

2 May 2024

Outstanding Ore Sorting Testwork Results for Mavis Lake

Highlights

- **150% increase** in contained lithia (Li_2O) achieved through use of ore sorting.
- Mineral mapping shows predominantly **coarse-grain, low-impurity pegmatites** throughout the Mavis Lake Project.
- XRT waste sorting trials achieved 98% waste rock rejection and **99% spodumene recovery** to product.
- UV-laser spodumene direct sorting successfully **produced a high-grade 1.65% Li_2O spodumene ore** concentrate, with increased waste rejection compared to XRT.
- Due to the highly successful amenability test work, bulk ore sorting has been programmed alongside bulk DMS test work as part of an extensive metallurgical test work program.

Lithium exploration and project development company Critical Resources Limited **ASX:CRR** ("Critical Resources" or "the Company") is pleased to report outstanding results from its preliminary ore sorting test work program on ore from its Mavis Lake Lithium Project in Canada.

Amenability Testing

The Company has been working closely with Saskatchewan Research Council (SRC) and STARK Resources to complete mineralogy and ore sorting investigations to assess the amenability of Mavis Lake ore to pre-concentration by ore sorting.

Pre-concentrating mined ore in the coarse, dry phase creates opportunities to reduce processing costs, increase spodumene production, improve product quality, reduce tailings and lower the overall impact of hard rock lithium processing.

A 150kg sample¹ was chosen in order to focus on the range of lithologies evident at Mavis Lake. Excellent results have shown that Mavis Lake ore is highly amenable to both waste rock separation and pre-concentration through the use of ore sorting technologies, warranting further test work.

The next phase of test work will involve a sample suite that is representative of the Mavis Lake Resource and will be conducted at bulk scale (~1,600kg).

Critical Resources' Managing Director Alex Cheeseman said:

"The results from our first ore sorting trials are outstanding!"

¹ Refer to Appendix Four for complete details on sample composition



"The results show that incorporating ore sorting into the flow sheet for Mavis Lake has the potential to improve the consistency and quality of our spodumene concentrate product, while also offering potential operational benefits including widening the feed envelope to include multiple sources of raw material, as well as possible reductions in the project footprint.

"Given the excellent performance of Mavis Lake ore, we now have a fantastic opportunity to design a process flow sheet that fully utilises the operational advantages offered by these technologies."

Mineralogical Analysis

The 150kg of drill core sample was submitted for the test work campaign. The sample suite encompassed the full range of lithologies and rock types observed at Mavis Lake including:

- High grade pegmatite (~1.8% Li₂O);
- Low grade pegmatite (~0.25% Li₂O);
- Unmineralised pegmatite;
- Satellite Pit pegmatite (physically separate to Main Zone);
- Mineralised host rock; and
- Unmineralised host rock.

Detailed mineral mapping of the Mavis Lake pegmatites can be seen in Appendix 1. The results show a low impurity and typical mineral suite of spodumene, quartz, feldspars (orthoclase and albite) and muscovite.

Main Zone pegmatites are predominantly coarse grained, while some Satellite Pit pegmatites are predominantly medium grained. All pegmatites showed excellent liberation characteristics from host rock. All spodumene lithologies showed excellent liberation characteristics from waste pegmatite minerals. These positive liberation results demonstrate high amenability of Mavis Lake pegmatites to pre-concentration by ore sorting.

XRT Ore Sorting

The host rock containing the Mavis Lake pegmatites is predominantly ferrohornblende - an iron-bearing mineral amenable to separation by X-Ray Transmission (XRT) ore sorting. Ferroholmquistite was also detected in the host rock, confined to the contact zone between host rock and pegmatite.

XRT amenability test work was completed by SRC on all Mavis Lake lithologies which were crushed and screened to +10mm -25mm sizing. The first stage of test work was a static scan of crushed ore to capture the ore response to XRT scanning. Test work results show a clear distinction in the XRT response of the waste rock compared to pegmatite. The results can be seen in Appendix 2 and indicate high amenability of Mavis Lake ore to pre-concentration by XRT ore sorting.

Given the success of the static stage one test work, testing progressed to stage two, a dynamic XRT sorting trial on a 29kg composite sample. The sample incorporated all Mavis Lake lithologies and comprised 25% waste rock to reflect worst case dilution from full scale mining operations.

The dynamic XRT sorting trial was successful in separating waste rock from pegmatite. 98% of waste rock reported to rejects, while 99% of spodumene was recovered to sorter product.



Figure 1 - Dynamic XRT ore sorting results showing separation of pegmatites (left) from waste rock (right)

Table 1 - Dynamic XRT Sorting Trial - Mineral Balance

Stream	Mass		Distribution (%)							
	kg	%	Spodumene	Quartz	Albite	Muscovite	Biotite	Orthoclase	Holmquistite	Hornblende
XRT Product	20.3	71	99.3	68.2	95.7	93.7	22.6	79.4	1.2	2.0
XRT Waste	8.2	29	0.7	31.8	4.3	6.3	77.4	20.6	98.8	98.0
Feed (calc.)	28.5	100	100	100	100	100	100	100	100	100

The results of the dynamic XRT sorting trial correlated with and verified the mineralogy and static amenability assessment that Mavis Lake ore is highly amenable to pre-concentration by XRT ore sorting. Waste ore sorting can be integrated into the Mavis Lake flowsheet to upgrade mined ore in the coarse, dry phase, reducing feed contaminants and increasing spodumene concentrate production.

UV-Laser Ore Sorting

UV-laser based spodumene ore sorting exploits the unique response of spodumene to UV light and is the only sorting technology that targets spodumene directly. A static, stage one amenability study was completed by Stark Resources on all Mavis Lake lithologies, which were crushed and screened to +10mm -25mm sizing. The results can be seen in Appendix 3.

The UV sorter clearly identified spodumene within all pegmatites, indicating high amenability of Mavis Lake ore to pre-concentration by UV-laser based sorting.

Testwork progressed to a stage two dynamic UV sorting trial on a 28kg composite sample. The sample incorporated all Mavis Lake lithologies and comprised 25% waste rock to reflect worst case dilution from full scale mining.

The trial successfully produced a high-grade spodumene ore concentrate, lithia grade increased by a factor of 2.5, from 0.65% Li₂O in the feed to 1.63% Li₂O in the ore concentrate. Furthermore 96% of Fe₂O₃ was rejected. The lithia content of the waste rejects was low at 0.28% Li₂O.



Figure 2 - Dynamic UV ore sorting trial results showing spodumene ore concentrate with its characteristic UV response (top) and waste minerals with no response (bottom)

Table 2 - Dynamic UV Sorting Trial – Lithia and Iron Balance

Stream	Mass		Grade		Distribution	
			Li ₂ O	Fe ₂ O ₃	Li ₂ O	Fe ₂ O ₃
	kg	%	%	%	%	%
UV Product	7.8	28	1.63	0.59	69	4
UV Waste	20.4	72	0.28	6.12	31	96
Feed (calc.)	28.2	100	0.65	4.59	100	100

The results show the promising potential of UV-laser based spodumene direct sorting to produce coarse spodumene ore concentrates from mined ore.

This provides opportunities to reduce the capital cost, operating cost and total impact (footprint and energy intensity) of hard rock lithium processing operations through increasing spodumene concentrate production and reducing tailings volume.

Future Metallurgical Test Work Program

Critical Resources has developed a comprehensive metallurgical test work program to support the development of the Mavis Lake Lithium Project. The program encompasses the full beneficiation flowsheet and will be conducted in three phases.

SRC has been engaged to complete the Phase 1 scope. Over 1,600kg of drilled core was delivered to the SRC facility in Saskatoon in April 2024 and test work has commenced.

Phase 1 is expected to take approximately 20 weeks to complete. Following the success of the amenability trials, bulk ore sorting has been added to the scope of Phase 1.



This provides the opportunity to test ore sorting technologies on a broader range of Mavis Lake ores and determine the highest value pre-concentration solution.

Table 3 – Mavis Lake Metallurgical Studies Plan

Phase 1 Coarse Beneficiation	Phase 2 Fine Beneficiation	Phase 3 Variability
Characterisation Mineralogy Comminution Bulk ore sorting Mica removal Heavy Liquid Separation (HLS) Dense Media Separation (DMS) Magnetic Separation	Characterisation Mineralogy Milling De-sliming Magnetic separation Attritioning Mica flotation Spodumene flotation Flocculation and thickening Slurry rheology	Characterisation Comminution HLS Flotation

This announcement has been approved for release by the Board of Directors.
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ABOUT CRITICAL RESOURCES LIMITED Critical Resources is focused on the exploration, development and delivery of the critical metals required for a decarbonized future, underpinned by a portfolio of lithium projects in Ontario, Canada which are ideally positioned to participate in the rapidly growing North American battery materials supply chain.

The Company's principal focus is on its flagship Mavis Lake Lithium Project in Ontario, Canada, where it has completed over 45,000m of drilling and defined a maiden Inferred Mineral Resource of 8Mt grading 1.07% Li₂O. Recent exploration success has demonstrated substantial potential to expand this resource and make new discoveries in the surrounding area. Critical is progressing a dual-track strategy at Mavis Lake of targeting resource growth in parallel with multiple permitting and project development workstreams.

ABOUT SASKATCHEWAN RESEARCH COUNCIL The Saskatchewan Research Council (SRC) is Canada's second largest research and technology organization. SRC focuses its efforts on the mining, minerals, agriculture and energy sectors, and the environmental considerations that are important across each sector. SRC's Mining and Energy Division provides applied research, development and demonstration to exploration and mining companies, as well as oil and gas producers and pipeline operators. The Mineral Processing Business Unit provides leading-edge solutions to mining and mineral clients. Services focus on RD&D for uranium, potash, rare earths, lithium, diamonds, gold, base metals, industrial minerals (mineral sands, quartz, feldspars) and other priority minerals.

ABOUT STARK RESOURCES STARK Resources is a specialised, privately held engineering group, with a global mining footprint. STARK focusses on fast-tracked design and construction of minerals processing plants, delivering projects in developing countries and Tier-1 jurisdictions. STARK's expertise bridges the understanding of in-ground ore deposits with tailored recovery solutions, ensuring a compelling and economically viable proposition across the entire mining value chain, from Greenfield exploration projects to active production mines, including the implementation of the world's first UV laser based spodumene direct ore sorting technology.

COMPETENT PERSONS STATEMENT The information in this ASX Announcement that relates to Metallurgical results is based on information compiled by Mr Brady Jenkins, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy (MAusIMM). Mr Jenkins is an employee of Critical Resources. Mr Jenkins has sufficient experience in mineral processing of this nature to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian



Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Jenkins consents to the inclusion in this Announcement in the form and context in which it appears.

The information in this ASX Announcement that relates to Exploration Results is based on information compiled by Mr. Troy Gallik (P. Geo), a Competent Person who is a Member of the Association of Professional Geoscientists of Ontario. Troy Gallik is a full-time employee of Critical Resources. Mr. Gallik has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Gallik consents to the inclusion in this Announcement of the matters based on his information in the form and context in which it appears.

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Appendix 1 – Mineral Maps

QEMSCAN mineral maps showing predominantly high-grade, coarse-grained pegmatites in the Main Zone (A1-1) and high-grade, medium-grained pegmatites in the Satellite Pit (A1-2). Both mineralogies are amenable to ore sorting.

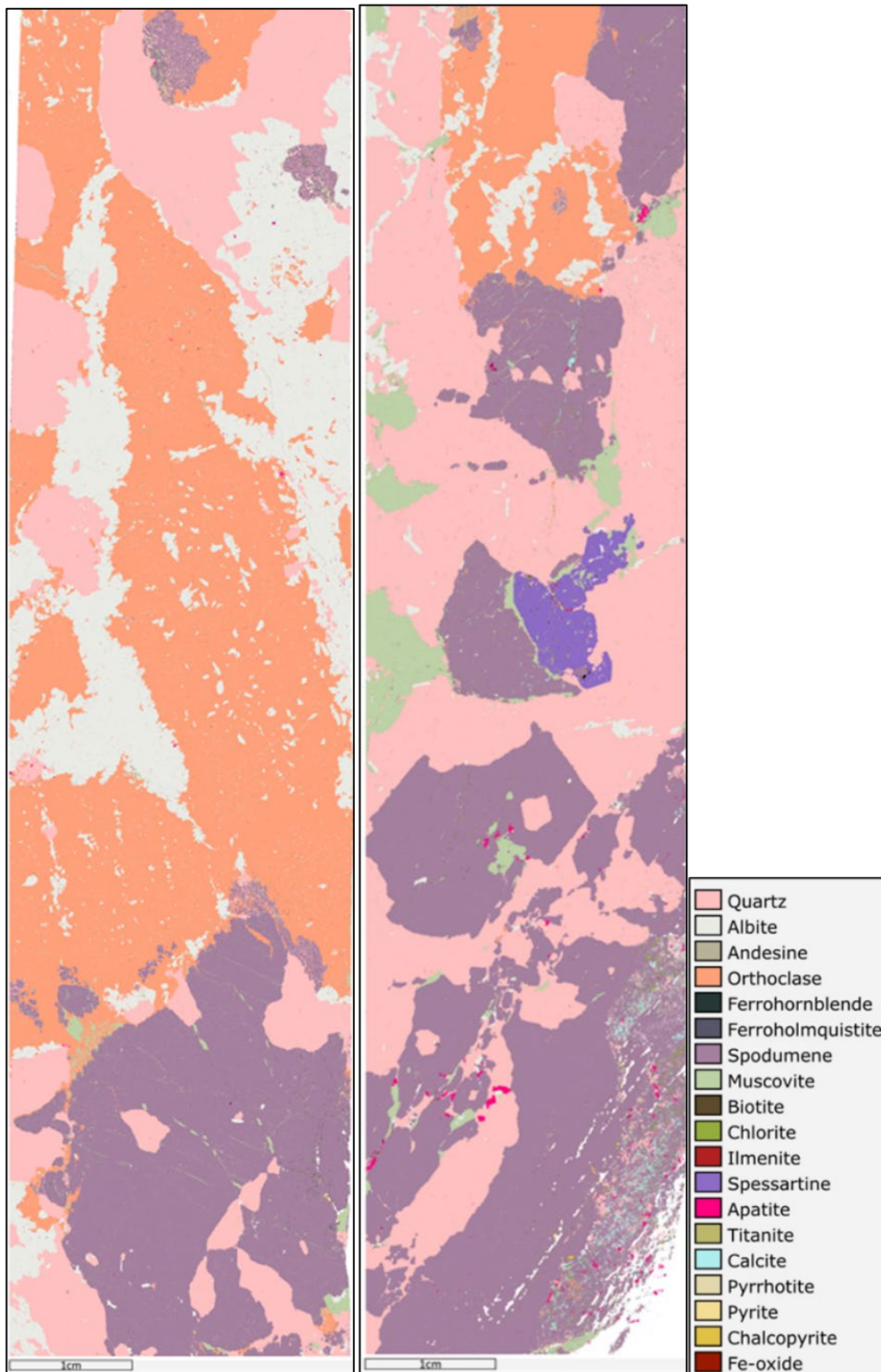


Figure A1-1 - QEMSCAN mineral maps of Main Zone pegmatites showing coarse spodumene crystallisation

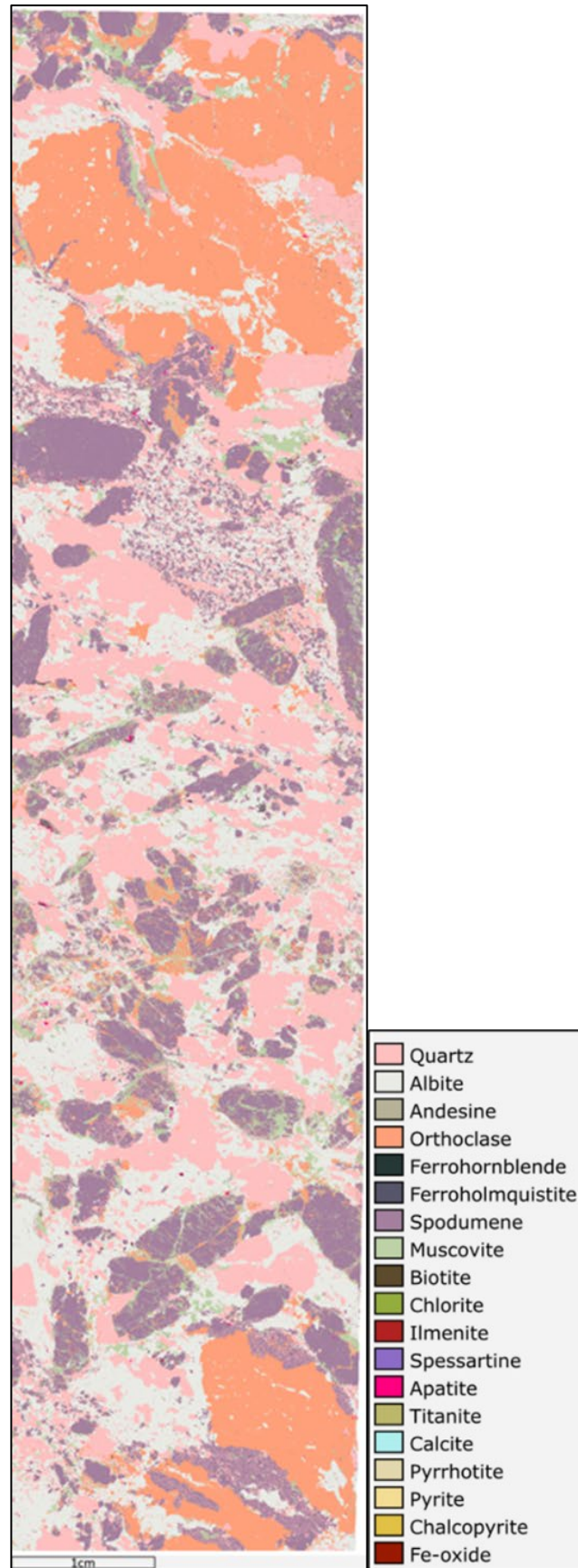


Figure A1-2 - QEMSCAN mineral map of Satellite Pit pegmatite showing medium grained spodumene crystallisation



Appendix 2 – XRT Sorting Testwork Results

XRT static scans show a clear disparity between waste rock (blue) and pegmatites (red), indicating that Mavis Lake ore is highly amenable to XRT ore sorting. Dynamic sorting results confirmed this, with 99% of spodumene reporting to product and 98% of waste rock to rejects.

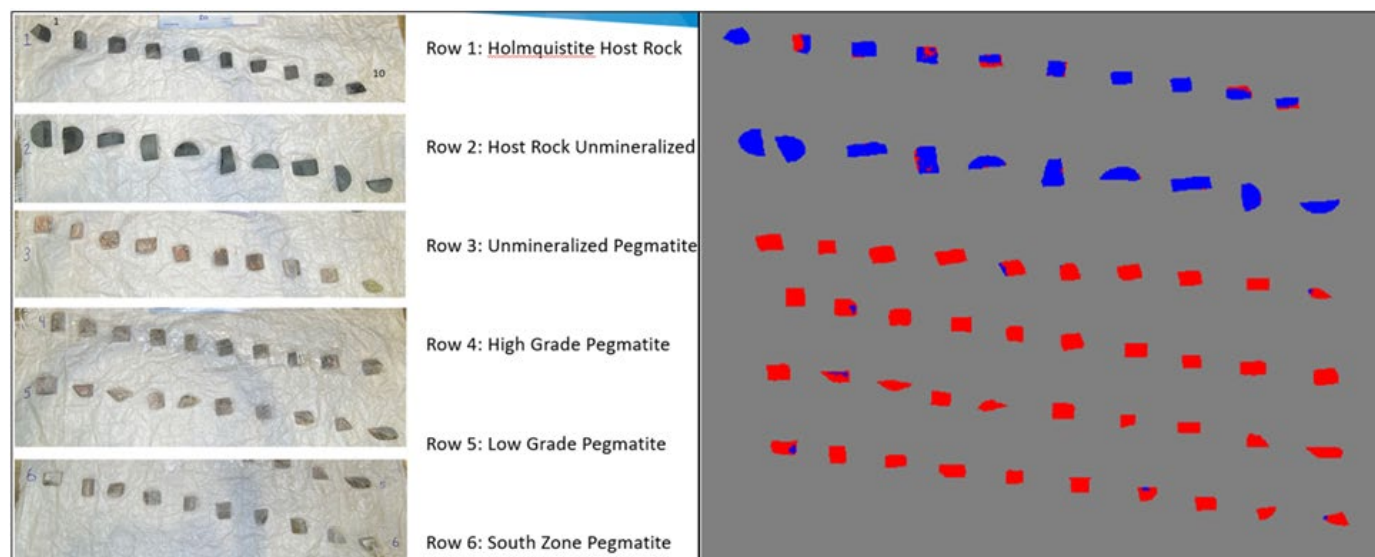


Figure A2-1 – Static test sheet showing XRT response of Mavis Lake lithologies.

Table A2-1 1 XRT Sorting Trial - Assays and Mineral Balance

Stream	Mass		Assays (%)									
	kg	%	Li	Li ₂ O	Fe ₂ O ₃	SiO ₂	Al ₂ O ₃	K ₂ O	Na ₂ O	MnO	CaO	MgO
XRT Product	20.3	71.2	0.32	0.69	0.41	73.72	16.77	2.23	5.14	0.09	0.54	0.05
XRT Waste	8.2	28.8	0.20	0.43	14.74	55.25	13.69	1.75	2.50	0.25	6.48	3.13
Feed (calc.)	28.50	100	0.29	0.62	4.5	68.4	15.9	2.1	4.4	0.13	2.25	0.94
Stream	Mass		Distribution (%)									
	kg	%	Li ₂ O	Fe ₂ O ₃	SiO ₂	Al ₂ O ₃	K ₂ O	Na ₂ O	MnO	CaO	MgO	
XRT Product	20.3	71.2	80	6	77	75	76	84	47	17	4	
XRT Waste	8.2	28.8	20	94	23	25	24	16	53	83	96	
Feed (calc.)	28.5	100	100	100	100	100	100	100	100	100	100	

Stream	Mass		XRD Assays (%)					
	kg	%	Spodumene	Quartz	Albite	Muscovite	Orthoclase	Hornblende
XRT Product	20.3	71.2	8.9	16.0	55.5	4.8	12.8	0.2
XRT Waste	8.2	28.8	0.2	18.4	6.1	0.8	8.2	24.5
Feed (calc.)	28.50	100	6.4	16.7	41.3	3.7	11.5	7.2
Stream	Mass		Distribution (%)					
	kg	%	Spodumene	Quartz	Albite	Muscovite	Orthoclase	Hornblende
XRT Product	20.3	71.2	99.3	68.2	95.7	93.7	79.4	2.0
XRT Waste	8.2	28.8	0.7	31.8	4.3	6.3	20.6	98.0
Feed (calc.)	28.50	100	100	100	100	100	100	100



Appendix 3 – UV-Laser Based Sorting Testwork Results

UV-laser static scans successfully detected spodumene (orange) in mineralised pegmatite samples. Due to its ability to detect and separate spodumene directly, UV ore sorting offers increased mass rejection and a higher-grade sorter product compared to XRT. UV ore sorting achieved a lithium ore concentrate, increasing grade by 150% from 0.65% Li₂O in the feed to 1.63% Li₂O in sorter product. 72% of mass was rejected as low-grade waste. The results show the potential of novel UV-laser based spodumene direct ore sorting and the excellent amenability of Mavis Lake ore to pre-concentration using this technology.

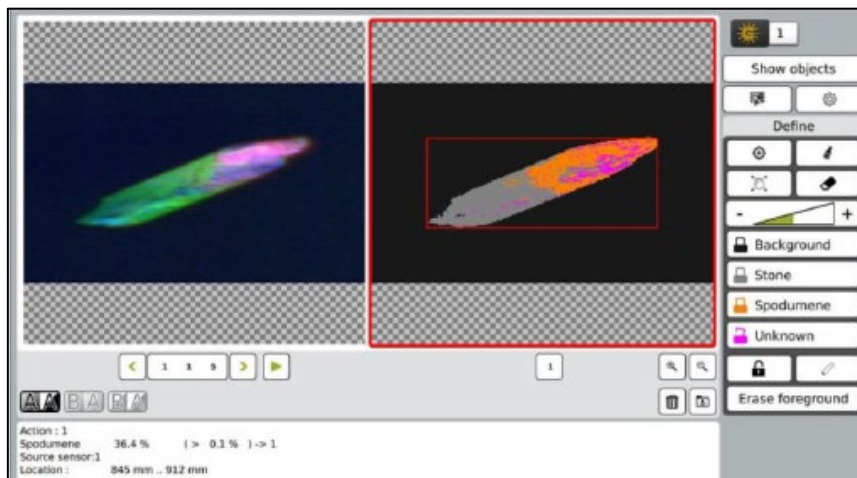


Figure A3-1- UV sorter scanned image – High Grade Pegmatite

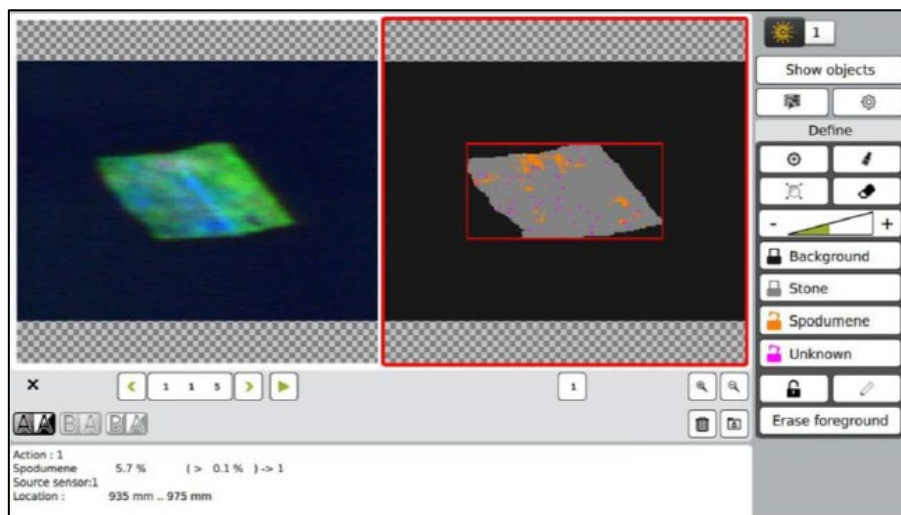


Figure A3-2 – UV sorter scanned image – Low Grade Pegmatite

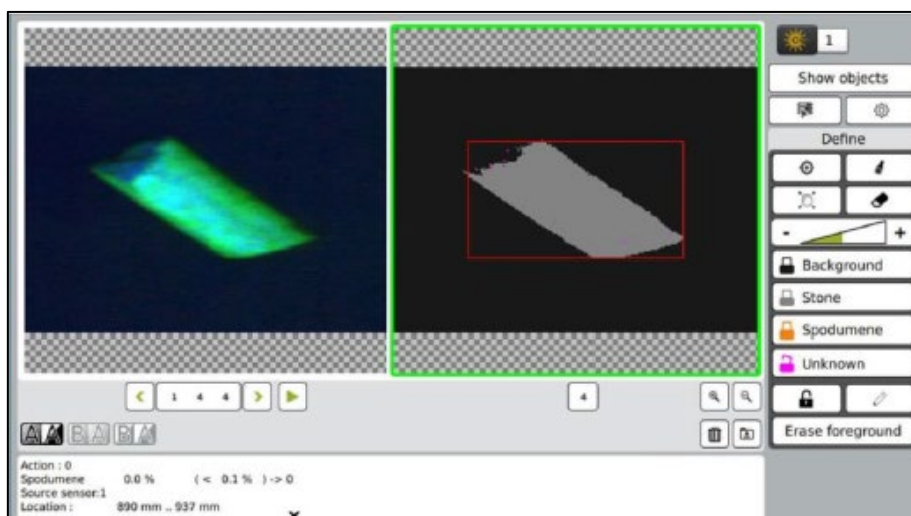


Figure A3-3 – UV sorter scanned image – Unmineralised Pegmatite

Table A3-1 – UV-Laser Sorting Trial - Assays and Mineral Balance

Stream	Mass		Assays (%)									
	kg	%	Li	Li ₂ O	Fe ₂ O ₃	SiO ₂	Al ₂ O ₃	K ₂ O	Na ₂ O	MnO	CaO	MgO
UV Product	7.8	28	0.76	1.63	0.59	74.7	17.0	2.61	3.92	0.11	0.27	0.05
UV Waste	20.4	72	0.13	0.28	6.12	66.5	15.0	2.48	4.80	0.17	2.58	1.35
Feed (calc.)	28.2	100	0.30	0.65	4.59	68.8	15.6	2.52	4.56	0.15	1.94	0.99
Stream	Mass		Distribution (%)									
	kg	%	Li ₂ O	Fe ₂ O ₃	SiO ₂	Al ₂ O ₃	K ₂ O	Na ₂ O	MnO	CaO	MgO	
UV Product	7.8	27.7	69	4	30	30	29	24	20	4	1	
UV Waste	20.4	72.3	31	96	70	70	71	76	80	96	99	
Feed (calc.)	28.2	100	100	100	100	100	100	100	100	100	100	

Stream	Mass		XRD Assays (%)				
	kg	%	Spodumene	Quartz	Albite	Muscovite	Hornblende
UV Product	7.8	28	20.3	28.4	28.3	23.0	0.0
UV Waste	20.4	72	3.2	26.5	31.4	23.3	15.6
Feed (calc.)	28.2	100	7.9	27.0	30.5	23.2	11.3
Stream	Mass		Distribution (%)				
	kg	%	Spodumene	Quartz	Albite	Muscovite	Hornblende
UV Product	7.8	28	71	29	26	27	0
UV Waste	20.4	72	29	71	74	73	100
Feed (calc.)	28.2	100	100	100	100	100	100



Appendix 4 – Samples and Related Exploration Results

Table A4-1: List of samples taken for trial composite

	Drill Hole	Core Type	From (m)	To (m)	Length (m)	Est. Sample (kg)
Samples for Representative Composite	MF23-192	Quarter NQ	198.9	199.3	0.5	0.5
	MF23-192	Quarter NQ	205.1	206.4	1.3	1.5
	MF23-192	Quarter NQ	206.4	207.7	1.4	1.6
	MF23-192	Quarter NQ	210.9	212.5	1.6	1.8
	MF23-192	Quarter NQ	212.9	214.9	2.0	2.4
	MF23-192	Quarter NQ	214.9	216.9	2.0	2.4
	MF23-192	Quarter NQ	216.9	218.1	1.2	1.4
	MF23-192	Quarter NQ	219.1	220.4	1.3	1.5
	MF23-192	Quarter NQ	220.4	221.7	1.3	1.5
	MF23-192	Quarter NQ	223.0	224.6	1.7	1.9
	MF23-192	Quarter NQ	224.6	226.4	1.8	2.1
	MF23-192	Quarter NQ	226.9	229.0	2.1	2.5
	MF23-192	Quarter NQ	248.0	250.1	2.1	2.5
	MF23-230	Half NQ	12.0	13.0	1.0	2.4
	MF23-230	Half NQ	13.0	14.0	1.0	2.4
	MF23-230	Half NQ	14.0	15.0	1.0	2.4
	MF23-230	Half NQ	15.0	16.0	1.0	2.4
	MF23-230	Half NQ	16.0	17.0	1.0	2.4
	MF23-230	Half NQ	17.0	18.0	1.0	2.4
	MF23-230	Half NQ	18.0	19.0	1.0	2.4
	MF23-230	Half NQ	19.0	20.0	1.0	2.4
	MF23-230	Half NQ	20.0	21.0	1.0	2.4
	MF23-230	Half NQ	21.0	22.0	1.0	2.4
	MF22-64	Quarter NQ	116.2	118.3	2.1	2.5
	MF22-64	Quarter NQ	118.3	120.4	2.1	2.5
	MF22-64	Quarter NQ	120.4	122.5	2.1	2.5
	MF22-64	Quarter NQ	122.5	124.5	2.0	2.4
	MF22-64	Quarter NQ	124.5	126.5	2.0	2.4
	MF22-64	Quarter NQ	126.5	128.5	2.0	2.4



MF22-64	Quarter NQ	128.5	130.5	2.0	2.4
MF22-64	Quarter NQ	130.5	132.5	2.0	2.4
MF22-64	Quarter NQ	132.5	134.5	2.0	2.4
MF22-121	Quarter NQ	46.0	47.3	1.3	1.5
MF22-121	Quarter NQ	47.3	48.5	1.3	1.5
MF22-121	Quarter NQ	48.9	50.5	1.6	1.9
MF22-121	Quarter NQ	50.9	52.6	1.7	2.0
MF22-121	Quarter NQ	53.2	55.2	2.0	2.4
MF22-121	Quarter NQ	55.2	57.2	2.0	2.4
MF22-121	Quarter NQ	57.2	59.2	2.0	2.4
MF22-121	Quarter NQ	59.2	61.2	2.0	2.4
MF22-121	Quarter NQ	61.2	63.2	2.1	2.4
MF22-121	Quarter NQ	63.2	65.1	1.9	2.2
MF22-121	Quarter NQ	65.1	66.1	1.0	1.2
MF22-121	Quarter NQ	79.0	80.3	1.3	1.5
MF22-121	Quarter NQ	80.3	81.4	1.2	1.4
MF23-215	Quarter NQ	210.6	212.5	1.9	2.2
MF23-215	Quarter NQ	212.5	213.5	1.0	1.2
MF23-215	Quarter NQ	213.5	215.5	2.0	2.4
MF23-215	Quarter NQ	225.6	227.5	2.0	2.3
MF23-215	Quarter NQ	227.6	229.6	2.0	2.4
MF23-215	Quarter NQ	229.6	231.1	1.5	1.8
MF23-215	Quarter NQ	302.4	304.4	2.0	2.4
MF23-215	Quarter NQ	304.4	305.7	1.3	1.5
MF23-219	Quarter NQ	223.6	225.7	2.1	2.5
MF23-219	Quarter NQ	225.7	227.8	2.1	2.5
MF23-219	Quarter NQ	227.8	229.9	2.1	2.5
MF23-219	Quarter NQ	229.9	232.0	2.1	2.4
MF23-219	Quarter NQ	232.0	234.0	2.0	2.4
MF23-219	Quarter NQ	234.0	236.0	2.0	2.4
SZ23-002	Quarter NQ	72.4	74.4	2.0	2.4
SZ23-002	Quarter NQ	74.4	76.4	2.0	2.4
SZ23-002	Quarter NQ	76.4	78.2	1.8	2.1



	SZ23-002	Quarter NQ	78.2	79.2	1.0	1.2
	SZ23-005	Quarter NQ	71.9	73.9	2.0	2.4
	SZ23-005	Quarter NQ	73.9	75.3	1.4	1.7
	SZ23-006	Quarter NQ	182.6	184.6	2.0	2.4
	SZ23-006	Quarter NQ	184.6	185.8	1.2	1.4
	SZ23-007	Quarter NQ	85.8	87.0	1.2	1.4
	SZ23-007	Quarter NQ	87.0	88.3	1.3	1.5
	SZ23-009	Quarter NQ	161.8	163.8	2.0	2.4
	SZ23-009	Quarter NQ	163.8	165.4	1.7	1.9

JORC Table 1 – MF22-064, MF22-121, MF23-192, MF23-215, MF23-219, MF23-230, SZ23-002, SZ23-005, SZ23-006, SZ23-007, SZ23-009

Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC-Code Explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	• Drill core samples were provided by drill holes from the 2022 and 2023 Mavis Lake Drill Program performed by Critical Resources Limited. • Oriented NQ core was cut in half and quarters using a diamond saw. • No other measurement tools other than directional survey tools have been used in the holes at this stage. • Oriented core was placed V-rail and a consistent cut-line drawn along core to ensure cutting (halving) of representative samples. • Sampling is conducted based on core logging, 100% of drill hole core is logged. The core logger is a geologist, has experience in lithium mineralisation, and determines the intervals of samples. All pegmatite intersections are sampled regardless of the visual presence of lithium minerals/spodumene. Host rock is typically not sampled as lithium mineralisation is localized to pegmatites (spodumene mineral) or their alteration halos (holmquistite mineral) within mafic volcanic host rock.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In</i>	• Determination of mineralisation has been based on geological logging and photo analysis. • Diamond Core drilling was used to obtain 3m length samples from the barrel which are then marked in one



Criteria	JORC-Code Explanation	Commentary
	<i>other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i>	metre intervals based on the drillers core block measurement. • Ore sorting testing samples are selected based on lithology and geological logging boundaries or on the nominal metre marks. • Samples sent to SRC were bagged on site with security tags, shipped to Saskatchewan Research Council (SRC) via vehicle transport and recovered by SRC Laboratory in Saskatoon, Saskatchewan Canada.
Drilling techniques	<i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core</i>	• NQ2 and HQ2 diamond double tube coring by Cyr Drilling's EF-50 rig was used throughout the hole. • Core orientation was carried out by the drilling contractor.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	• Lithological logging, photography • Core samples were measured with a standard tape within the core trays. Length of core was then compared to the interval drilled, and any core loss was attributed to individual rock units based on the amount of fracturing, abrasion of core contacts, and the conservative judgment of the core logger. Results of core loss are discussed below.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	• Experienced driller contracted to carry out drilling. • In broken ground the drillers produced NQ core from short runs to maximise core recovery. • Core was washed before placing in the core trays. • Core was visually assessed by professional geologists before cutting to ensure representative sampling.
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	• See "Aspects of the determination of mineralisation that are Material to the Public Report" above.
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	• Core samples were not geotechnically logged. • Core samples have been geologically logged to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • The core logging was qualitative in nature.



Criteria	JORC-Code Explanation	Commentary
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> <i>The total length and percentage of the relevant intersections logged.</i>	• All core was photographed • Total length of the MF22-064 was 185m • 100% of the relevant intersections were logged. Total length of the MF22-121 was 137m • 100% of the relevant intersections were logged. Total length of the MF23-192 was 327.75m • 100% of the relevant intersections were logged. Total length of the MF23-215 was 368m • 100% of the relevant intersections were logged. Total length of the MF23-219 was 299m • 100% of the relevant intersections were logged. Total length of the MF23-230 was 425m • 100% of the relevant intersections were logged. Total length of the SZ23-002 was 173m • 100% of the relevant intersections were logged Total length of the SZ23-005 was 110m • 100% of the relevant intersections were logged Total length of the SZ23-006 was 200m • 100% of the relevant intersections were logged Total length of the SZ23-007 was 113m • 100% of the relevant intersections were logged Total length of the SZ23-009 was 182m • 100% of the relevant intersections were logged
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	• Oriented core was placed V-rail and a consistent cut-line drawn along core to ensure cutting (halving) of representative samples.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	• Core sample intervals were based in logged mineralisation • No duplicates or second half-sampling.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	• Appropriate method: oriented NQ and HQ core cut in half using a diamond saw, with a half core sent for assay and half core retained.



Criteria	JORC-Code Explanation	Commentary
		Core samples were sent to Saskatchewan Research Council (SRC) Laboratory for the purposes of mineralogical analysis and ore sorting testwork.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	- Samples were previously assayed from accredited lab – Activation Laboratories. - Methods appropriate for style of mineralisation: UT-7 (Li up to 5%) QOP Sodium Peroxide (Sodium Peroxide Fusion ICPOES + ICPMS).
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	- Assays were released in previous announcements. - Either standards or blanks are inserted every 10th sample interval as a part of a QA/QC process. Standard and blank results from recent drilling are within acceptable margins of error. - Activation Laboratory performs internal QA/QC measures. Results are released once all internal QA/QC is verified and confirmed to be acceptable.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	- Samples sent to SRC were bagged on site with security tags, shipped to Saskatchewan Research Council (SRC) via vehicle transport and recovered by SRC Laboratory in Saskatoon, Saskatchewan Canada. - The ore sorting testing samples were sent to an accredited laboratory – SRC Laboratory in Saskatoon, Saskatchewan, Canada. - Additional assay analysis was conducted by SGS on the concentrates



Criteria	JORC-Code Explanation	Commentary
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	• No independent verification completed at this stage. • Core measured, photographed and logged by geologists. Digitally recorded plus back-up records. • No adjustments to the laboratory assay data. • No assay cut off grades are applied.
	<i>The use of twinned holes.</i>	
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	
	<i>Discuss any adjustment to assay data.</i>	
Location of data points	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	• Drill collars recorded with Garmin GPS that has an accuracy in the order of ± 3 metres for location. A registered surveyor will be contracted to accurately survey all drill collars at completed of drill program. • WGS 1984 UTM Zone 15N. • No specific topography survey has been completed over the project area.
	<i>Specification of the grid system used.</i>	
	<i>Quality and adequacy of topographic control.</i>	
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	• Not relevant to current drilling. • Not relevant to current drilling. • Core sample intervals were based in logged mineralisation and no sample composting applied. Reporting of final results includes many weighted average- composting of assay data.
	<i>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	
	<i>Whether sample composting has been applied.</i>	
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	• The orientation of the mineralisation is unknown. The drilling program is aimed at determining orientation of the mineralisation. • If orientation of mineralisation is known or thought to be known, drill holes are planned to intersect at an appropriate angle relative to true width of the mineralisation. Intercepts with mineralisation released are given as downhole widths, not true widths unless true widths are stated.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have</i>	



Criteria	JORC-Code Explanation	Commentary
	<i>introduced a sampling bias, this should be assessed and reported if material.</i>	It is uncertain whether sampling bias has been introduced, or whether the thickness drilled is a true thickness.
Sample security	<i>The measures taken to ensure sample security.</i>	- Core samples were stored at the Dryden core yard and core shack under lock and key before delivery - Samples sent to SRC were bagged on site with security tags, shipped to Saskatchewan Research Council (SRC) via vehicle transport and recovered by SRC Laboratory in Saskatoon, Saskatchewan Canada.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	Not undertaken at this stage.

Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

Criteria	JORC-Code Explanation	Commentary
Mineral tenement and land tenure status	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	- The Mavis Lake Lithium Project consists of 1097 unpatented Single Cell Mining Claims and six separate surface leases which secure the surface rights of the land required for the Project footprint. - All claims and leases are active and in good standing. The leases have a term of 21 years and are not set to expire until 2032, at which time they can be renewed for an additional 21 years if required.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Previous exploration has been conducted by a number of parties including Lun-Echo Gold Mines Limited (1956), Selco Mining Corporation (1979-1980), Tantalum Mining Corporation of Canada Limited (1981-1982), Emerald Field Resources (2002), International Lithium Corp (2006-2021) and Pioneer Resources Limited/Essential Metals Limited (2018-2021).
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	The Fairservice and Mavis Lake Prospects host zoned pegmatites that are prospective for lithium and tantalum



Criteria	JORC-Code Explanation	Commentary						
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: Easting and northing of the drill hole collar Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar Dip and azimuth of the hole down hole length and interception depth hole length.							
		Hole ID	Easting	Northing	RL	Azimuth	Dip	To Depth
		MF22-121	524603.3	5518047	435.67	190.1	-70.1	137
		MF22-64	524254.3	5518025	445.371	319.9	-80.2	185
		MF23-192	523901.1	5518034	425.466	339.9	-69.7	327.75
		MF23-215	524082.9	5518047	439.333	355	-68	368
		MF23-219	523905.8	5518034	425.562	355	-65	299
		MF23-230	524300.6	5517994	444.467	348	-73	425
		SZ23-002	524915.6	5517461	414.895	290	-44.7	173
		SZ23-005	524841.3	5517581	419.713	109.9	-45.5	110
	SZ23-006	524840.7	5517580	419.744	45	-45.4	200	
	SZ23-007	524840.1	5517580	419.717	110	-60	113	
	SZ23-009	524770.8	5517620	430.739	109.8	-45.3	182	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.							
		All drill collars are re-surveyed at a later date upon completion of drill hole for accurate collar coordinates.						
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	- Uncut. - All aggregate intercepts detailed on tables are weighted averages.						
	Where aggregate intercepts incorporate short lengths of high-grade results and longer	None used						



Criteria	JORC-Code Explanation	Commentary
	lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	• True width is calculated from logging geologists structural measurements from upper and lower contacts of pegmatite dyke and the host rock. Both apparent downhole lengths and true widths are provided. • The precise geometry is not currently known but is being tested by the planned drilling, with diamond drill hole azimuths designed to drill normal to the interpreted mineralised structure. • Down-hole length reported, true width not known.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not	• The drilling is aimed at clarifying the structure of the mineralisation.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to	• Representative reporting of all relevant grades is provided in tables to avoid misleading reporting of Exploration Results.



Criteria	JORC-Code Explanation	Commentary
Other substantive exploration data	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential</i>	• Overview of exploration data leading to selection of drill targets provided.
Further work	<i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	• Further exploration, resource defining, and metallurgical drilling will continue to commence throughout the Mavis Lake Project Area. Ongoing field programs and geophysical surveys may be conducted.