contained in the tailings dumps and develop adequate beneficiation methods.

The phase 2 testwork currently underway includes the following:

- Crushability and liberation testwork,
- Dense Media Separation testwork (“DMS”),
- Reflux Classifier testwork (“RC”),
- Gravity separation Testwork,
- Flotation testwork, and
- Slimes beneficiation testwork.

Results from the phase 2 testwork will be available Q2 2023.

13.2 Testwork Sample Selection and Feed Grades

To conduct the mineral characterisation testwork, bulk sample locations were selected based on the assay results from the aircore and cobra drillholes shown in Table 13-1. A total sample of 9,015 kg was collected of which 7,964 kg of sample was shipped and received by CoreMet in South Africa. The bulk samples are thought to be representative of the type and style of mineralisation of the deposit.

Table 13-1
Bulk sample locations and weights

Prospect	Hole ID Position Sample	Lithology	Weight (kg)	+25mm (kg)	-25 mm (kg)	% +25mm	% -25mm	Sample +25mm (kg)	Sample -25mm (kg)	Total Sample (kg)
K-dump	MDC047	Pegmatite	4,860	0	4,860	0	100	0	1,002	1,002
K-dump	MDC056	Pegmatite	4,681	0	4,681	0	100	0	1,008	1,008
K-dump	MDC064	Pegmatite	4,860	0	4,860	0	100	0	1,008	1,008
G-dump	MDA048	Pegmatite	9,952	843	9,109	8	92	127	1,373	1,500
G-dump	MDA059	Pegmatite	3,940	94	3,846	2	98	36	1,464	1,500
C-dump	MDA150	Pegmatite	5,067	104	4,963	2	98	31	1,469	1,499
C-dump	MDA158	Pegmatite	6,317	1,388	4,929	22	78	329	1,170	1,499
		Total	**39,677**	**2,430**	**37,247**	**6**	**94**	**522**	**8,493**	**9,015**

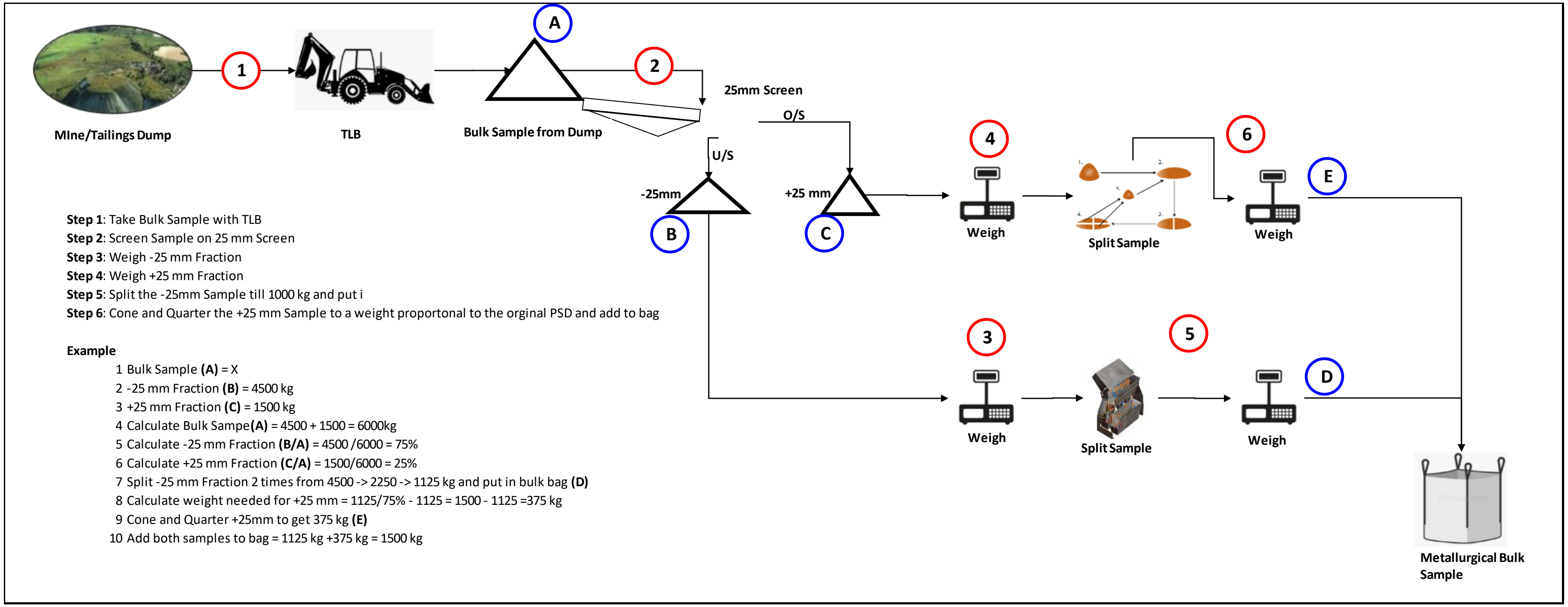
The lithium, tin and tantalum feed grades associated with each dump are tabulated in Table 13-2. Tin and tantalum grades across the dumps are constant while lithium grades are more variable.

Table 13-2
Feed Grades

Dump	Li_2O %	Sn ppm	Ta ppm
C-Dump	0.33	443.35	38.16
G-Dump	0.61	464.42	32.17
K-Dump	1.05	485.55	34.08

The philosophy of the bulk sampling process is illustrated in Figure 13-1.

Figure 13-1
Bulk Sampling Process



Step 1: Take Bulk Sample with TLB
Step 2: Screen Sample on 25 mm Screen
Step 3: Weigh -25 mm Fraction
Step 4: Weigh +25 mm Fraction
Step 5: Split the -25mm Sample till 1000 kg and put i
Step 6: Cone and Quarter the +25 mm Sample to a weight proportonal to the orginal PSD and add to bag

Example

1 Bulk Sample **(A)** = X
2 -25 mm Fraction **(B)** = 4500 kg
3 +25 mm Fraction **(C)** = 1500 kg
4 Calculate Bulk Sampe**(A)** = 4500 + 1500 = 6000kg
5 Calculate -25 mm Fraction **(B/A)** = 4500 /6000 = 75%
6 Calculate +25 mm Fraction **(C/A)** = 1500/6000 = 25%
7 Split -25 mm Fraction 2 times from 4500 -> 2250 -> 1125 kg and put in bulk bag **(D)**
8 Calculate weight needed for +25 mm = 1125/75% - 1125 = 1500 - 1125 =375 kg
9 Cone and Quarter +25mm to get 375 kg **(E)**
10 Add both samples to bag = 1125 kg +375 kg = 1500 kg

13.3 Mineralogical Testwork

Prepared samples from each dump were sent for chemical analysis by Inductively Coupled Plasma ("ICP") and X-Ray Diffraction ("XRD") to understand the composition of each dump as well as the distribution of target minerals in the various dumps.

The mineralogical analysis for the feed samples is tabulated in Table 13-3. The mineralogical analysis of the three dumps with associated HLS testwork indicated the following:

- Nearly all the lithium is contained in spodumene,
- Cassiterite is the only tin bearing mineral,
- The majority of tantalum occurs as tantalite with low concentrations of tapiolite.
- The main gangue minerals identified were quartz (25-37%), albite (18-38%), Microline (12-21%) and muscovite (4-15%).

Table 13-3
Feed Sample Mineralogical Analysis

Mineral	Empirical Formula	Density (t/m^3)	C-Dump	G-Dump	K-Dump
Albite	$NaAlSi_3O_8$	2.62	18.24	37.49	37.95
Clinochlore	$(Mg,Fe^{2+})_5Al(Si_3\ Al)O_{10}(OH)_8$	2.65	2.79	0.00	1.07
Kaolinite	$Al_2Si_2O_5(OH)_4$	2.60	0.00	0.00	0.00
Magnetite	Fe_3O_4	5.15	2.52	3.29	1.35
Microline	$K(AlSi_3O_8)$	2.57	21.06	11.98	13.91
Muscovite	$KAl_2(Si_3Al)O_{10}(OH,F)2$	2.80	14.60	3.89	7.32
Quartz	SiO_2	2.62	36.94	35.80	25.56
Spodumene	$LiAlSi_2O_6$	3.15	3.83	7.53	12.85
Total			**100**	**100**	**100**

13.4 Beneficiation Testwork

Particle size analysis ("PSD") and heavy liquid separation ("HLS") testwork were conducted to establish that the lithium, tin, and tantalum can be extracted from the dumps.

The HLS tests were performed over four size fractions, -5 mm +1.2 mm, -1.2 mm +0.6 mm, -0.6 mm +250 µm and -250 µm +45 µm. The +5 mm fraction was not tested during this phase of testwork. The heavy liquid separation testwork was performed over three densities which included 2.95, 3.20 and 3.50 t/m^3. Each density produced a float and sink stream that was subject to mineralogical and elemental analysis to determine recoveries and grades.

The as received bulk samples were crushed to 100% passing 15mm and screened at 5mm. Figure 2-1 shows that K-dump has very limited +5mm particles which will limit crushing requirements. C-dump and G – dump have a similar PSD distribution with about 30% of the material subject to further crushing if it proves to be economical.

Figure 13-2
Particle size distirbution

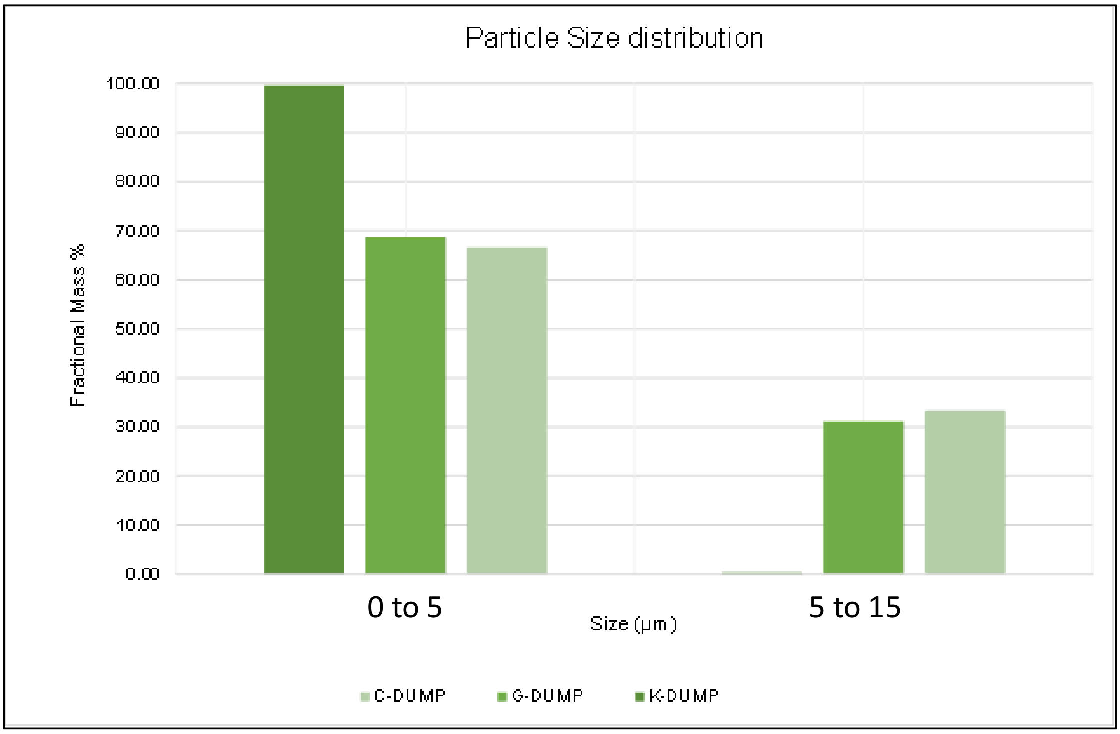
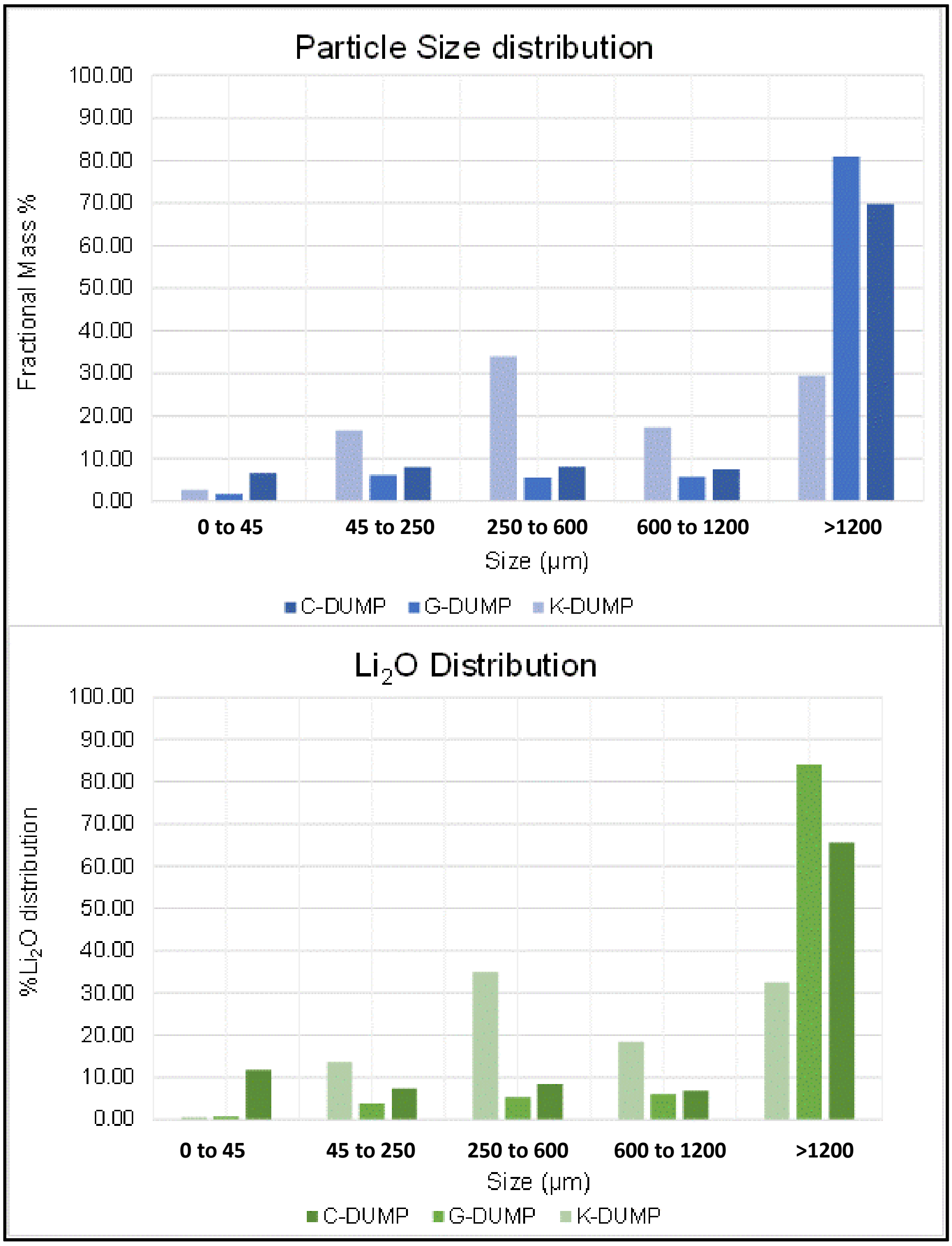


Figure 13-3 shows the PSD and lithium distribution across the dumps that were subjected to the HLS testwork. It can be concluded that lithium is evenly distributed across the different size range for K-dump while it is concentrated in the -5 mm +1.2 mm fraction for C-dump and G-dump. This means that most conventional mineral processing techniques can be utilised to process the coarse fraction (+0.5 mm). At size fraction less than 0.5 mm conventional beneficiation methods have inferior efficiencies and more site specific methods will have to be investigated to optimise the recovery in the fine fraction.

Figure 13-3
HLS feed PSD and Distirbution



A summary of the HLS results is available in Table 4. The HLS test produced concentrate grades of 6.5% Li_2O spodumene concentrate at overall recoveries across the size range of 47% and 63% for G-dump and K-dump respectively. The testwork did not produce a SC6 product from the C-dump, this requiring further investigation. These results are for all the dump material with a PSD smaller than 5 mm.

The lithium recoveries increased with size fraction while the tin and tantalum required further liberation to improve recoveries.

Table 13-4
HLS Summary Results

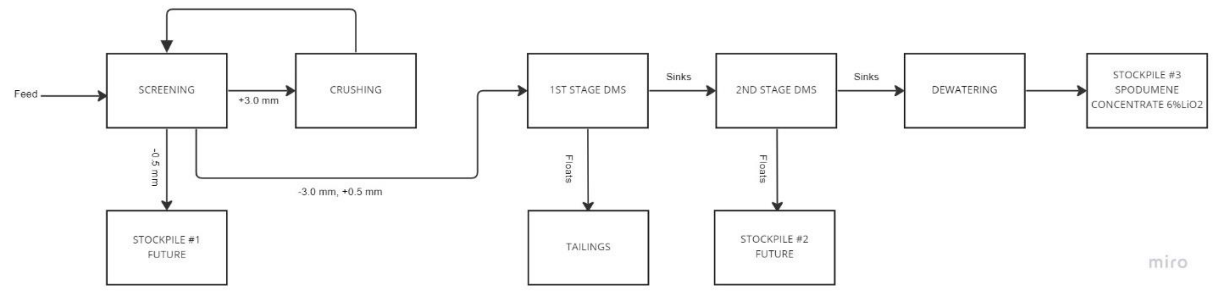
Element	Item	Unit	C-Dump	G-Dump	K-Dump
Li_2O	Head Grade	%	0.33	0.61	1.05
	Recovery	%	28	47	63
	Concentrate Grade	**%**	**4.9**	**6.5**	**6.5**
Sn	Head Grade	ppm	443	464	486
Ta	Recovery	%	34	41	24

13.5 Processing Flowsheet

A conceptual flowsheet for the coarse fraction (-3 mm +0.5 mm) was developed as illustrated in Figure 13-4 and is being tested to validate recovery assumptions. A separate flowsheet for the fines fraction (-0.5 mm) will be developed and validated in the future. The conceptual flowsheet includes the following:

- A crushing circuit to crush all material to the optimum liberation (-3 mm) size prior to beneficiation. This is to include the +5 mm fraction that was not included in the HLS beneficiation testwork.
- Splitting the crushed material into a coarse (-3 mm+0.5 mm) and fine (-0.5 mm) fraction to be processed in two separate circuits. The -0.5 mm material will be stockpiled for future processing.
- Beneficiation of the coarse fraction through two stages of dense media separation to discard gangue to the tailings and recover a mixed concentrate consisting of lithium, tin, and tantalum with limited impurities ready for the export market.

Figure 13-4
Conceptual flowsheet for coarse fraction (-3.0 mm, +0.5 mm)



14 MINERAL RESOURCE ESTIMATES

On behalf of Tantalex, MSA completed a Mineral Resource estimate for the Manono Tailings deposits.

To the best of the QP's knowledge there are currently no title, legal, taxation, marketing, permitting, socio-economic or other relevant issues that may materially affect the Mineral Resource described in this Technical Report.

The Mineral Resources presented herein, with an effective date of 13 December 2022, represent the maiden Mineral Resource Estimate for the Manono tailings deposits which incorporate drillhole data completed by Tantalex from September 2021 to July 2022 and in the QP's opinion were collected using reasonable procedures and protocols.

The Mineral Resource was estimated using the 2019 CIM "Best Practice Guidelines for Estimation of Mineral Resources and Mineral Reserves" and classified in accordance with the 2014 CIM "Definition Standards". It should be noted that Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The Mineral Resource estimates were conducted using Datamine Studio RM software, together with Leapfrog Geo, which was used for the modelling of three-dimensional volumes. Microsoft Excel, JMP statistical software and Datamine Supervisor were used for data analysis.

14.1 Mineral Resource Estimation Database

The database provided by Tantalex to inform the Mineral Resource estimates consist of:

- Information from diamond drillholes in the form of:
    - Collar surveys.
    - Downhole Surveys – all holes were vertically drilled and were not surveyed.
    - Sampling and assay data.
    - Geology data.
- Specific gravity (SG) measurements from surface pits for the top one metre of the tailings.
- Topographic surveys were provided as contours in GIS shapefile format.

The drillhole and SG data were provided as Microsoft Excel files. The principal sources of information used for the estimate are the exploration drilling conducted by Tantalex from September 2021 to July 2022.

A total of 368 drillholes, amounting to 11 922.4 metres of drilling, were drilled across nine tailings deposits. The number of drillholes and metres drilled per deposit is summarised in Table 14-1.

Table 14-1

Number of drillholes and total metres drilled per deposit

Deposit	Number of Drillholes	Metres Drilled
Cc	34	2 312
Cf	4	136
Ec	32	1 854
Gc	25	1 458
Gf	50	886
Hc	21	1 251
Hf	26	679.4
Ic	20	1 226
K	156	2 120

Due to insufficient data coverage, no Mineral Resource estimate was completed for the Cf deposit.

14.2 Exploratory Data Analysis of the Raw Data

The dataset examined consisted of sampling and logging data from aircore drillholes. The following attributes are of direct relevance to the estimate:

- Lithium (Li) in parts per million (ppm).
- Specific gravity measurements.
- Lithological logs.

Lithium grades in parts per million were converted to percentage lithium oxide (Li_2O) by converting these to percentage values and applying a conversion factor of 2.153.

A total of 7 608 metres of drillhole samples were assayed, however not all samples were assayed for all three elements. A summary of assayed metres per attribute is shown in Table 14-2.

Table 14-2
Assayed metres per deposit

Deposit	Drilled Metres	Assayed Metres
Cc	2 312	860
Cf	136	135
Ec	1 854	661
Gc	1 458	1 453
Gf	886	866
Hc	1 251	600
Hf	679.4	432
Ic	1 226	553
K	2 120	2 048

14.2.1 Validation of the data

MSA undertook a high-level validation process which included the following checks:

- Examining the sample assay, collar survey and geology data to ensure that the data are complete for all the drillholes,
- Examining the de-surveyed data in three dimensions to check for spatial errors,
- Examination of the assay and density data to ascertain whether they are within expected ranges,
- Check for "FROM-TO" errors, to ensure that the sample data do not overlap one another or that there are no unexplained gaps in the sampling.

The data validation exercise revealed the following:

- There are no unresolved errors relating to missing intervals and any overlaps in the drillhole logging data. Absent assays correspond to intervals where no samples were taken, or unassayed values.
- Examination of the drillhole data in three dimensions shows that the collars of the drillholes surveyed by DGPS plot generally in their expected positions relative to the topographic surface. Where noticeable deviations were noted, Tantalex provided updated topographies which corrected any issues identified.
- Extreme assays were checked, and no errors were found.
- No assays were returned for four samples - AMR5323, AMR5326, AMR5331 and AMR5432.
- Seven samples returned values above the limit of detection (10 000 ppm) with no over limit analysis undertaken. These were found to affect only CRM samples and this issue does not impact the Mineral Resource.

- Four tin samples reported values over the detection limit with no over limit analysis undertaken. The tin value for one sample was set to the upper detection limit value of 10000 ppm, while the other three are non-certified standards (WJL 017).
- Samples reported below the detection limit were set to half this value.

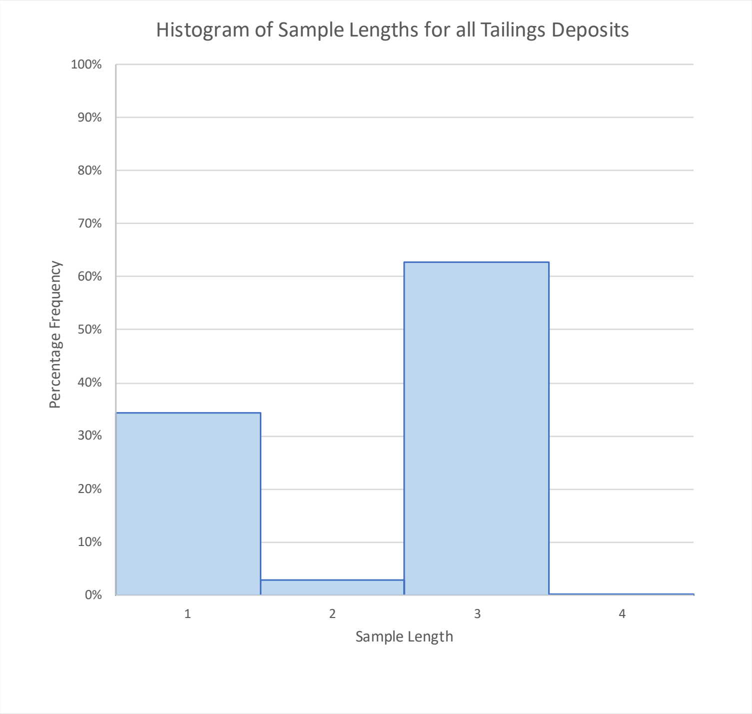
14.2.2 Statistics of the Raw Sample Data

14.2.2.1 Sample Lengths

Samples were taken at 1 metre intervals during the early phase of exploration, however, the sampling methodology was changed to three metre composites. As a result, 34% of the total samples were taken at one metre intervals, thus affecting five of the tailings deposits, namely the Cc, Gc, Hc, Hf and Ic deposits. The remainder of the samples were taken at three metre intervals.

A histogram of the sample intervals for the combined nine deposits is shown in Figure 14-1. Samples taken at 2 m and 4 m make a small percentage of the samples, which tend to occur along the base of the deposits and are not representative of the total drilled tailings.

Figure 14-1
Sample Length Histogram for Manono Samples



14.3 Geological Modelling

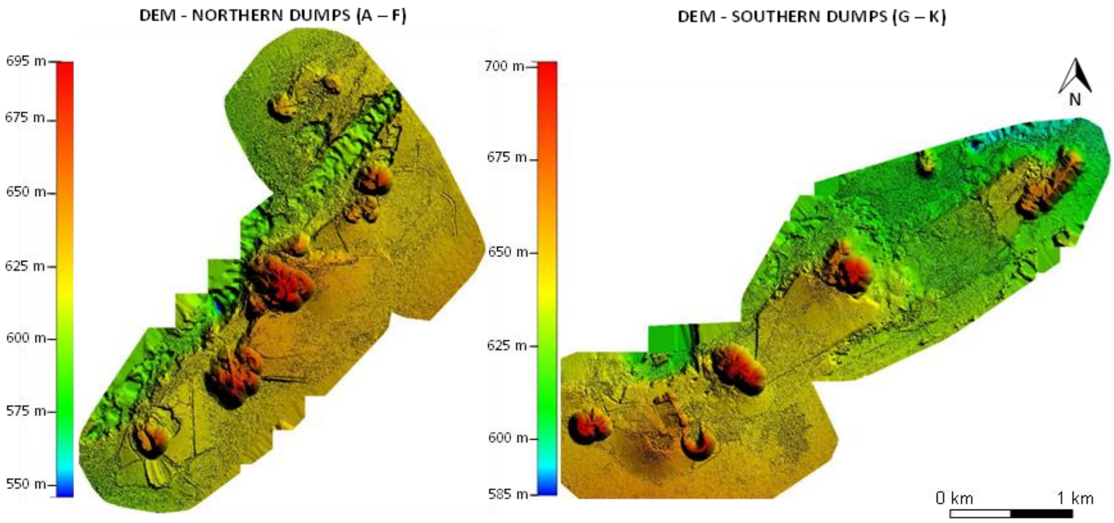
14.3.1 Topography

A topographic digital surface model (DSM) covering the Manono Tailings Project area was provided by Tantalex. An unmanned aerial vehicle (UAV), photogrammetry topographical survey and volumetric estimation of the Project was conducted by Ikigai Environmental Specialists during

September 2022. The survey was conducted within UTM Zone 35 S and referenced to the WGS84 datum.

The survey area spanned a total of 1,309.4 hectares and the data was processed using Pix4D software to provide 1 m contour intervals, digital elevation models (DEMs) (Ikigai, 2021) (Figure 4-1). Geovia Surpac was used to calculate the final volumetric estimates (Ikigai, 2021).

Figure 14-2
Manono Tailings Project DEMs



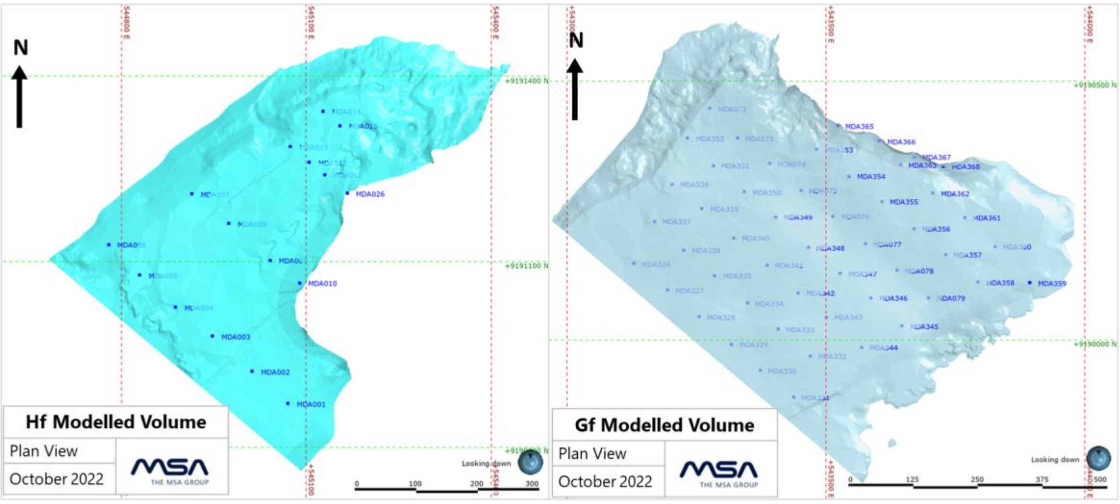
Source: *Adapted from Ikigai (2021)*

14.3.2 Tailings Volumes

Leapfrog Geo was used to generate three-dimensional volumes representing the tailings deposits. The upper limit of the tailings deposits was defined using the supplied topographical surveys. Due to the absence of a pre-depositional surface, the base of a deposit was interpreted to occur whenever laterite material or saprolite was intercepted. Since many of Manono's deposits consist of large volumes of laterite, the base was interpreted to occur where the last laterite horizon was intercepted in each drillhole. In the absence of a basal laterite, grade data was used to guide the modelling.

The volume of each deposit was generated by intercepting the modelled base with the topography. The exception to this being the Hf and Gf deposits, which remain unexplored in the southwest, therefore the extent of the volumes was limited to half the drillhole spacing in this direction (Figure 14-3).

Figure 14-3
Volumes for the Hf and Gf deposits



Hf Modelled Volume
Plan View
October 2022

Gf Modelled Volume
Plan View
October 2022

As the lithology logging is recorded on one metre intervals while the majority of the samples were assayed at three metre intervals, there were instances where basal laterite was found to contain significant lithium grades due to sample compositing taking place across lithology types. This was found to particularly impact the K tailings, therefore a combination of lithology and grade data was used to define the base of the deposit.

Several of the deposits consist of a combination of material types, including laterite, pegmatite and clays. Where sufficient data was available, volumes for each material type were modelled, with each deposit being treated as a separate domain. In the absence of data, an angle of repose of 30° to 35° was assumed when modelling each layer.

Volumes for the Ic and Hc deposits are presented in Figure 14-4 and Figure 14-5.

Figure 14-4
Modelled volumes of the Ic Tailings Deposit

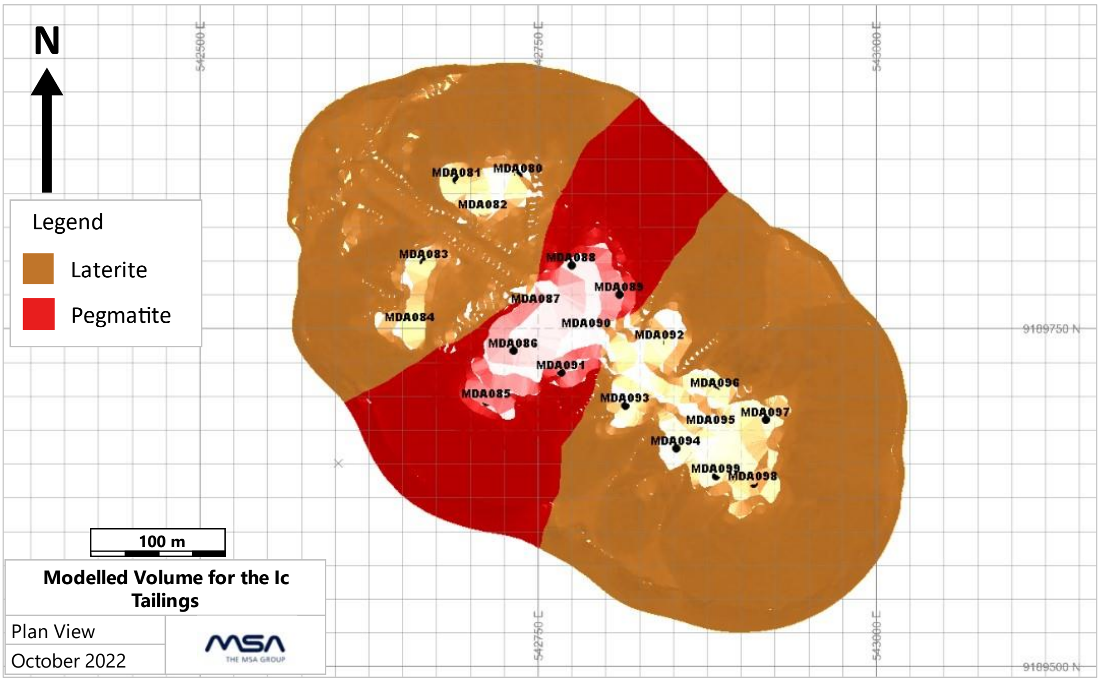
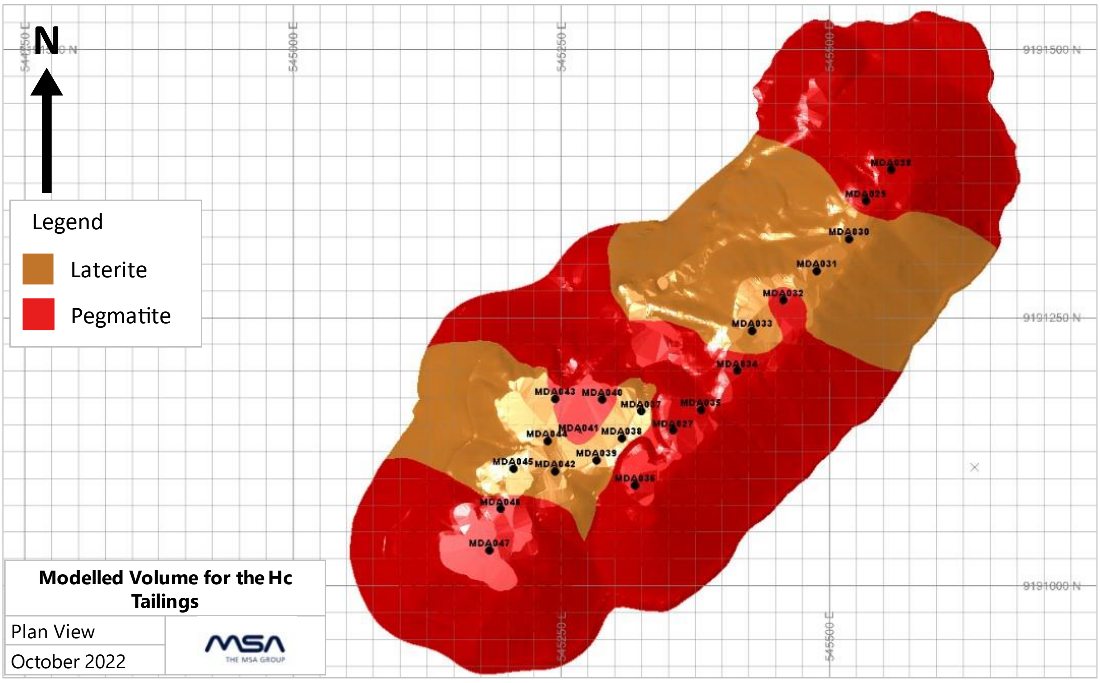
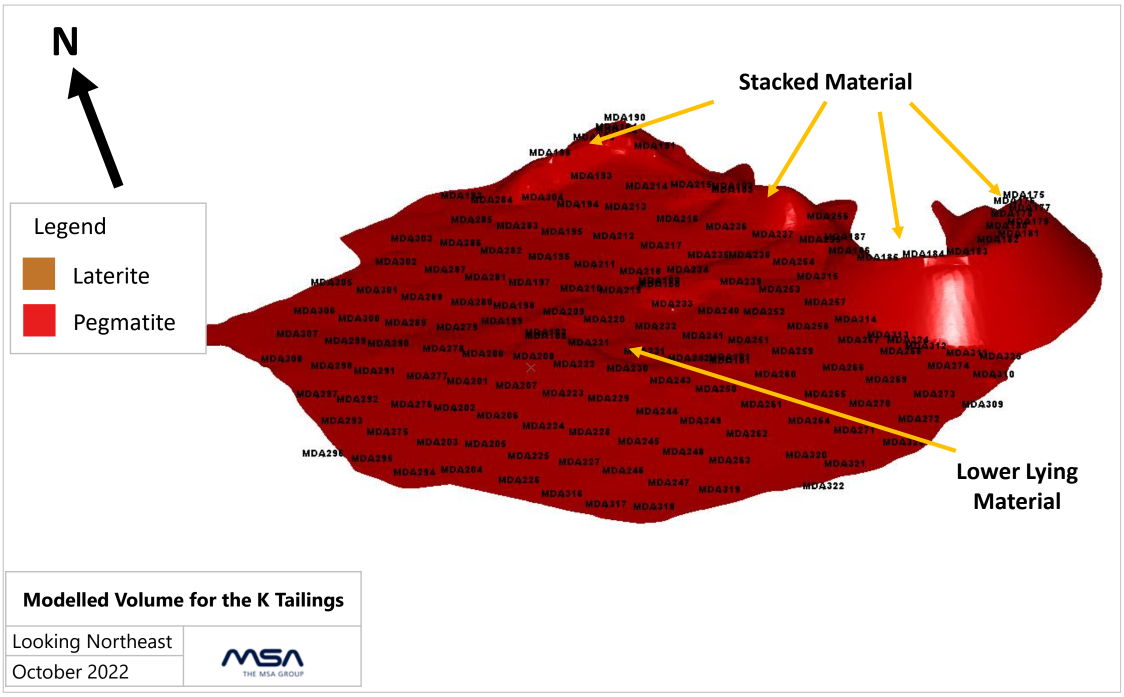


Figure 14-5
Modelled volumes of the Hc Tailings Deposit



The K deposit is exclusively composed of pegmatite material. Figure 14-6 shows the modelled volume, with the stacked material visible in the background while the thin, lower lying material is shown in the foreground. During estimation, the stacked material was separated from the lower lying tailings using a digitised polyline.

Figure 14-6
Modelled volumes of the K Tailings Deposit



The modelled lithological layers for each deposit were treated as discrete estimation domains, therefore, each volume was given an identifier number. A summary of the volumes modelled for each deposit is presented in Table 14-3.

Table 14-3
Number of volumes per material type modelled for each deposit

Material Type	Cc	Ec	Gc	Gf	Hc	Hf	Ic	K
Pegmatite	1	3	3	2	3	1	2	1
Laterite	0	2	3	1	2	1	2	0
Clay	0	0	0	2	0	0	0	0

14.4 Statistical Analysis of the Composite Data

Samples were composited to 3 m lengths using length weighting.

14.4.1 Lithium Oxide

Summary Statistics for lithium oxide for the three metre composited samples are presented in Table 14-4.

The highest Li_2O grades are present in the K dump with the stacked material having a mean Li_2O grade of 0.66%, while the lower lying material has a mean grade of 0.85% Li_2O. The grade variability is typically low for all the domains, as seen by the low coefficient of variation (CV) values. This is with the exception of the Cc and Gc dumps which have CV values larger than 1. Higher lithium grades typically occur in pegmatite tailings, with laterites generally reporting lithium grades below 0.10% Li_2O.

Table 14-4

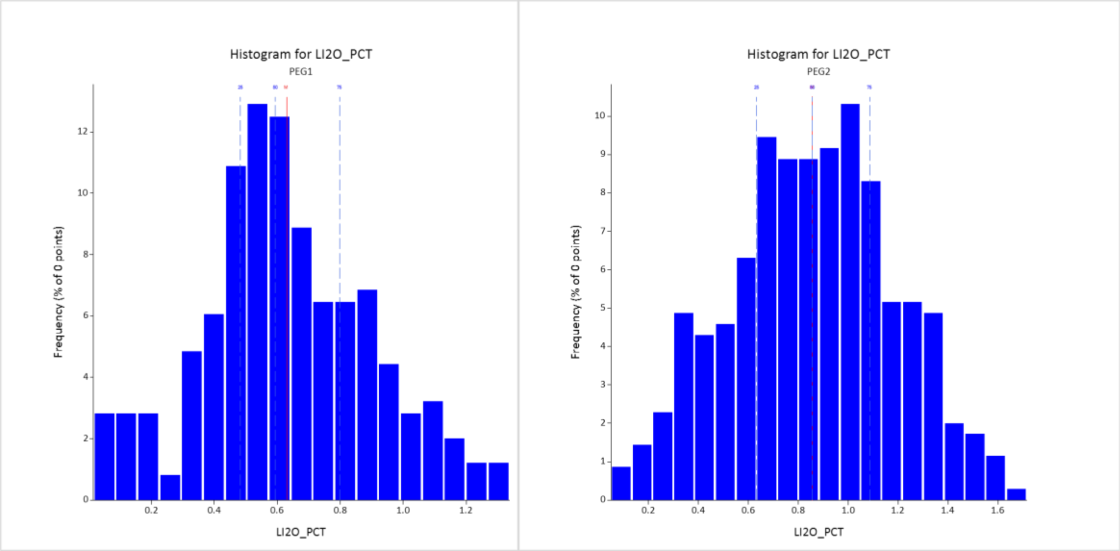
Summary statistics for lithium oxide per domain

Domain	Number of Composites	Minimum	Maximum	Mean	CV
Cc Dump					
PEG1	271	0.02	0.98	0.14	1.16
Ec Dump					
LAT1	38	0.03	0.27	0.06	0.57
LAT2	30	0.03	0.09	0.05	0.27
PEG1	28	0.01	0.13	0.05	0.53
PEG2	87	0.03	0.21	0.07	0.40
PEG3	21	0.04	0.10	0.06	0.23
Gc Dump					
LAT1	19	0.02	0.09	0.04	0.46
LAT2	338	0.01	0.39	0.04	0.77
LAT3	2	0.02	0.05	0.04	0.51
PEG1	15	0.02	0.37	0.08	1.17
PEG2	85	0.02	1.41	0.31	1.29
PEG3	4	0.05	0.08	0.06	0.18
Gf Dump					
CLA1	59	0.02	0.56	0.16	0.42
CLA2	16	0.07	0.17	0.12	0.27
LAT1	70	0.02	0.22	0.10	0.44
PEG1	81	0.00	0.72	0.24	0.81
PEG2	7	0.01	0.09	0.03	0.82
Hc Dump					
LAT1	49	0.02	0.07	0.03	0.35
LAT2	27	0.01	0.08	0.03	0.55
PEG1	10	0.03	0.06	0.04	0.32
PEG2	93	0.02	0.28	0.08	0.55

Domain	Number of Composites	Minimum	Maximum	Mean	CV
PEG3	13	0.03	0.07	0.04	0.18
Hf Dump					
LAT1	28	0.01	0.14	0.04	0.70
PEG1	91	0.01	0.18	0.09	0.37
Ic Dump					
LAT1	70	0.01	0.18	0.04	0.67
LAT2	48	0.00	0.15	0.03	0.73
PEG1	40	0.01	0.26	0.08	0.74
PEG2	16	0.04	1.05	0.42	0.63
K Dump					
PEG1	237	0.11	1.34	0.66	0.38
PEG2	356	0.05	1.72	0.85	0.39

Histograms for Li_2O % for the two domains of the K dump are shown in Figure 14-7. The two distributions approximately resemble the bell curve of a normal distribution, particularly PEG2, while PEG1 shows a slight positive skewness.

Figure 14-7
Sample histograms for Li_2O for the stacked tailings (PEG1) and the lower lying tailings (PEG2)



14.5 Cutting and Capping

Histograms and log probability plots for each domain were examined for outliers. A decision to apply capping to a domain was guided by breaks in the distribution of each variable and the spatial location of the outlier samples relative to one another.

The capping typically affected three or less samples per domain (Table 14-5).

Table 14-5

Capping for Li_2O % per domain for each deposit

Deposit	Domain	Number of Composites	Uncapped Mean	Uncapped CV	Cap Value	Number of Composites Capped	Capped Mean	Capped CV
Ec								
Ec	PEG1	38	0.06	0.57	0.078	3	0.05	0.37
	PEG2	312	0.07	0.40	0.126	2	0.07	0.35
	LAT1	38	0.06	0.57	0.099	2	0.06	0.32
Gc								
Gc	PEG1	15	0.37	1.17	0.128	3	0.06	0.71
	LAT2	338	0.04	0.77	0.181	2	0.04	0.65
Gf								
Gf	CLA1	59	0.16	0.42	0.226	2	0.15	0.26
Hc								
Hc	PEG3	13	0.08	0.55	0.049	1	0.04	0.11
Hf								
Hf	LAT1	28	0.04	0.70	0.059	3	0.03	0.47
Ic								
Ic	LAT1	70	0.04	0.67	0.086	2	0.04	0.50
	LAT2	48	0.03	0.73	0.061	2	0.03	0.55

14.6 Geostatistical Analysis

Geostatistical analysis was conducted using Datamine Supervisor software. The grade data were transformed to normal scores for modelling purposes and the sills were back transformed for use in estimation. The large majority of the Manono tailings deposits lack sufficient data coverage to model semivariograms, with the exception of the low-lying material of the K dump, which was drilled on a 40 m by 40 m grid.

Experimental semivariograms were calculated for the normal score transformed 3 m composite data. The nugget effect was determined by extrapolating from the first two experimental points of the down-hole semivariogram. The nugget effect for Li_2O % is low, which is expected due to the low variability observed in the data.

Semivariogram maps for the K dump did not indicate the presence of anisotropy in the grade continuity, therefore isotropic semivariogram models were modelled in the horizontal plane resulting in double structured, spherical models for Li_2O %.

Semivariogram models for Li_2O are presented in Figure 14-8 and the parameters are presented in Table 14-6.

Figure 14-8
Semivariograms for the K dump for Li_2O %

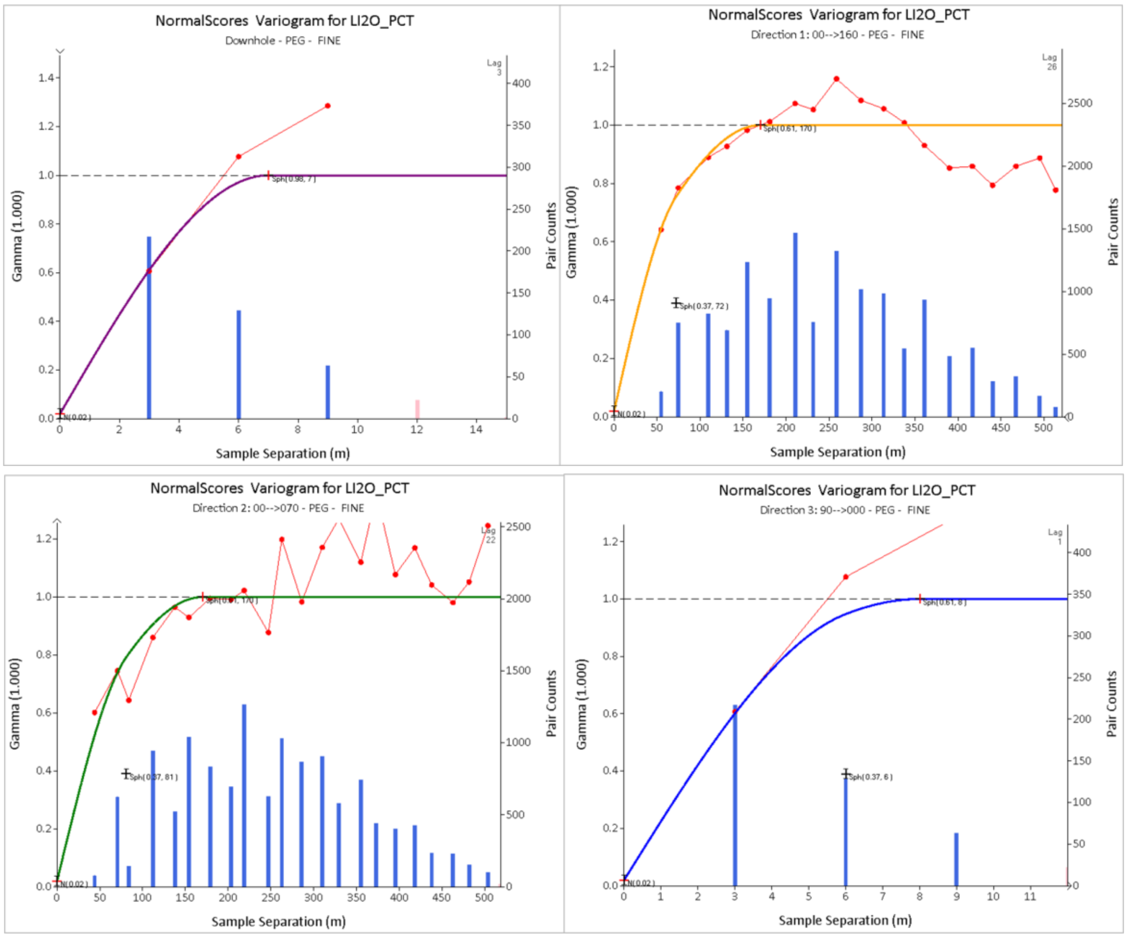


Table 14-6
Semivariogram parameters for K dump

Attribute	Rotation Angles			Rotation Axis			Nugget Effect (C0)	Range (m) of First Structure (R1)			Sill 1 (C1)	Range (m) of Second Structure (R2)			Sill 2 (C2)
	1	2	3	1	2	3		1	2	3		1	2	3	
Li_2O %	0	0	70	Z	X	Z	0.02	72	81	6	0.37	170	170	8	0.61

14.7 Block Modelling

Block models covering each deposit were created using a parent cell of 20 mX by 20 mY by 3 mZ. Sub-celling was applied to optimally fill the modelled volumes, resulting in a minimum sub-cell of 2 mX by 2 mY by 0.5 mZ.

The common origin and block parameters for each deposit is presented in Table 14-7.

Table 14-7

Model prototype origins and block sizes for Manono tailings deposits

Deposit	Model Origin			Block Size			Number of Cells		
	X	Y	Z	X	Y	Z	X	Y	Z
Cc	549900	9195100	600	20	20	3	37	37	40
Ec	549600	9194400	600	20	20	3	30	32	40
Hc	545000	9190900	600	20	20	3	35	35	40
Hf	544650	9190700	600	20	20	3	43	40	35
Ic	542500	9189500	600	20	20	3	30	30	40
Gc	543300	9190250	600	20	20	3	35	35	35
Gf	542950	9189700	600	20	20	3	53	50	35
K	541650	9188850	625	20	20	3	50	40	34

14.8 Estimation Parameters

Attributes were estimated into the modelled volumes using the 3 m composite drillhole sample data by inverse distance squared (IDW2) for all deposits with the exception of the low-lying tailings of the K dump, which was estimated by ordinary kriging (OK). The stacked tailings of the K dump were estimated by IDW2.

The search distance and rotation angles of the OK estimates were based on the semivariogram ranges. Kriging Neighbourhood Analysis (KNA) was used to determine the minimum and maximum number of samples to be included in the search neighbourhood for the OK estimates and the appropriate discretisation points to be used in a parent cell. The KNA exercise considered kriging efficiency and slope of regression values to quantify the level of conditional bias when selecting the optimal parameters.

The estimates were carried out in three passes. The first pass OK estimate applied the variogram ranges, while the second pass expanded the search volume by a factor of 1.5, while the third pass expanded this volume by a factor of 10 to ensure that all blocks received an estimate. A minimum of 5 and a maximum of 10 samples were used in the first two passes, with the third pass estimate allowing a maximum of 12 samples. A limit of two samples per drillhole was imposed on the estimates. The search parameters for the K dump OK estimates are shown in Table 14-8.

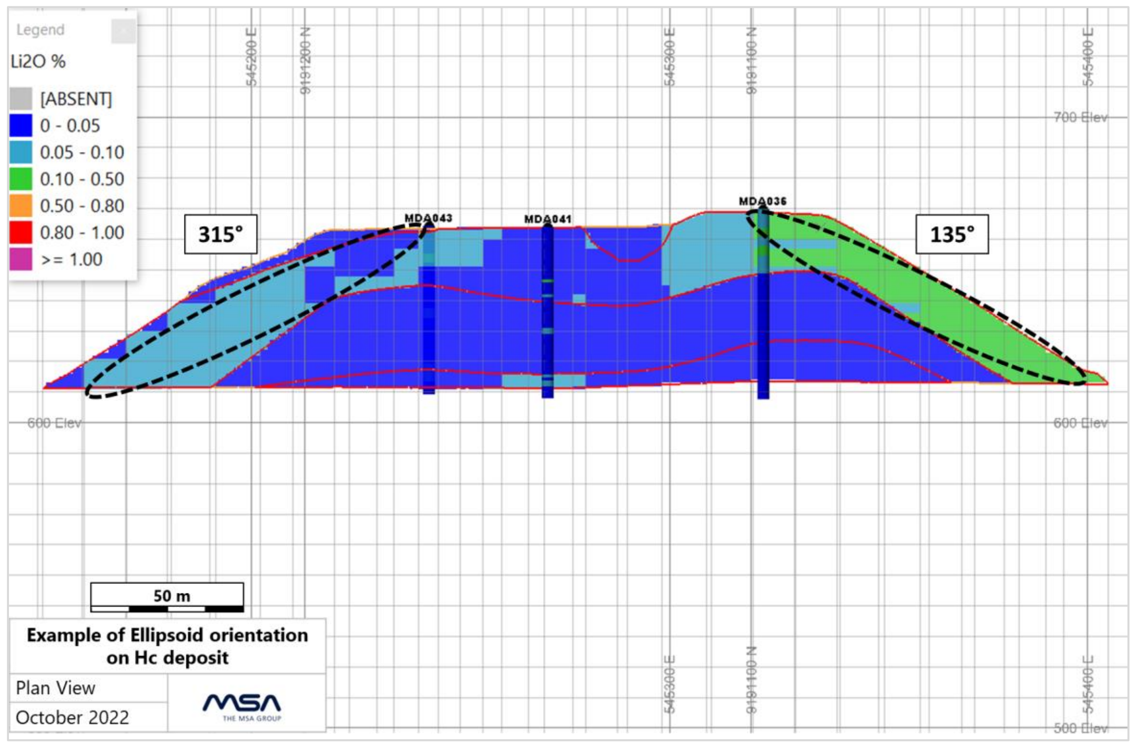
Table 14-8

Search parameters for the K dump

Attribute	Rotation Angles			Rotation Axis			Search Distance (m)			Number of Composites	
	X	Y	Z	X	Y	Z	X	Y	Z	Min	Max
Li_2O %	0	0	70	Z	X	Z	170	170	8	5	10

The IDW2 estimates were similarly carried out in three passes, with a minimum of 5 and maximum of 10 samples used in the estimates and a limit of 2 samples per drillhole. The search volume applied to the Cc, Ec, Hc, Ic and Gc deposits is 60 mX by 60 mY by 6 mZ. The search volume was orientated at a 35° angle to mimic the angle of repose of the tailings, which tends to vary from 30° to 35°. The search was orientated by defining a centre line for each deposit, thereby dividing the deposit in half, where each half represents a dominant direction of deposition. The search ellipsoids were then orientated on either side to match this orientation. An example for the Hc block model is shown in Figure 14-9, where one side of the tailings is orientated at a 35° dip at an azimuth of 135°, while the other half is orientated at an azimuth of 315°.

Figure 14-9
Example of search ellipsoid orientation used for the Hc deposit



The search volume for the Hf and the Gf deposits was orientated horizontally in the X and Y, as these deposits tend to be flat and extend over a larger footprint, lacking the high terraces observed in other deposits. The search ranges applied to the Hf and Gf deposits were 100 mX by 100mY by 3 mZ and 80 mX by 80 mY by 3 mZ respectively.

14.8.1 Density

Density data coverage is limited to the top one metre of the tailings deposits due to the unconsolidated nature of the material being sampled which makes it impractical to take density measurements at depth. Density measurements were taken per material type, with these predominantly being either pegmatite, laterite or clay. Due to the limited data coverage, density could not be interpolated, therefore the average value per material type was assigned directly to the block model.

Density measurements were taken for all deposits except for the Ec tailings, where the average density of the pegmatite and tailings was calculated as the average for all density measurements from the eight deposits. The densities assigned per material type for each deposit are summarised in Table 14-9.

Table 14-9
Average densities assigned per material type for each deposit

Material Type	Cc	Ec	Gc	Gf	Hc	Hf	Ic	K
Pegmatite	1.61	1.56	1.55	1.55	1.54	1.54	1.66	1.54
Laterite	-	1.63	1.65	1.65	1.56	1.56	1.63	-
Clay	-	-	-	1.45	-	1.15	-	-

14.9 Validation of Estimates

The models were validated by:

- Comparison of the global estimated against the mean composite grades.
- Visual examination, in cross-section and plan, of the input data against the block model.
- Swath plot validation.

The mean grades of the block model for each domain were validated against the composite grades. Globally the estimated block grades compared favourable to the input data, with relative differences typically less than ten percent. Where larger percentage differences were observed, this typically translated to small relative differences in the mean values. A comparison for each estimation domain per deposit is presented in Table 14-10.

Table 14-10
Global mean comparison between capped composites and estimates

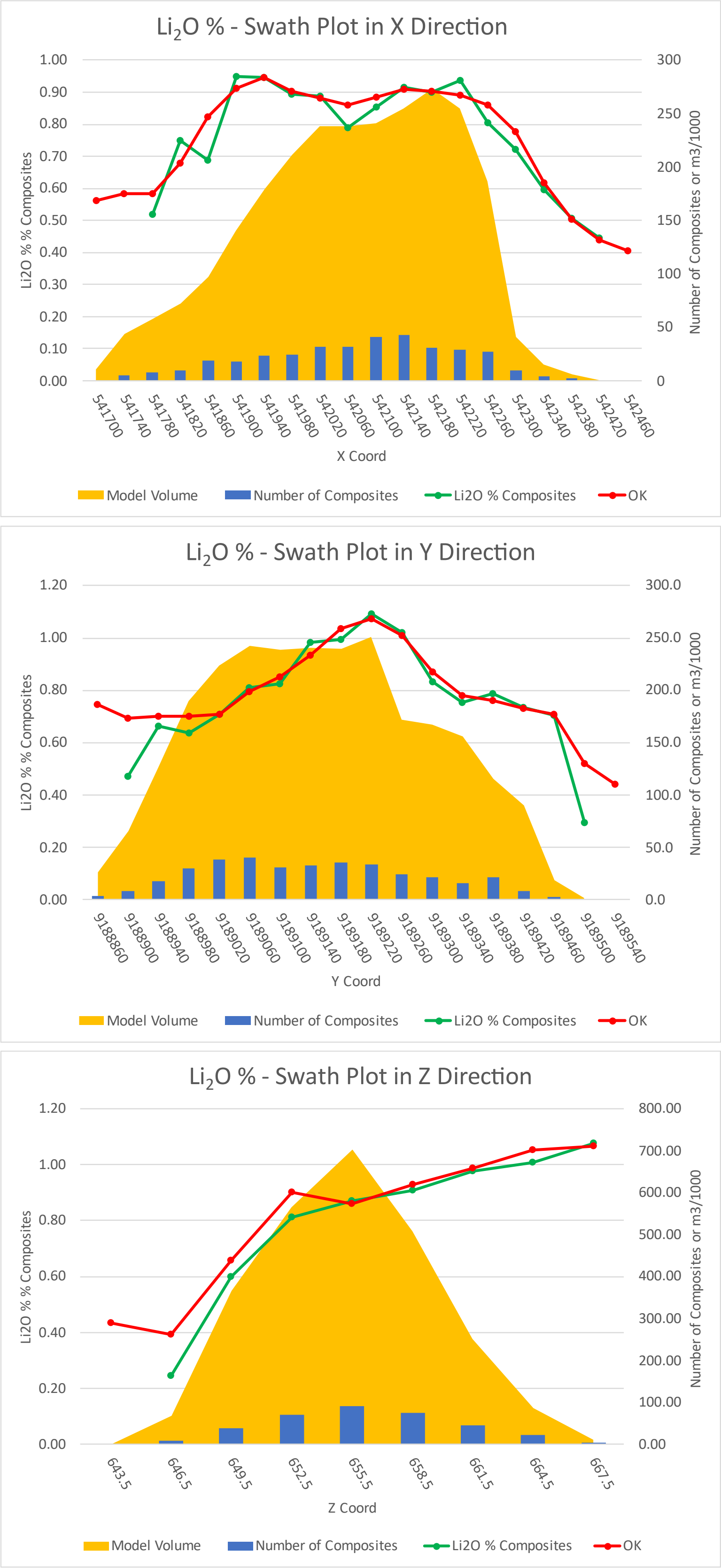
Domain	Composites			Block Model		Percentage Difference
	Number of Composites	Mean	CV	Mean	CV	
Cc Dump						
PEG1	271	0.14	1.16	0.14	0.75	0%
Ec Dump						
LAT1	38	0.06	0.32	0.06	0.13	-3%
LAT2	30	0.05	0.27	0.05	0.13	0%
PEG1	28	0.05	0.37	0.05	0.20	2%
PEG2	87	0.07	0.35	0.07	0.23	1%
PEG3	21	0.06	0.23	0.06	0.13	0%
Gc Dump						
LAT1	19	0.04	0.46	0.04	0.18	-1%
LAT2	338	0.04	0.65	0.04	0.36	-2%
LAT3	2	0.04	0.51	0.04	0.00	0%

Domain	Composites			Block Model		Percentage Difference
	Number of Composites	Mean	CV	Mean	CV	
PEG1	15	0.06	0.71	0.06	0.22	2%
PEG2	85	0.24	1.39	0.24	1.42	0%
PEG3	4	0.06	0.18	0.06	0.00	0%
Gf Dump						
CLA1	59	0.15	0.26	0.16	0.14	3%
CLA2	16	0.12	0.27	0.12	0.20	0%
LAT1	70	0.10	0.43	0.10	0.35	0%
PEG1	81	0.24	0.81	0.25	0.57	2%
PEG2	7	0.03	0.82	0.04	0.60	23%
Hc Dump						
LAT1	49	0.03	0.35	0.03	0.25	-4%
LAT2	27	0.03	0.55	0.04	0.37	10%
PEG1	10	0.04	0.32	0.04	0.18	2%
PEG2	93	0.08	0.55	0.09	0.35	14%
PEG3	13	0.04	0.11	0.04	0.04	2%
Hf Dump						
LAT1	28	0.03	0.47	0.03	0.28	2%
PEG1	91	0.09	0.37	0.09	0.32	-2%
Ic Dump						
LAT1	70	0.04	0.50	0.04	0.23	2%
LAT2	48	0.03	0.55	0.03	0.34	-1%
PEG1	40	0.08	0.74	0.07	0.64	-12%
PEG2	16	0.42	0.63	0.41	0.37	-1%
K Dump						
PEG1	237	0.66	0.38	0.67	0.25	2%
PEG2	356	0.85	0.39	0.87	0.29	2%

Due to the paucity of the data, the majority of the deposits did not lend well to being validated using swath plots for the exception of the K, Hf and Gf deposits. For these deposits, swath plot validations in the X, Y and Z direction were used to locally validate the block estimates against the sample composites. No material biases in the estimates of the individual elements were identified. Examples of a swath plot validation for Li_2O for the K dump are shown in Figure 14-10.

Figure 14-10

Swath plot validation for Li_2O % for the K deposit



The block model was examined visually to ensure that the drillhole grades were locally well represented by the block model and it was found that the model validated reasonably well, with acceptable degrees of smoothing observed for all attributes. Examples of visual validation of the models for the K deposit in plan view and section are shown in Figure 14-11 and Figure 14-12 respectively.

Figure 14-11

K deposit estimated block model plan view– Li_2O %

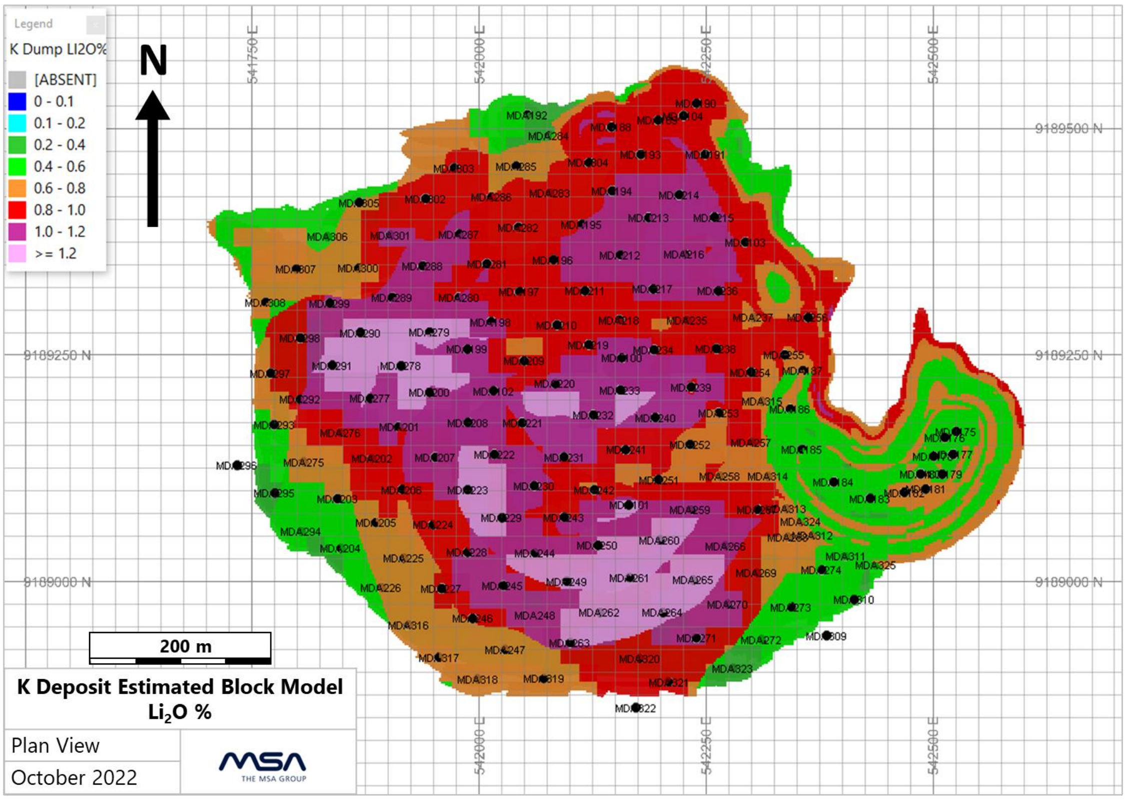
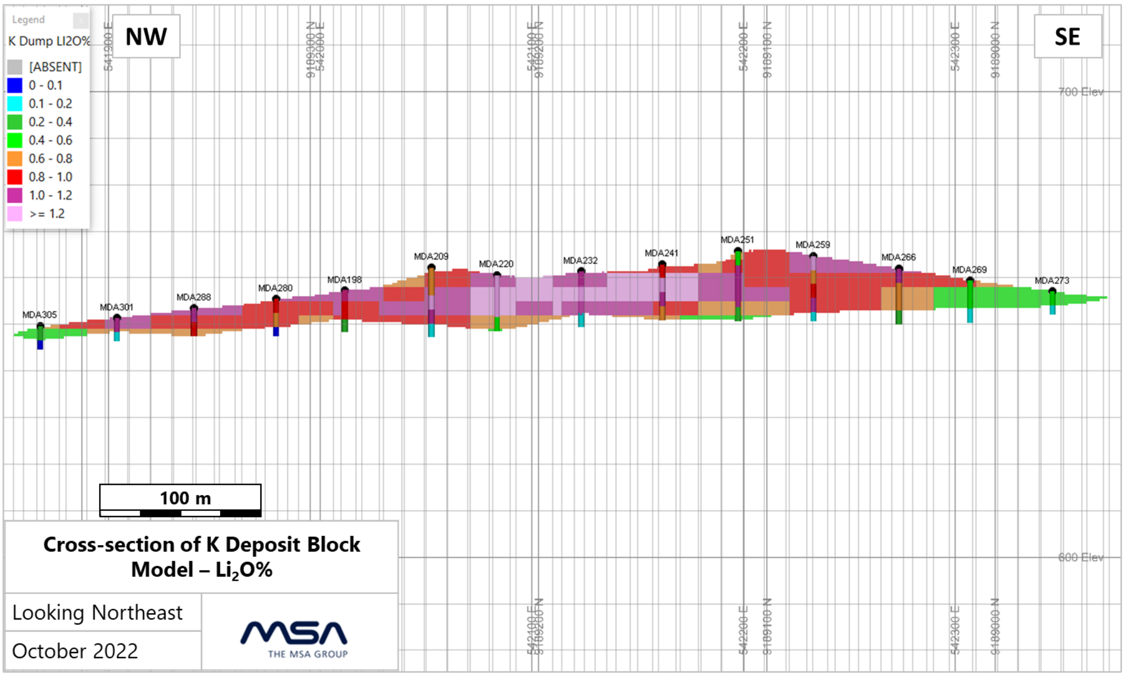
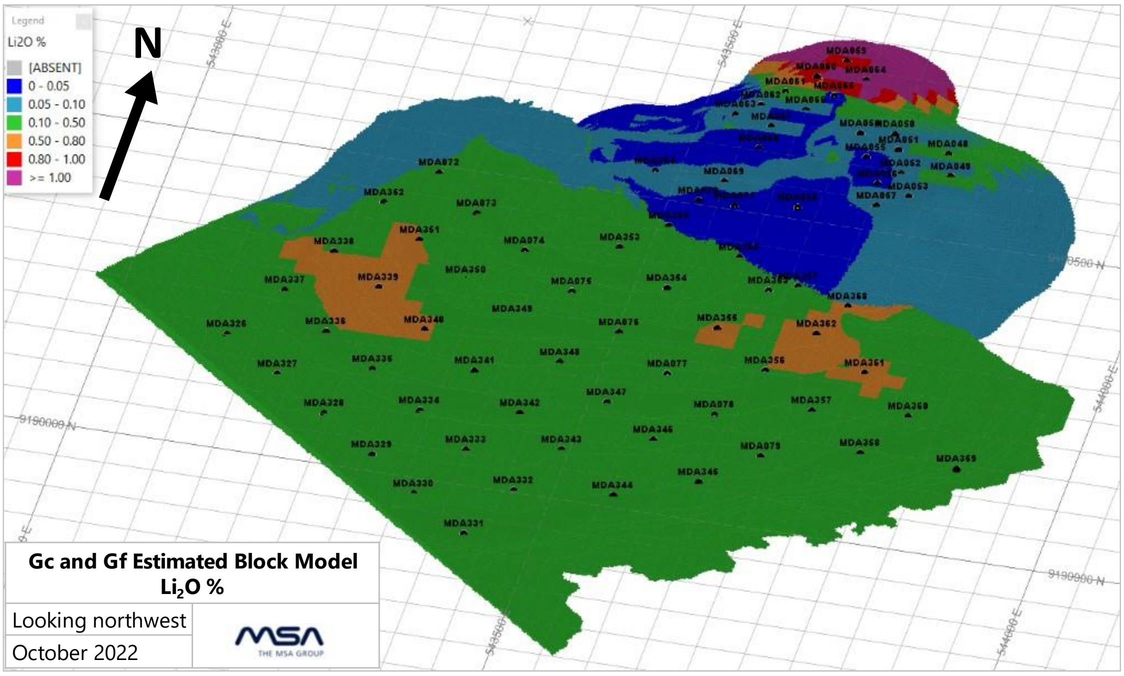


Figure 14-12
Cross-section through K deposit coloured on Li_2O % (looking northeast)



The Gc and Gf block models are illustrated in Figure 14-13.

Figure 14-13
Isometric view of the Gc deposit in the background and the Gf deposit (foreground)



14.10 Mineral Resource Classification

Classification of the Manono block models was based on the degree of geological uncertainty of the material types which constitute each tailings deposit, grade continuity and variability and the frequency of the drilling data. The main considerations in the classification are as follows:

- The data that informs the Mineral Resource estimate has been collected using acceptable principles and the assays have been demonstrated to be or reasonable accuracy.
- The mineralisation shows reasonable lateral continuity within each tailings deposit.
- For the K deposit, the semivariogram ranges are 170 m, which is well within the drillhole spacing of 40 m for the lower lying material.

Given the aforementioned factors, the Manono Mineral Resources have been classified using the following criteria:

- The Mineral Resource was classified as Measured where the tailings deposit was homogenous in material type, drilled to a nominal 40 m grid spacing and where good continuity of Li_2O % grades can be observed.
- Areas informed by drilling with a nominal grid spacing of 40 m to 80 m, with a maximum extrapolation of 40 m from the nearest drillhole were classified as Indicated Mineral Resources.
- Inferred Mineral Resources were classified where confidence in the estimates is low due to sparse drillhole coverage and where local estimates cannot be reliably made.

The Measured Mineral Resources for the Manono tailings are exclusively contained in the K deposit, in the low-lying tailings material. The stacked tailings of the K deposit were classified as Inferred due to the sparse drillhole coverage. Achieving a dense drilling grid on the stacked tailings proved technically challenging due to the inability to safely drill this unconsolidated material and Tantalex is actively pursuing a way of drilling these tailings in order to increase the confidence in the estimates. The Indicated Mineral Resources are contained predominantly in the Hf deposit with a small portion present in the Gc deposit. The remainder of the Manono deposits were classified as Inferred due to sparse drillhole coverage.

The model classification is illustrated in Figure 14-14 for the K dump, Figure 14-15 for the Gf dump and Figure 14-16 for the Gc dump.

Figure 14-14
K deposit classification

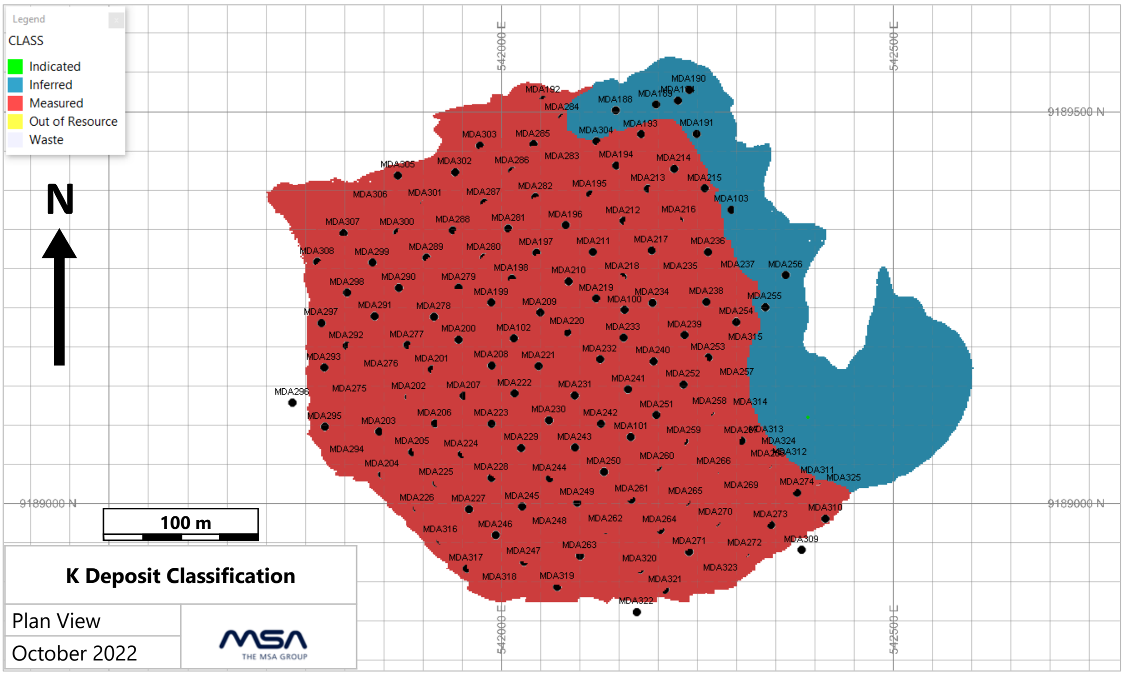


Figure 14-15
Gc deposit classification

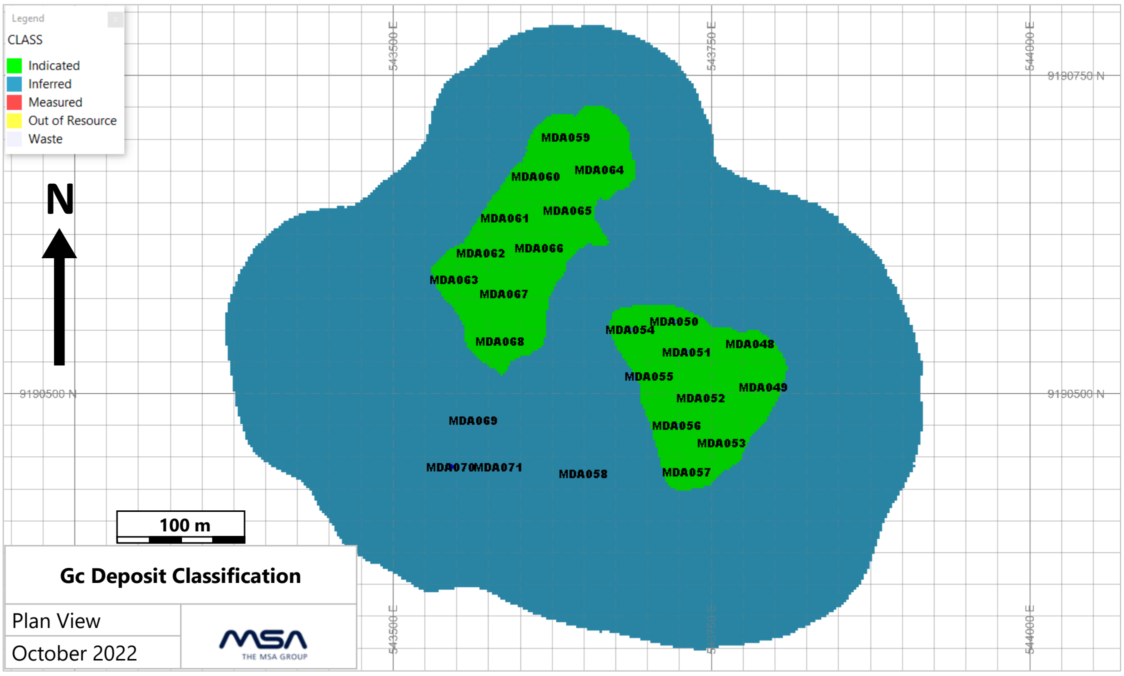
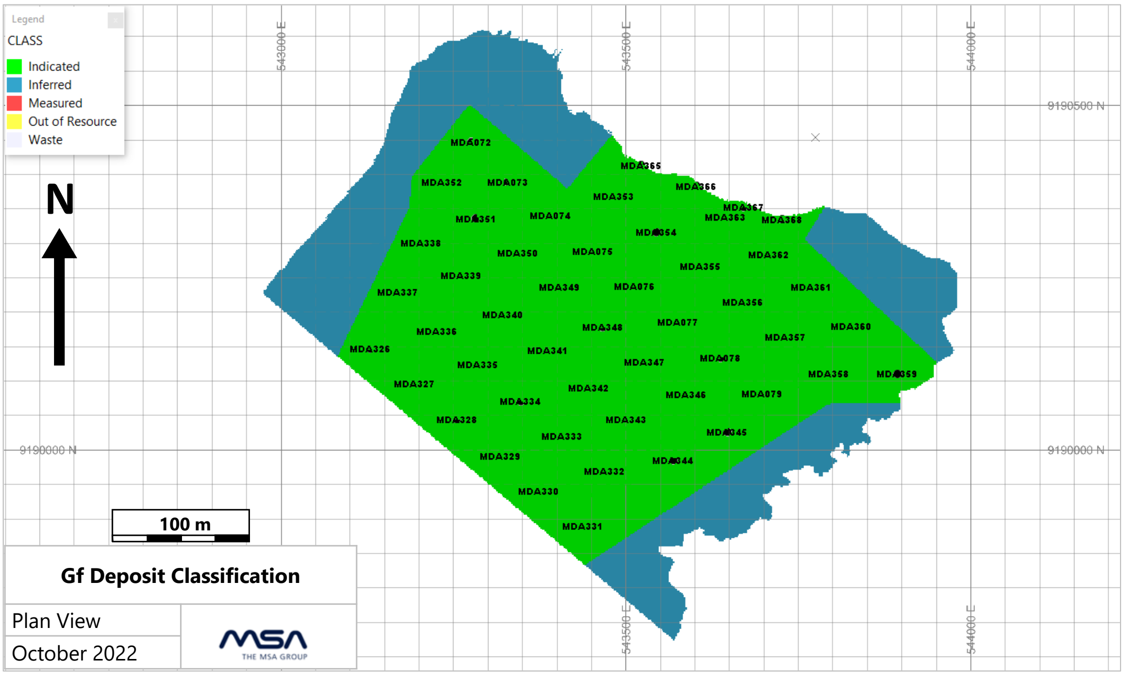


Figure 14-16
Gf deposit classification



14.11 Mineral Resource Statement

The Mineral Resource estimates as of 13 December 2022 are presented in Table 14-11 at a cut-off grade of 0.20% Li_2O for each deposit and totalled for each category. Due to the spatial arrangement of the high grade areas, which can be visually discerned from low-grade laterite areas, these deposits offer a sufficient degree of selectivity to be mined at the selected cut-off grade.

At the selected cut-off grade no Mineral Resources are reported for deposits Ec, Hc and Hf.

In the QP's opinion, the Mineral Resources reported herein at the selected cut-off grade have "reasonable prospects for eventual economic extraction", taking into consideration mining and processing assumptions.

Table 14-11
Manono Mineral Resources a 0.20% Li_2O cut-off grade – 13 December 2022

Deposit	Classification	Tonnes (Mt)	Li_2O %
Cc	Inferred	2.99	0.32
Ic	Inferred	0.67	0.42
Gc	Indicated	0.29	0.78
	Inferred	0.51	0.84
Gf	Indicated	1.39	0.35
	Inferred	0.13	0.33

Table 14-11
Manono Mineral Resources a 0.20% Li_2O cut-off grade – 13 December 2022

Deposit	Classification	Tonnes (Mt)	Li_2O %
K	Measured	3.77	0.86
	Inferred	2.33	0.67
Total	Measured	3.77	0.86
	Indicated	1.69	0.42
	Measured & Indicated	**5.46**	**0.72**
	Inferred	6.63	0.49

14.11.1 Assessment of Reasonable Prospects for Eventual Economic Extraction (RPEEE)

The following assumptions have been used to determine the cut-off grade and reasonable prospects for eventual economic extraction (RPEEE).

- Mining will be undertaken using bulldozers and loaders.
- Mining cost: USD 2.17 per tonne of rock
- Mining Recovery: 99%
- Processing cost: USD 11.18 per tonne processed (RoM)
- Discount rate: 10.5% per annum
- Revenue Royalty: 3%
- Payability: 98.5%
- Process Recovery:
    - Li_2O: 50% to 70%
- Lithium Price: 4 000 USD/tonne (SC6 – Spodumene Concentrate)

15 MINERAL RESERVE ESTIMATES

Mineral Reserves have not been declared for the Manono Tailings Project.

16 MINING METHODS

Not applicable.

17 RECOVERY METHODS

Not applicable.

18 PROJECT INFRASTRUCTURE

Not applicable.

19 MARKET STUDIES AND CONTRACTS

Not applicable.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Not applicable.

21 CAPITAL AND OPERATING COSTS

Not Applicable.

22 ECONOMIC ANALYSIS

Not applicable.

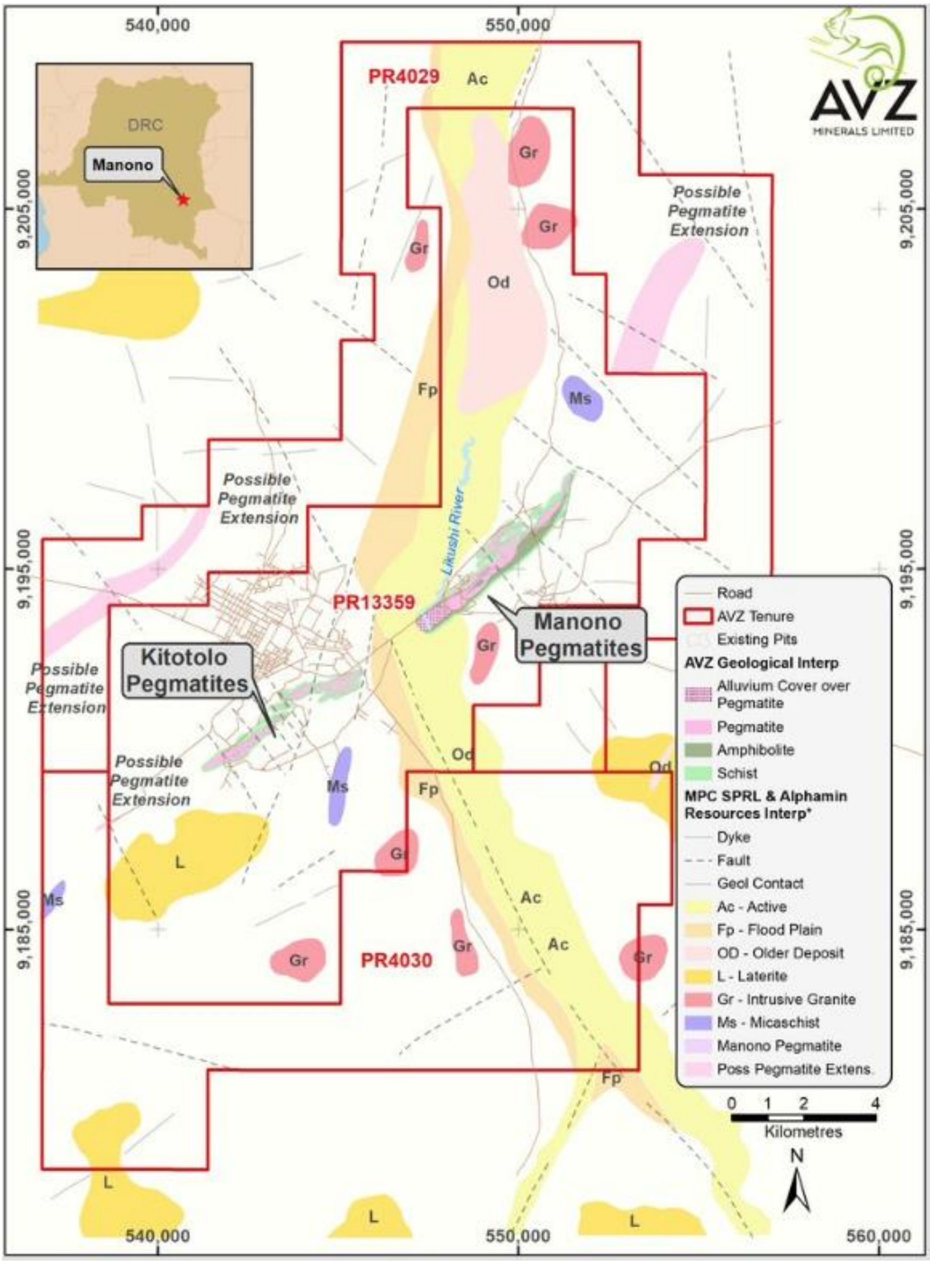
23 ADJACENT PROPERTIES

The Manono project license for the in-situ pegmatite deposits is held 100% by Dathcom SAS, in which AVZ holds a 75% interest and La Congolaise d'Exploitation Minière SA (Cominiere, a State-owned enterprise) holds the remaining 25%. AVZ completed a Definitive Feasibility Study in 2020 and has secured funding for the resource project development. Expansion of the Manono and Kitolo open pits by AVZ Minerals Limited (AVZ) will require the eventual removal of the tailings deposits owned by Tantalex. Although these deposits do not have geological characteristics similar to those being reported, the expansion of these pits have an important bearing on the potential of Manono Tailings Project.

AVZ Minerals Limited reported a JORC (2012) Mineral Resource estimate as of 21 April 2020 of 400 Mt at grades of 1.65% Li_2O, 715 ppm Sn and 34 ppm Ta for the Manono Lithium and Tin Project (https://avzminerals.com.au/manono-mine).

According to the DRC Mining Cadastre, as of December 2022, the Research Permit, PER13359, is owned by Dathcom Mining SAS (100%) granted on 28 December 2016 and expired on 27 December 2021. The Research Permits, PER4029 and PER4030, are owned by AVZ Minerals Congo SARLU (100%) granted on 21 July 2016 and expired on 20 July 2021 (Figure 23-1).

Figure 23-1
Manono/Manono Extension Project license areas



Source: https://avzminerals.com.au/manono-mine *(2022)*

The Qualified Person has been unable to verify the information on AVZ's Manono asset and notes that the information is not necessarily indicative of the mineralisation on the property that is the subject of this technical report, particularly given that the AVZ Mineral Resources are in-situ pegmatite Mineral Resources, whereas the Tantalex assets are technogenic tailings deposits on surface.

24 OTHER RELEVANT DATA AND INFORMATION

There is no additional information relevant to Geology and Mineral Resources

25 INTERPRETATION AND CONCLUSIONS

On behalf of Tantalex, MSA has completed a Mineral Resource estimate for the Manono tailings deposits. The Mineral Resources are based on aircore chips generated from a drilling programme which took place from September 2021 to July 2022.

The samples were subjected to a QAQC programme consisting of the insertion of CRMs, blank samples and the preparation of coarse duplicates. The lithium grades were confirmed by a check assaying exercise. The QP is satisfied that the assay results are of sufficient accuracy and precision for use in Mineral Resource estimation.

The estimates were constrained within modelled volumes representing the various material types making up each individual dump. Ordinary kriging was used to estimate the densely drilled K dump tailings, with the stacked material of the K and the other deposits being estimated using inverse distance squared. The models were validated by statistical and visual means and it was found that the estimates conformed to the data informing the estimates.

The Mineral Resources were reported in the Measured, Indicated and Inferred categories as shown in Table 14-11. 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).

In the QP’s opinion, the Mineral Resources reported herein at the selected cut-off grade have “reasonable prospects for eventual economic extraction”, taking into consideration mining and processing assumptions. The Mineral Resource was reported at a cut-off grade of 0.20% Li_2O.

Table 25-1
Manono Mineral Resources a 0.20% Li_2O cut-off grade – 13 December 2022

Deposit	Classification	Tonnes (Mt)	Li_2O %
Cc	Inferred	2.99	0.32
Ic	Inferred	0.67	0.42
Gc	Indicated	0.29	0.78
	Inferred	0.51	0.84
Gf	Indicated	1.39	0.35
	Inferred	0.13	0.33
K	Measured	3.77	0.86
	Inferred	2.33	0.67
Total	Measured	3.77	0.86
	Indicated	1.69	0.42
	Measured & Indicated	**5.46**	**0.72**
	Inferred	6.63	0.49

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_2O % grades calculated by applying a factor of 2.153 to Li % grades*
4. *Mt = Million tonnes, ppm = parts per million*

At the selected cut-off grade of 0.2% Li_2O, no Mineral Resources are reported for the Ec, Hc and Hf deposits due to their low grade.

26 RECOMMENDATIONS

The QP considers that a Pre-Feasibility Study (PFS) for the project is warranted. Study work towards the PFS, including mining studies, metallurgical test-work and an environmental impact assessment (EIA) are in the process of being conducted.

Additional drilling should be considered on the Gf dump to improve the confidence in the estimates and to quantify the full extent of the deposit, which remains undefined in the southwest. A strategy to drill the stacked tailings of the K deposit is currently being explored, with the aim of providing sufficient data for higher confidence estimates for this material. Should this strategy prove successful, it should be applied to the Cc, Ic and Gc deposits to improve the confidence in these estimates.

Currently the Manono tailings drillhole data is contained in a Microsoft Excel spreadsheet. It is recommended that Tantalex acquires a relational database to safely store all drilling data relevant to the project as is industry best practice.

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