



TECHNICAL REPORT

ON THE

**MINERAL RESOURCE ESTIMATE FOR LITHIUM IONIC,  
ITINGA PROJECT, NEAR ARAÇUAÍ VILLAGE, MINAS  
GERAIS STATE, BRAZIL**

SIRGAS 2000 Zone 24S and UTM WGS 84

Outro Lado: 185736 m E; 8145988 m N / LATITUDE 16° 44' S, LONGITUDE 41° 56' W  
&  
Bandeira: 190117 m E; 8141940 m N / LATITUDE 16° 47' S, LONGITUDE 41° 53' W

**Prepared for:**

**Lithium Ionic Corp.**  
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SGS Project # P2023-05

<b>TABLE OF CONTENTS</b>		<b>PAGE</b>
TABLE OF CONTENTS .....		i
LIST OF FIGURES.....		iii
LIST OF TABLES .....		iv
1	SUMMARY .....	6
1.1	Property Description, Location, Access, and Physiography.....	6
1.2	Exploration and Drilling.....	6
1.3	Geology and Mineralization .....	7
1.4	Mineral Processing, Metallurgical Testing and Recovery Methods.....	7
1.5	Itinga Deposit Mineral Resource Estimate .....	8
1.5.1	Mineral Resource Statement.....	8
1.6	Recommendations.....	10
2	INTRODUCTION .....	11
2.1	Terms of Reference .....	11
2.2	Site Visit.....	11
2.3	Effective Date .....	12
2.4	Currency, Units, Abbreviations and Definitions .....	12
3	RELIANCE ON OTHER EXPERTS.....	14
4	PROPERTY DESCRIPTION AND LOCATION .....	15
4.1	Location .....	15
4.2	Mineral Claims: Transactions & Listings of Ownership .....	18
4.3	Mineral Tenure Status .....	19
4.4	Surface Rights Property.....	21
4.5	Operating Permits.....	21
4.6	Environmental Permits, Licenses and Authorizations .....	21
4.7	Other Relevant Factors.....	21
5	ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY .....	22
5.1	Accessibility .....	22
5.2	Local Resources .....	22
5.3	Infrastructure.....	22
5.4	Climate.....	23
5.5	Physiography .....	23
5.6	Vegetation.....	25
6	HISTORY.....	27
6.1	Historical Exploration.....	27
6.2	Historical Mineral Resource Estimates.....	27
7	GEOLOGICAL SETTING AND MINERALIZATION .....	28
7.1	Regional Geology .....	28
7.1.1	Pegmatites .....	28
7.2	Structural Geology.....	29
7.3	Geological Model.....	30
7.4	Mineralization Model.....	34
8	DEPOSIT TYPES .....	35
9	EXPLORATION .....	37
9.1	Trench Sampling Program.....	37
9.2	Rock Chip Sampling Programs .....	37
9.3	Structural Mapping.....	39
9.4	Geophysical Surveys.....	42
10	DRILLING .....	49
10.1	Introduction .....	49
10.2	Drill Type.....	49
10.3	Lithium Ionic Drilling Campaigns .....	49
10.4	Bandeira.....	49
10.5	Outro Lado.....	56
10.6	Drillhole Collar Survey .....	58

10.7	Surveying.....	59
10.8	Drilling Contractor.....	59
10.9	Drill Collar Monuments.....	59
10.10	Potential Drilling, Sampling or Recovery Factors.....	59
10.11	QP's Comments.....	59
11	SAMPLE PREPARATION, ANALYSES, AND SECURITY.....	60
11.1	2022-2023 Drilling Programs.....	60
11.1.1	Diamond Core Drillhole Samples.....	60
11.1.2	Sample Preparation.....	60
11.1.1	Sample Analysis.....	61
11.1.2	Protocol for Diamond Drilling (MGLIT, 2022).....	61
11.2	Quality Assurance/Quality Control (QAQC) Samples.....	65
11.2.1	Certified Reference Materials.....	65
11.2.2	Preparation Blanks (Coarse Blank).....	68
11.2.3	Analytical Blanks (Fine Blank).....	69
11.2.4	Coarse Duplicate Samples.....	70
11.2.5	Pulverized Duplicate Samples.....	70
11.2.6	Sample Security.....	72
11.2.7	QP's Comments.....	73
12	DATA VERIFICATION.....	74
12.1	March 2023 Site Visit and Data Verification.....	74
12.2	Conclusion.....	75
13	MINERAL PROCESSING AND METALLURGICAL TESTING.....	76
13.1	General.....	76
14	MINERAL RESOURCE ESTIMATES.....	77
14.1	Introduction.....	77
14.2	Drill Hole Database.....	77
14.3	Mineral Resource Modelling and Wireframing.....	80
14.3.1	Geological and Mineralogical Domain Interpretation and Solid Generation.....	82
14.4	Bulk Density.....	83
14.5	Compositing.....	83
14.6	Grade Capping.....	87
14.7	Block Model Parameters.....	88
14.8	Grade Interpolation.....	91
14.9	Mineral Resource Classification Parameters.....	92
14.10	Mineral Resource Statement.....	95
14.11	Model Validation and Sensitivity Analysis.....	102
14.11.1	Sensitivity to Cut-off Grade.....	103
14.12	Disclosure.....	104
15	MINERAL RESERVE ESTIMATE.....	105
16	MINING METHODS.....	106
17	RECOVERY METHODS.....	107
18	PROJECT INFRASTRUCTURE.....	108
19	MARKET STUDIES AND CONTRACTS.....	109
20	ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT.....	110
20.1	Water consumption.....	112
21	CAPITAL AND OPERATING COSTS.....	113
22	ECONOMIC ANALYSIS.....	114
23	ADJACENT PROPERTIES.....	115
24	OTHER RELEVANT DATA AND INFORMATION.....	116
25	INTERPRETATION AND CONCLUSIONS.....	117
25.1	Exploration and Drilling.....	117
25.2	Itinga Project, Bandeira and Outro Lado Deposit Mineral Resource Estimate.....	117
25.2.1	Mineral Resource Statement.....	118
25.3	Risk and Opportunities.....	121
25.3.1	Risks.....	121

25.3.2	Opportunities .....	122
26	RECOMMENDATIONS .....	123
27	REFERENCES .....	124
28	DATE AND SIGNATURE PAGE .....	125
29	CERTIFICATES OF QUALIFIED PERSONS .....	126

## LIST OF FIGURES

Figure 4-1	Lithium Ionic Property Location (WGS 84) .....	15
Figure 4-2	Lithium Ionic Land Tenure .....	16
Figure 4-3	Flow Diagram of Legal Mineral Tenure and Mining Project Progression in Brazil .....	17
Figure 4-4	Municipalities Boundaries near Itinga Property .....	18
Figure 4-5	Lithium Ionic 100% Owned Claims (UTM Sirgas 2000, 24 S) .....	19
Figure 5-1	Physiographic Example of the Itinga Property .....	22
Figure 5-2	Accumulated precipitation (mm) and Potential Evapotranspiration (mm) from the Araçuaí Station .....	24
Figure 5-3	Piauí Stream nearby Bandeira Exploration Permit Perimeter .....	25
Figure 5-4	Forest Cover in South-East of Brazil.....	26
Figure 7-1	Geological Map of the Araçuaí Orogen .....	29
Figure 7-2	Plan View of the Outro Lado Lithium bearing Dike, striking ~296 Degrees North, Surface Trace shown without Drill Hole Traces (UTM Sirgas2000, 24S) .....	30
Figure 7-3	Plan View of the Outro Lado Lithium bearing Dike, striking ~296 Degrees North, Surface Trace shown with Drill Hole Traces (UTM Sirgas2000, 24S) .....	31
Figure 7-4	Isometric View of the Modeled Outro Lado Structure (Lithium bearing Pegmatite) from ~ 180 m below the Topography. Z Axis shown to Indicate Depth from Surface (Surface Topography shown as Green Fill) (UTM Sirgas2000, 24S) .....	31
Figure 7-5	Isometric View of the Modeled Outro Lado Structure (Lithium bearing Pegmatite) from ~ 180 m below Topography with Drill Hole Traces and Pierce Points along the Structure looking Roughly SW (Topography shown as Green Fill) (UTM Sirgas2000, 24S) .....	32
Figure 7-6	Plan View of the Bandeira Pegmatite Structures (shown in pink). Dashed Line Separating Opposite Dipping Structures (Northwest and Southeast Segments). X-Y Coordinates Indicate 'y' Pointing to North and 'x' Pointing due East, (UTM Sirgas2000, 24S) .....	33
Figure 7-7	Isometric View of the Bandeira Pegmatite Structures below the Topographic Surface (Topography filled Green) showing NW and SE Structures (shown in pink) looking NE, (UTM Sirgas2000, 24S) .....	33
Figure 7-8	Isometric View of the Bandeira Pegmatite Structures with Drill Hole Traces and Pierce Points shown below the Topographic Surface. The NW and SE Structures shown in pink, looking NE, (UTM Sirgas2000, 24S) .....	34
Figure 8-1	Main Zones of an Idealized Pegmatite .....	35
Figure 9-1	Rock Sample Map of the Bandeira Target.....	38
Figure 9-2	Rock Sample Map of the Outro Lado Target.....	39
Figure 9-3	Structural Map of Bandeira Target.....	40
Figure 9-4	Plan View of Wireframed Bandeira Pegmatites.....	41
Figure 9-5	Isometric View of Wireframed Bandeira Pegmatites .....	41
Figure 9-6	Location of the Lines and Measuring Stations of the Chargeability and Resistivity data of Area 1 and Area 2 of the Lithium Project.....	42
Figure 9-7	Depth Model of the Chargeability (Top Panel) and the Actual Resistivity (Bottom Panel) of Line 2 of Area 1.....	43
Figure 9-8	Depth Model of the Actual Chargeability (Top Panel) and the Actual Resistivity (Bottom Panel) of Line 3 of Area 1 .....	43
Figure 9-9	Depth Model Chargeability (Top Panel) and Resistivity (Bottom Panel) of Line 1 and 2 of Area 2.....	44
Figure 9-10	Depth Model Chargeability (Top Panel) and Resistivity (Bottom Panel) of Line 3 of Area 2 .....	45
Figure 9-11	Depth Map of Real Chargeability (N6 = 68 m).....	46

Figure 9-12	Depth Map of Real Resistivity (N6 = 68 m).....	47
Figure 9-13	Conceptual Geological Model from Geophysics Data .....	47
Figure 10-1	Plan View of the Drilling at Bandeira (blue collars) (UTM Sirgas2000, 24S).....	55
Figure 10-2	Longitudinal View Looking NW of the Drilling at Bandeira.....	56
Figure 10-3	Plan View of the Drilling Outro Lado .....	58
Figure 10-4	Longitudinal View Looking NW of the Drilling at Outro Lado .....	58
Figure 11-1	Logical Sequence Matrix.....	64
Figure 11-2	Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard ITAK 1100 .....	66
Figure 11-3	Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard ITAK 1101 .....	67
Figure 11-4	Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard OREAS 750 .....	67
Figure 11-5	Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard OREAS 752 .....	68
Figure 11-6	Coarse Blank Sample Chart for Li (ppm).....	69
Figure 11-7	ITAK QF-15 Fine Blank Sample Chart for Li (ppm) .....	69
Figure 11-8	ITAK QF-16 Fine Blank Sample Chart for Li (ppm) .....	70
Figure 11-9	Correlation Plot of Duplicate Samples for Li (ppm) (Coarse and Pulverized Duplicates)....	72
Figure 13-1	Flow Sheet of the Procedure .....	76
Figure 14-1	Plan View: Surface Trenches and Drill Holes, Itinga Property (UTM Sirgas2000, 24S) .....	78
Figure 14-2	View Looking North: Surface Drill Holes of Outro Lado Deposit .....	79
Figure 14-3	View Looking North: Surface Trenches and Drill Holes of Bandeira Deposit.....	79
Figure 14-4	Isometric View Looking Northwest: Outro Lado Mineral Resource Models.....	80
Figure 14-5	Isometric View Looking Northwest: Outro Lado Geologic Models.....	81
Figure 14-6	Isometric View Looking Northeast: Bandeira Mineral Resource Models.....	81
Figure 14-7	Sample Length Histogram for Drill Core Assay Samples from Within the Bandeira and Outro Lado Deposit Mineral Solid .....	85
Figure 14-8	Bandeira and Outro Lado 1m Composites .....	88
Figure 14-9	Isometric View Looking Northwest: Bandeira and Outro Lado Deposits Mineral Resource Block Model and Mineralization Solids .....	89
Figure 14-10	Isometric View Looking Northwest: Bandeira Deposit Mineral Resource Block Grades and Whittle Pit.....	98
Figure 14-11	Isometric View Looking Northwest: Bandeira Deposit Classified Blocks and Revenue Factor 1.0 Whittle Pit.....	99
Figure 14-12	Isometric View Looking Northwest: Outro Lado Deposit Mineral Resource Block Grades Selected for Underground Mining .....	100
Figure 14-13	Isometric View Looking Northwest: Outro Lado Deposit Classified Blocks Selected for Underground Mining .....	101
Figure 14-14	Comparison of ID2 & Kriging Models for the Bandeira and Outro Lado combined Deposits Mineral Resource (no pit, no stope applied).....	103
Figure 20-1	Piauí Stream inside the Bandeira Exploration Permit Perimeter. The water Pumped has been used in the Drillings.....	111
Figure 20-2	Piauí Stream nearby Bandeira Exploration Permit Perimeter .....	111
Figure 20-3	Typical Dense Media Separation Flow Chart .....	112

## LIST OF TABLES

Table 1-1	Total Drill Holes.....	7
Table 1-2	Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation .....	8
Table 1-3	Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023.....	9
Table 2-1	List of Abbreviations.....	13
Table 4-1	Lithium Ionic – Mineral Claims .....	20
Table 6-1	Historical Drill Holes.....	27

Table 9-1	Total Trenches .....	37
Table 10-1	Total Drill Holes.....	49
Table 10-2	Total Bandeira Drilling.....	49
Table 10-3	Total Bandeira DDH Mineralized Intervals.....	50
Table 10-4	Total Outro Lado Drilling .....	56
Table 10-5	Total Outro Lado Mineralized Intervals.....	57
Table 11-1	Certified Reference Materials for 2022-2023.....	66
Table 11-2	2022-2023 Li CRM Performance .....	66
Table 11-3	Statistics of Coarse and Pulverized Duplicates for Li (ppm).....	71
Table 13-1	Size Test Results .....	76
Table 14-1	Itinga Property Domain Descriptions .....	81
Table 14-2	Assay Statistics, Bandeira and Outro Lado Deposits Mineral Solid .....	83
Table 14-3	Statistical Analysis of the 1.0 m Calculated Length Composite Data from Within the Bandeira and Outro Lado Deposit Mineral Solids .....	86
Table 14-4	Grade Capping Statistics Results .....	87
Table 14-5	Deposit Block Model Geometry .....	88
Table 14-6	Grade Interpolation Parameters by Solid.....	92
Table 14-7	Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation .....	96
Table 14-8	Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023 .....	96
Table 14-9	Comparison of Block Model Volume with the Total Volume of the Deposit 3D Models (before removing mined out material) .....	102
Table 14-10	Comparison of Average Composite Grades (based on assayed data) with Block Model Grades .....	102
Table 14-11	Bandeira and Outro Lado Deposits Open Pit and Underground Mineral Resource Estimate at Various Li <sub>2</sub> O% Cut-off Grades, June 24, 2023 .....	103
Table 25-1	Total Drill Holes.....	117
Table 25-2	Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation .....	120
Table 25-3	Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023.....	120
Table 26-1	Recommended 2023-2024 Work Program for the Lithium Ionic Project .....	123

## 1 SUMMARY

Lithium Ionic Corp. (“Lithium Ionic” or the “Company”, “LIC”) requested SGS Geological Services (SGS) to prepare a NI 43-101 Technical Report (The Report) on Lithium Ionic’s Outro Lado and Bandeira deposits located in Minas Gerais State, Brazil (collectively, the Project). This report titled “Mineral Resource Estimate for Lithium Ionic, Itinga Project, near Araçuaí Village, Minas Gerais State, Brazil” outlines all the pertaining technical information related to drilling program and the status of the current mineral resources of Lithium contained in the spodumene bearing pegmatites.

The Project is located between the towns of Araçuaí and Itinga within Brazil’s “Lithium Valley” - a hard rock lithium district. The Mineral Resource Estimate (MRE) includes the Bandeira and Outro Lado (Galvani) lithium deposits, on properties which together cover only 871.92 ha within its current land package of 2,070.04 hectares.

Lithium Ionic is headquartered in Toronto, Ontario (36 Lombard Street, Floor 4, Toronto, ON, Canada, M5C 2X3) with management offices in Sao Paulo, Brazil and Araçuaí and is a publicly traded Canadian exploration and development company listed on the TSX Venture Exchange (“TSXV”). The Company is engaged in the acquisition, exploration, and development of mineral properties with a primary focus on exploring in Brazil. Exploration is conducted through the Company’s wholly owned Brazilian subsidiaries, MGLIT Empreendimentos Ltda. (“MGLIT”) and Neolit Minerals Participacoes Ltda (“Neolit”). The Company acquired 99.9% of the issued and outstanding shares of MGLIT on October 21, 2021: 99.8% from an officer and director of the Company and 0.1% from a corporation controlled by an officer and director of the Company. The remaining 0.1% of the issued and outstanding shares were acquired on February 14, 2022 from an officer and director of Lithium Ionic. The Company acquired 100% of Neolit on March 13, 2023.

The effective date of this report is June 24, 2023, and the information in this report including the reported resource estimates are all contained within a conceptual open pit and/or as underground mineable MRE. The Report supports the disclosure by Lithium Ionic in the news release outlining the current MRE dated June 27, 2023.

### 1.1 Property Description, Location, Access, and Physiography

The Project is located in Northeastern Minas Gerais State, Brazil in the Bananal Valley region, 600 km north-east of Belo Horizonte. The Property is 100% owned by Lithium Ionic. The Project is located approximately 75 km south of from the town of Salinas (population ~42,000) and approximately 25 km east of the town of Araçuaí (population of ~40,000) by major sealed roads. The Project is well served by a public and private road network, as a result of its proximity to National Road 251. The Project is accessible year-round by a network of arterial and back country service roads. National route BR 251 accesses the Port of Vitoria in the State of Espirito Santo, some 850 km from the Project site. This port could represent a potential port of export for any spodumene production from the Project. The national road BR116 and BR415 accesses to Ilhéus Port which is 510 km from the project and is also an option as a shipping port.

### 1.2 Exploration and Drilling

Trench sampling program, rock chip sampling programs, structural mapping and geophysical surveys were completed on the Property. A total of 21 trenches were completed in 2022 at the Bandeira target by Lithium Ionic totaling 1,346.89 m. Field work included rock samples in the field and a preliminary field mapping of visible outcrops. Some basic field data such as outcrop attitude (strike and dip), foliation and cleavage which located several occurrences of spodumene never previously known or reported. Since this initial discovery, Lithium Ionic rapidly advanced the Project with drill testing of the target(s) and the pegmatite system.



Table 1-1 is a drill summary table showing the drilling completed by Lithium Ionic until June 15, 2023. A total of 179 diamond drill holes (27,507.53 m) were completed in 2022 and 2023.

**Table 1-1 Total Drill Holes**

<b>Pegmatite/Area</b>	<b>Number of Drill Holes</b>	<b>Meters Drilled (m)</b>
Outro Lado	58	7,108.7
Bandeira	119	20,398.83
<b>Total</b>	<b>179</b>	<b>27,507.53</b>

### 1.3 Geology and Mineralization

The Project area lies in the Eastern Brazilian Pegmatite Province (EBP) that encompasses a very large region (about 150,000 km<sup>2</sup>) of the States of Bahia, Minas Gerais, and Rio de Janeiro. Approximately 90% of the EBP is located in the eastern part of Minas Gerais state. The pegmatite swarm is associated with the Neoproterozoic Araçuaí orogeny. In the general Project district, pegmatites are typically hosted by a medium-grey, biotite–quartz schist. The pegmatites are generally concordant with the schist foliation, which is coincident with the overall strike of the schists. The pegmatite–schist contacts display recrystallization features such as biotite eyes within cordierite masses, and development of millimeter-sized, black tourmaline needles that are almost always perpendicular to the shale foliation.

Pegmatites are generally divided into two main types: Anatectic (directly formed from the partial melting of the country rock) and residual pegmatite (fluid rich silicate melts resulting from the fractional crystallization of a parent magma). The pegmatites in the Project area are interpreted to be residual pegmatites and are further classified as representative of lithium–cesium–tantalum or LCT types. Pegmatites in the Araçuaí and Itinga district tend to be tabular in shape, with widths, thicknesses and lengths that vary widely. The dikes typically have sharp contacts with the schist host rock and have a discontinuous, thin, fine-grained (chilled margin) border zone. They typically do not display classic concentric zoning around a quartz core (e.g. Simmons et al, 2003), instead, the Araçuaí and Itinga district dikes display a characteristic layered anisotropic internal fabric (London, 1992). The pegmatite on the Outro Lado and on the Bandeira deposits are primarily hosted in a biotite–quartz schist, which is similar to the host rock described in other pegmatite occurrences in the area. Pegmatite that contain spodumene and are Lithium bearing, strikes northwest (~296°) and dips at ~ 46-65° to the northeast. The dike is about 880 m long, 20-30 m thick and has been intersected to a vertical depth of approximately 122 m from the surface. The pegmatite shows a classic border, intermediate and central zones. The border zone tends to be more albite rich and the highest spodumene content is generally in the central zone. The NDC pegmatite is a high-grade mix of mainly spodumene but also containing some petalite with a variable ratio depending on the thickness of the zone, although petalite can be found throughout the deposit. A similar biotite–quartz schist to Outro Lado is also host to the Bandeira pegmatite. Bandeira pegmatite model indicates two different orientations for the pegmatite structures and can be divided into North West segment and the South East segment.

### 1.4 Mineral Processing, Metallurgical Testing and Recovery Methods

In December of 2022, Lithium Ionic commissioned SGS Geosol to conduct a preliminary Metallurgical Test to ascertain processing of material from Outro Lado and from Bandeira. SGS Geosol Brazil performed a preliminary test work to evaluate use of gravity concentration to obtain a lithium concentrate. The objective of metallurgical test was to separate a lithium concentrate which would be in compliance with specifications of the current market requirement for Li<sub>2</sub>O concentrate with allowable amounts of impurity in the final concentrate (6% of Li<sub>2</sub>O and less than 1% of Fe). Two samples (20 kg each) were dried and prepared, stage crushed using 31.5, 25.4 and 12.5mm jaw crusher obtaining 100% of crushed passing 12.5 mm sieve.



The crushed material was homogenized using a rotary splitter and submitted to a granulometric test using the 12.5, 6.3, 1.7 and 0.5 mm sieves. Each size range was separated and representative samples collected for chemical analysis using the method ICP90A/ICP90Q (Sodium Peroxide fusion and ICP-AES finish).

Report concluded using gravity separation and heavy liquid medium (HLM), it is possible to obtain Li<sub>2</sub>O concentrates compatible with the current lithium market requirement on the submitted samples. The test concluded that the contained Li<sub>2</sub>O of 6% in the concentrate will be in compliance with current market requirements and that a target of Li<sub>2</sub>O content of 6% and a recovery of around 78-83% could be achieved using a HL density of around 2.8 g/cm<sup>3</sup>. 300 g of the (12.5-6.3) mm and (6.3-1.7) mm size ranges and 100g of size range (1.7- 0.5) mm was separated by splitting to perform the HLS tests.

## 1.5 Itinga Deposit Mineral Resource Estimate

### 1.5.1 Mineral Resource Statement

The current MRE for the Project is presented in Table 1-3 and includes an in-pit and an underground (below-pit) Mineral Resources (estimated from the bottom of the pit). Highlights of the Mineral Resource Estimate are as follows:

- The Bandeira in-pit Mineral Resource includes, at a base case cut-off grade of 0.5 % Li<sub>2</sub>O, 1.14 Mt grading 1.43 % Li<sub>2</sub>O, in the Measured category, 3.1 Mt grading 1.33 % Li<sub>2</sub>O, in the Indicated category and 5.9 Mt grading 1.4 % Li<sub>2</sub>O, in the Inferred category.
- The Bandeira below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 3.0 Kt grading 1.1 % Li<sub>2</sub>O, in the Measured category, 0.35 Mt grading 1.26 % Li<sub>2</sub>O, in the Indicated category and 5.5 Mt grading 1.147 % Li<sub>2</sub>O, in the Inferred category.
- The Outro Lado below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 2.58 Mt grading 1.47 % Li<sub>2</sub>O, in the Measured category, 3.85 Mt grading 1.34 % Li<sub>2</sub>O, in the Indicated category and 11.9 Mt grading 1.44 % Li<sub>2</sub>O, in the Inferred category.

**Table 1-2 Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation**

Parameter	Value	Unit
Li <sub>2</sub> O Price (at a concentrate of 6%)	\$1,500	US\$ per tonne
In-Pit Mining Cost	\$2.50	US\$ per tonne mined
Underground Mining Cost	\$60.00	US\$ per tonne mined
Processing Cost (incl. crushing & G&A)	\$17.00	US\$ per tonne milled
General Pit Slope	60	Degrees
Process Recovery	65	Percent (%)
Mining loss / Dilution (open pit)	5/5	Percent (%) / Percent (%)
Mining loss/Dilution (underground)	10/10	Percent (%) / Percent (%)

**Table 1-3 Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023**

<u>Deposit/Cut-Off Grade</u>	<u>Category</u>	<u>Resource (tonnes)</u>	<u>Grade (% Li<sub>2</sub>O)</u>	<u>Contained LCE (t)</u>
Bandeira Open-Pit (0.5% Li <sub>2</sub> O)	<b>Measured</b>	1,137,000	1.43	40,000
	<b>Indicated</b>	3,105,000	1.33	102,000
	<b>Measured + Indicated</b>	4,242,000	1.36	142,000
	<b>Inferred</b>	5,915,000	1.4	205,000
Bandeira Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	3,000	1.1	0
	<b>Indicated</b>	353,000	1.26	11,000
	<b>Measured + Indicated</b>	357,000	1.26	11,000
	<b>Inferred</b>	5,530,000	1.47	201,000
Outro Lado (Galvani) Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	2,578,000	1.47	94,000
	<b>Indicated</b>	393,000	1.43	14,000
	<b>Measured + Indicated</b>	2,971,000	1.46	108,000
	<b>Inferred</b>	416,000	1.48	15,000
<b>TOTAL</b>	<b>Measured</b>	3,719,000	1.46	134,000
	<b>Indicated</b>	3,852,000	1.34	127,000
	<b>Measured + Indicated</b>	7,570,000	1.4	261,000
	<b>Inferred</b>	11,861,000	1.44	422,000

- (1) *The effective date of the MRE is June 24, 2023.*
- (2) *The classification of the current Mineral Resource Estimate into Measured, Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.*
- (3) *All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.*
- (4) *All Resources are constrained by continuous 3D wireframe models (constraining volumes) and are considered to have reasonable prospects for eventual economic extraction.*
- (5) *Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*
- (6) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Project. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (7) *It is envisioned that parts of the Bandeira deposit may be mined using open pit mining methods. In-pit mineral resources are reported at a cut-off grade of 0.5% Li<sub>2</sub>O within a conceptual pit shell,*
- (8) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (9) *It is envisioned that parts of the Bandeira deposit may be mined using underground mining methods. Underground (below-pit) Mineral Resources are estimated from the bottom of the pit (base of transition mineralization) and are reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*
- (10) *It is envisioned that the Outro Lado deposit may be mined using underground mining methods and is reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified*

*above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*

- (11) Based on the size, shape, location and orientation of the Bandeira and Outro Lado deposit, it is envisioned that the deposit may be mined using low cost underground bulk mining methods.*
- (12) Bulk density values were determined based on physical test work from each deposit model and waste model.*
- (13) The pit optimization and in-pit base case cut-off grade of 0.5% Li<sub>2</sub>O considers a mining cost of US\$2.50/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material, an overall pit slope of 60°. The below-pit base case cut-off grade of 0.8% Li<sub>2</sub>O considers a mining cost of US\$60.00/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material.*
- (14) The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

## 1.6 Recommendations

The Itinga Project contains within-pit and underground Measured, Indicated and Inferred Mineral Resources that are associated with well-defined mineralized trends and models. The Bandeira deposit is open along strike and at depth on most of its mineralized zones. The Outro Lado deposit is relatively defined laterally and at depth, there is a possibility of additional mineralization next to the deposit both laterally and at depth. Given the prospective nature of the deposits, it is the Author's opinion that the Project merits further exploration and that a proposed plan for further work by Lithium Ionic is justified. A proposed work program by Lithium Ionic will help advance the Project and will provide key inputs required to evaluate the economic viability of the Project. The Author is recommending Lithium Ionic conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

A proposed plan for further work by Lithium Ionic is justified. A proposed work program by Lithium Ionic will help advance the Project and will provide key inputs required to evaluate the economic viability of the Project. The Author is recommending Lithium Ionic management and board consider conducting further exploration, subject to funding/financing and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves. Lithium Ionic is currently evaluating various vendors and service providers to complete the program. The total cost of the recommended work program by Lithium Ionic is estimated at US\$ 20 million (Table 26-1).

## 2 INTRODUCTION

Lithium Ionic Corp. (“Lithium Ionic” or the “Company”, “LIC”) requested SGS Geological Services (SGS) to prepare a NI 43-101 Technical Report (The Report) on Lithium Ionic’s Outro Lado and Bandeira deposits located in Minas Gerais State, Brazil (collectively, the Project). This report titled “Mineral Resource Estimate for Lithium Ionic, Itinga Project, near Araçuaí Village, Minas Gerais State, Brazil” outlines all the pertaining technical information related to drilling program and the status of the current mineral resources of Lithium contained in the spodumene bearing pegmatites.

The Project is located between the towns of Araçuaí and Itinga within Brazil’s “Lithium Valley” - a hard rock lithium district. The Mineral Resource Estimate (MRE) includes the Bandeira and Outro Lado (Galvani) lithium deposits, on properties which together cover only 871.92 ha within its current land package of 2,070.04 hectares.

Lithium Ionic is headquartered in Toronto, Ontario (36 Lombard Street, Floor 4, Toronto, ON, Canada, M5C 2X3) with management offices in Sao Paulo, Brazil and Araçuaí and is a publicly traded Canadian exploration and development company listed on the TSX Venture Exchange (“TSXV”). The Company is engaged in the acquisition, exploration, and development of mineral properties with a primary focus on exploring in Brazil. Exploration is conducted through the Company’s wholly owned Brazilian subsidiaries, MGLIT Empreendimentos Ltda. (“MGLIT”) and Neolit Minerals Participacoes Ltda (“Neolit”). The Company acquired 99.9% of the issued and outstanding shares of MGLIT on October 21, 2021: 99.8% from an officer and director of the Company and 0.1% from a corporation controlled by an officer and director of the Company. The remaining 0.1% of the issued and outstanding shares were acquired on February 14, 2022 from an officer and director of Lithium Ionic. The Company acquired 100% of Neolit on March 13, 2023.

The effective date of this report is June 24, 2023, and the information in this report including the reported resource estimates are all contained within a conceptual open pit and/or as underground mineable MRE. The Report supports the disclosure by Lithium Ionic in the news release outlining the current MRE dated June 27, 2023.

### 2.1 Terms of Reference

Mineral Resources are reported for two separate pegmatite bodies, Outro Lado and Bandeira. Mineral Resources are reported using the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards (2014 CIM Definition Standards). This Report is based, in part or in full, on internal reports and information as listed in Item 27 of this Report. If sections from reports authored by other consultants have been directly quoted in this Report, these are indicated as such in the Report sections.

### 2.2 Site Visit

This site visit to the Itinga Project of Lithium Ionic was conducted by Mr. Maxime Dupéré, P.Geo., from March 28 to April 1, 2023. The site visit was focused on the Itinga Property which contained in whole or in part the Outro Lado and Bandeira deposits.

Predetermined scheduled time was allotted to each of the target areas. Once on site, allotted time was spent at the Bandeira deposit and the Outro Lado deposit with some allocated time for the adjacent, still under exploration and drilling consideration parts within the current tenements.

During the site visit, approximately one and a half days was spent on:

- data review, sampling and sample QAQC protocols and procedures
- data collection procedures, review of the geological logging procedure

- review of core sampling and data management procedures
- portion of the day was also spent on presentations and overview of how the geological interpretation, modeling, and resource estimation is being carried out by the in-house experts of the Company.

Upon arrival in Araçuaí, a meeting was held at the site offices of Lithium Ionic to provide the writer with the latest thoughts and considerations concerning the project and to introduce the project participants. The meeting included agenda topics which covered various aspects of the current project which included; geological settings, mineralization, potential new drilling targets, logging of current drill holes, sampling QAQC, database management, resource estimation/classification and possible mining methods under discussion. Meeting attendees included the following individuals:

Lithium Ionic staff:

- Carlos Henrique Costa, VP Exploration
- Gilberto Silva, Itinga Project Manager
- André Guimarães, Business Development Director
- Antonio Roberto Nunes, Resource Geologist
- Anderson Magalhães Victoria, Project Geologist
- Victor Mirim, Sr. Project Geologist
- Julio Cesar Santos, Project Database Manager
- Renato De Souza Costa, Engineering Director

External Consultants:

- Antonio Carlos Soares Pedrosa, P.Geo.

The last day of database had been determined mutually between Lithium Ionic and SGS to be June 15, 2023. Although the drilling program had been completed, assay results were still pending from two drill holes (ITDD-23-112 & ITDD-23-119). Assay results from these drill holes will not be inclusive in the MRE.

## 2.3 Effective Date

The Effective Date of the current MRE is June 24, 2023.

## 2.4 Currency, Units, Abbreviations and Definitions

All units of measurement used in this technical report are International System of Units (SI) or metric, except for Imperial units that are commonly used in industry (e.g., ounces (oz.) and pounds (lb.) for the mass of precious and base metals). All currency is in US dollars, unless otherwise noted. Frequently used abbreviations and acronyms can be found in Table 2-1. This Report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs consider them immaterial.

**Table 2-1 List of Abbreviations**

\$	Dollar sign	Li <sub>2</sub> CO <sub>3</sub>	Lithium Carbonate
%	Percent sign	LCE	Lithium Carbonate Equivalent
°	Degree	Li <sub>2</sub> O	Lithium Oxide
°C	Degree Celsius	m	Meters
°F	Degree Fahrenheit	m <sup>2</sup>	Square meters
µm	micron	m <sup>3</sup>	Cubic meters
AA	Atomic absorption	masl	Meters above sea level
Ag	Silver	mm	millimeter
Au	Gold	mm <sup>2</sup>	square millimeter
Az	Azimuth	mm <sup>3</sup>	cubic millimeter
CAD\$	Canadian dollar	Moz	Million troy ounces
cm	centimeter	MRE	Mineral Resource Estimate
cm <sup>2</sup>	square centimeter	Mt	Million tonnes
cm <sup>3</sup>	cubic centimeter	NAD 83	North American Datum of 1983
Co	Cobalt	Ni	Nickel
Cu	Copper	NQ	Drill core size (4.8 cm in diameter)
DDH	Diamond drill hole	ppm	Parts per million
ft	Feet	QA	Quality Assurance
ft <sup>2</sup>	Square feet	QC	Quality Control
ft <sup>3</sup>	Cubic feet	QP	Qualified Person
g	Grams	RC	Reverse circulation drilling
GPS	Global Positioning System	RQD	Rock quality description
Ha	Hectares	SG	Specific Gravity
HQ	Drill core size (6.3 cm in diameter)	Ton	Short Ton
ICP	Induced coupled plasma	Tonnes or T	Metric tonnes
kg	Kilograms	TPM	Total Platinum Minerals
km	Kilometers	US\$	US Dollar
km <sup>2</sup>	Square kilometer	UTM	Universal Transverse Mercator
Li	Lithium (elemental)		

### **3 RELIANCE ON OTHER EXPERTS**

Verification of information concerning Property status and ownership, which are presented in Item 4 below, have been provided to the Author by Carlos H C Costa, VP Exploration for Lithium Ionic by way of an E-mail on July 14, 2023. The Author only reviewed the land tenure in a preliminary fashion and has not independently verified the legal status or ownership of the Property or any underlying agreements or obligations attached to ownership of the Property. However, the Author has no reason to doubt that the title situation is other than what is presented in this technical report (Item 4). The Author is not qualified to express any legal opinion with respect to Property titles or current ownership.



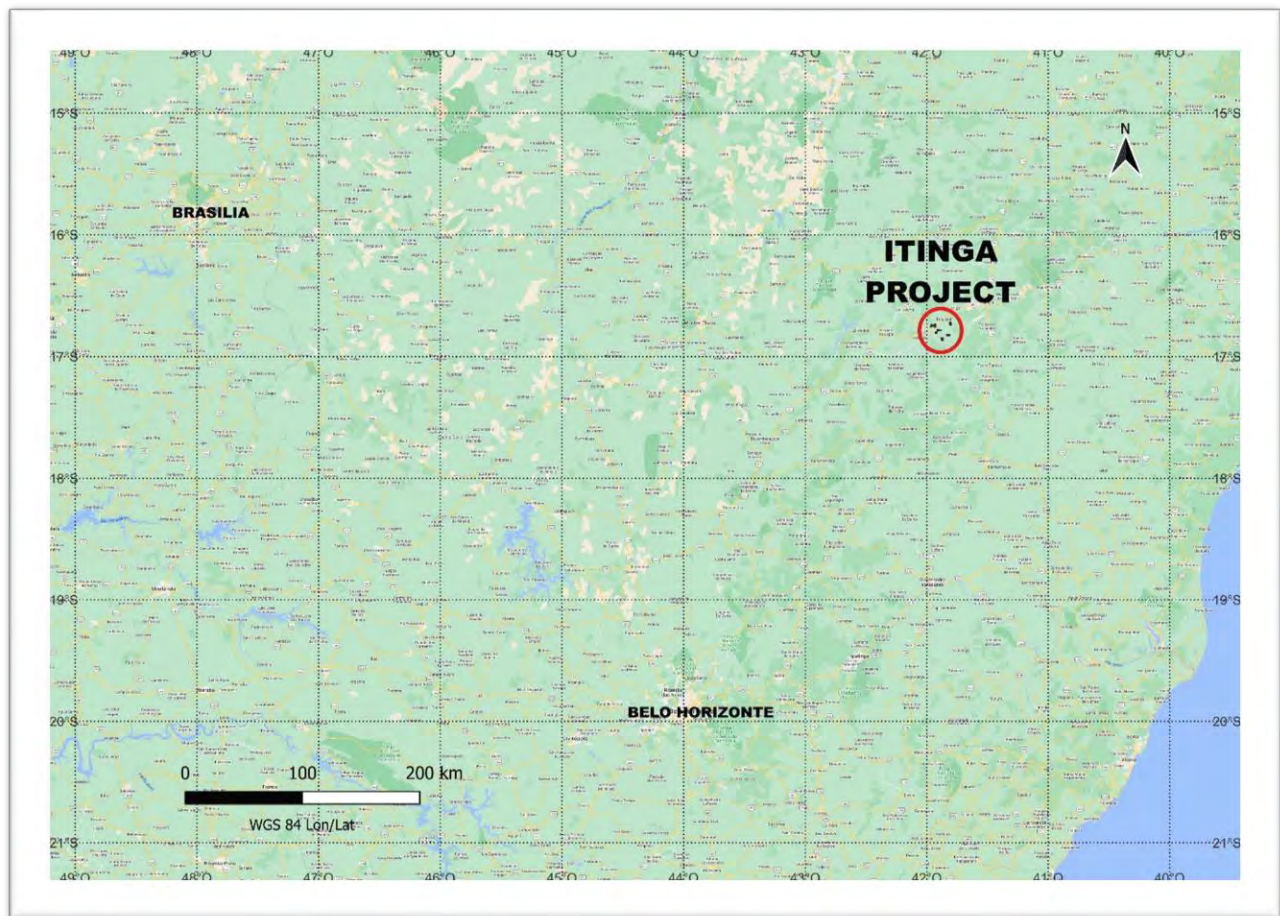
## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location

The Project is located in Northeastern Minas Gerais State, Brazil in the Bananal Valley region, 600 km north-east of Belo Horizonte. The Project is located approximately 75 km south of from the town of Salinas (population ~42,000) and approximately 25 km east of the town of Araçuaí (population of ~40,000) by major sealed roads (Figure 4-1).

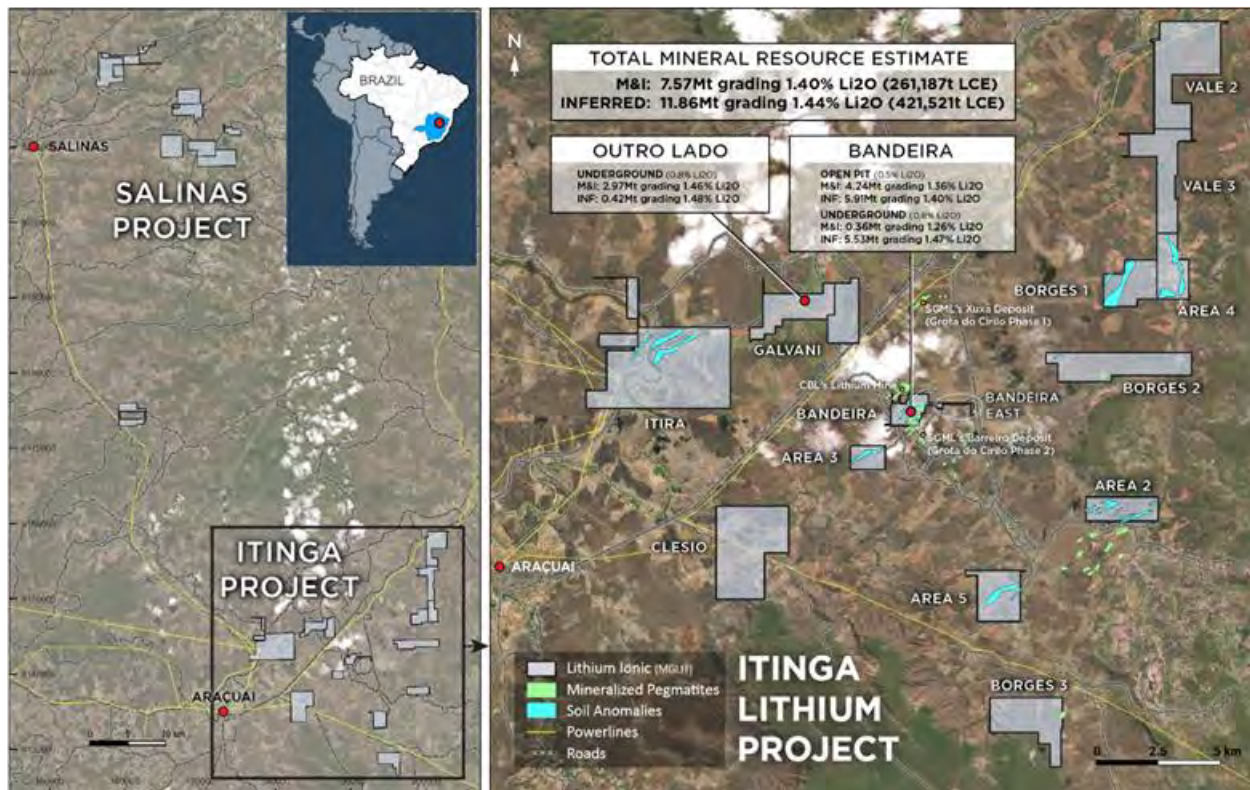
This report will primarily cover mineral resource estimates on two of the companies mineral exploration targets: namely Outro Lado and Bandeira which are located on map projection SIRGAS 2000 Zone 24 S, Latitude 16° 44' S, Longitude 41° 56' W and Latitude 16° 47' S, Longitude 41° 53' W. UTM coordinates of 185736 m E; 8145988 m N and UTM coordinates of 190117 m E; 8141940 m N.

**Figure 4-1 Lithium Ionic Property Location (WGS 84)**



Source: Google Map, 2023

**Figure 4-2 Lithium Ionic Land Tenure**



Source: Lithium Ionic

The legal framework for the development and use of mineral resources in Brazil was established by the Brazilian Federal Constitution, which was enacted on October 5, 1988 (the Brazilian Constitution) and the Brazilian Mining Code, which was enacted on January 29, 1940 (Decree-law 1985/40, later modified by Decree-law 227, of February 29, 1967). The Mining Code is overseen by the National Mining Agency (Agência Nacional de Mineração, or ANM). There are two main legal regimes under the Mining Code regulating Exploration and Mining in Brazil: Exploration Authorization (“Autorização de Pesquisa”) and Mining Concession (“Concessão de Lavra”).

According to the Brazilian Constitution, all mineral resources in Brazil are the property of the Federal Government. The Brazilian Constitution also guarantees mining companies the full property of the mineral products that are mined under their respective concessions. Mineral rights come under the jurisdiction of the Federal Government and mining legislation is enacted at the Federal level only. To apply for and acquire mineral rights, a company must be incorporated under Brazilian law, have its management domiciled within Brazil, and its head office and administration in Brazil.

In general, there are no restrictions on foreign investment in the Brazilian mining industry, except for mining companies that operate or hold mineral rights within a 150 km-wide strip of land parallel to the Brazilian terrestrial borders. In this instance the equity interests of such companies have to be majority Brazilian-owned. Exploration and mining activities in the border zone are regulated by the Brazilian Mining Code and supporting legislation.

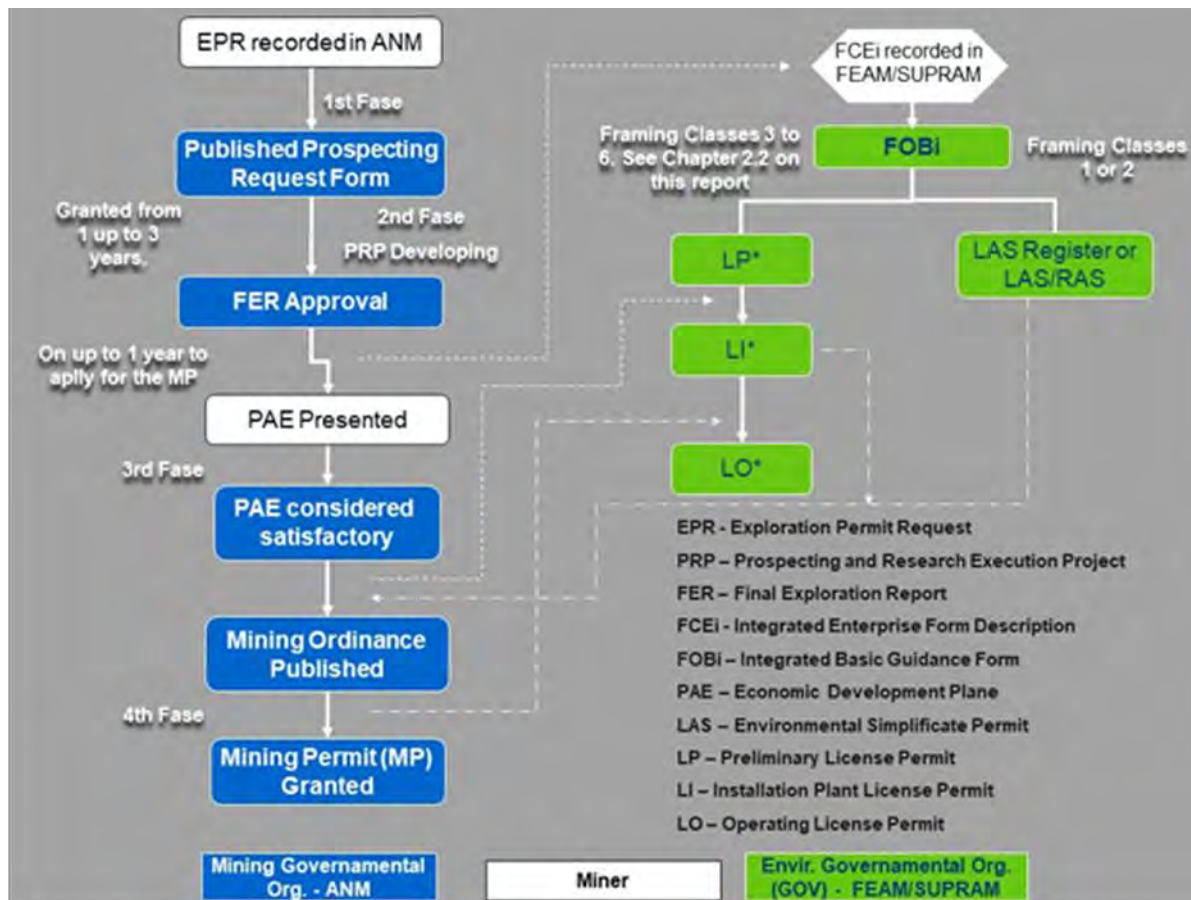
Applications for an Exploration Authorization (“EA”) are made to the ANM and are available to any company incorporated under Brazilian law and maintaining a main office and administration in Brazil. EAs are granted following submission of required documentation by a legally qualified Geologist or Mining Engineer, including an exploration plan and evidence of funds or financing for the investment forecast in the exploration plan. An annual fee per hectare ranging from approximately US\$0.50/ha to US\$ 1.00/ha, is paid



by the holder of the EA to the ANM, and a final report of the exploration work must be submitted by the end of the three years. No exploration work is permitted during the review period of a formal EA application.

EAs are valid for a maximum of three years, with a maximum extension equal to the initial period, issued at the discretion of the ANM. Annual fees per hectare increase by 50% during the extension period. After submission of a Final Exploration Report, the EA holder may request for a mining concession. Mining concessions are granted by the Brazilian Ministry of Mines and Energy, have no set expiration date, and are valid until the total depletion of mineral resources. Mining concessions remain in good standing subject to submission of annual production reports and payments of royalties, that can be between 1% and 3%, to the federal government. CEFEM is 2% for Lithium in Brazil.

**Figure 4-3 Flow Diagram of Legal Mineral Tenure and Mining Project Progression in Brazil**



Adapted from Mining legislation classes notes of UNI-BH Geology bachelor's degree, 2015

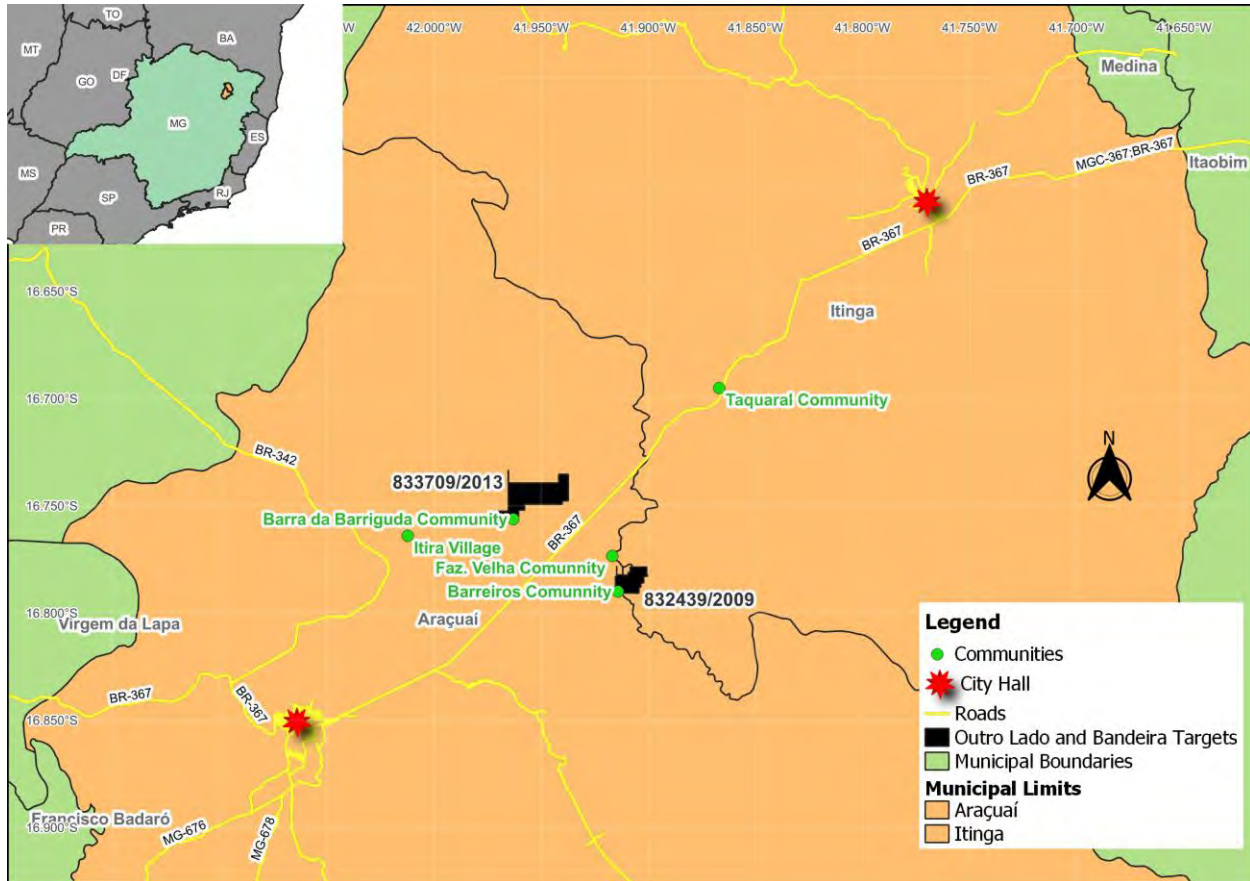
Areas where the maximum extension of an EA has expired, and a company has failed to submit a positive Final Exploration Report and mining concession request, are designated with a status of "Public Offer". Prior to Decree nº 9.406/2018, the public offer is put up for auction and is awarded to a company based on the best technical proposal in terms of exploration activities and previous knowledge of the specific mineral right. At present, the winning company bid is based on which company has offered the highest amount of cash in an auction procedure.

Current Brazilian regulations governing exploration and mining permits, are connected by the project information, and also by the temporal evaluation. A flowchart below shows the steps needed to complete the permitting process and the normal steps of progression as the project matures into production:

## 4.2 Mineral Claims: Transactions & Listings of Ownership

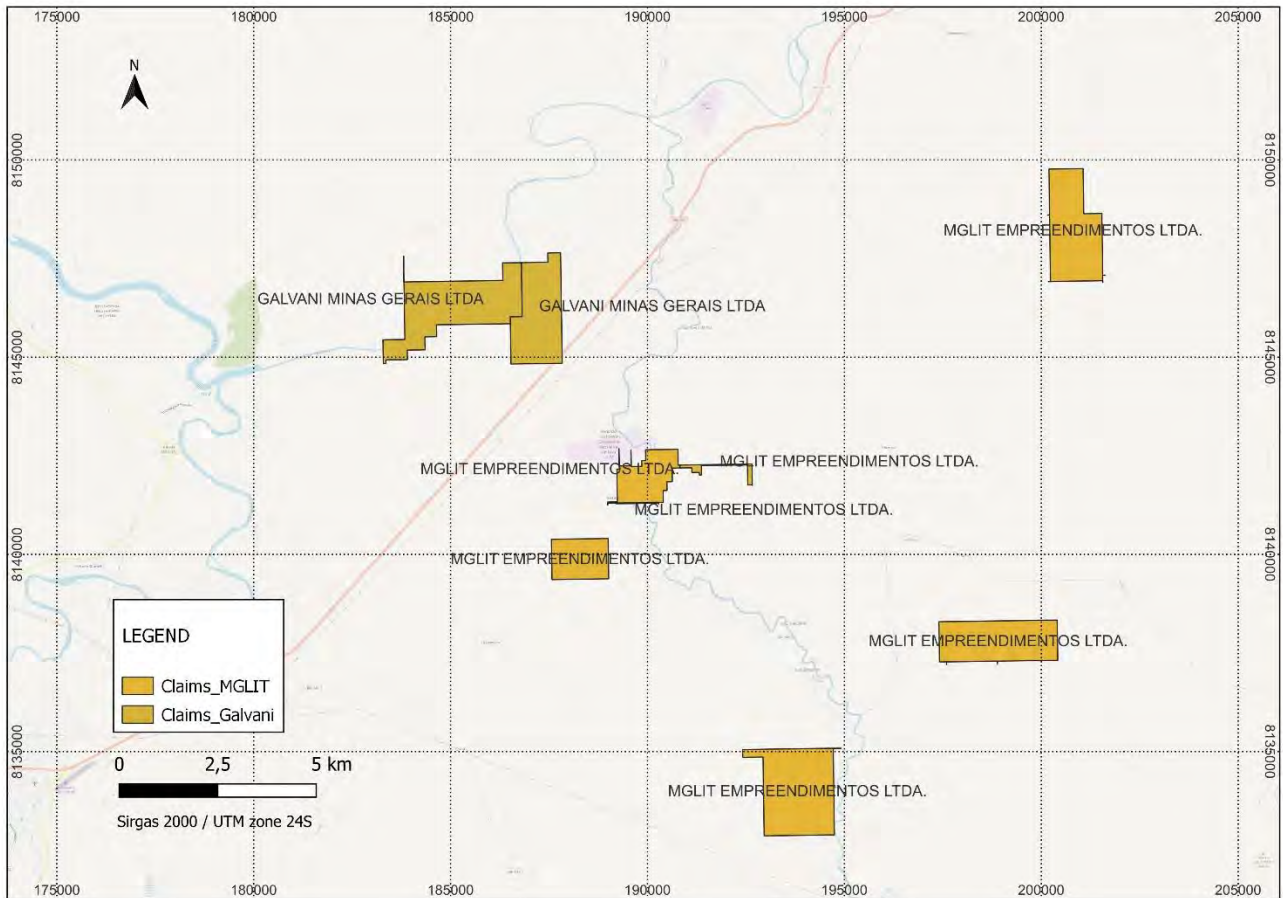
Lithium Ionic, Itinga project contains a total of 16 claims (7,739.22 hectares) as detailed in Table 4-1. The Exploration Permit area of Outro Lado target is located in Araçuaí municipality, while the Bandeira target is mostly or in part in Itinga municipality, with a small part in the Araçuaí municipality. The municipalities and their boundaries with respect to the two project locations are shown in Figure 4-4 below:

**Figure 4-4 Municipalities Boundaries near Itinga Property**



Source: IDE SISEMA (2022) / IBGE (2022).

**Figure 4-5 Lithium Ionic 100% Owned Claims (UTM Sirgas 2000, 24 S)**



### 4.3 Mineral Tenure Status

The QPs have not reviewed the mineral tenure, nor independently verified the legal status, ownership of the Project area, underlying property agreements or permits. The QPs have fully relied upon, and disclaim responsibility for, information provided by Lithium Ionic management team via emails and Teams meetings. This information is used in Item 4 of the report, and in support of the Mineral Resource estimate in Item 14.

**Table 4-1 Lithium Ionic – Mineral Claims**

Target	Claim Number (ANM)	Submittal Date	Exploration License Number	Issuing Date	Period (years)	Expiry date	Resolution 76	Area (ha)	Substance	Status	Name
Bandeira*	832.439/2009	22/10/2009	3785	28/04/2020	3	28/04/2023	29/09/2024	156.77	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.684/2016	14/07/2016	3148	28/04/2020	3	28/04/2023	29/09/2024	325.66	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.118/2016	16/05/2016	1778	2020-05-05	3	2023-05-05	29/09/2024	146.88	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.703/2016	18/07/2016	3153	2020-05-05	3	2023-05-05	29/09/2024	305.87	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.117/2016	16/05/2016	1777	2020-11-05	3	2023-11-05	29/09/2024	2.27	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.119/2016	16/05/2016	928	2020-11-05	3	2023-11-05	29/09/2024	401.65	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
Other	831.116/2016	16/05/2016	994	26/05/2020	2	26/05/2022	30/09/2023	15.79	Minério de Lítio	Permit Extension	MGLIT EMPREENDIMENTOS LTDA
<b>TOTAL</b>								<b>1,354.89</b>			
Outro Lado*	833.709/2013	2013-03-12	1222	2018-08-08	2	2020-08-08	19/02/2022	414.96	Granito	Approval Pending	GALVANI DO NORDESTE MINERAÇÃO
Outro Lado	831.307/2004	26/03/2004	5706	15/06/2004	2	15/06/2006	Not applicable	300.19	Granito	Approval Pending	GALVANI DO NORDESTE MINERAÇÃO
								<b>715.15</b>			

\*Claims in light gray are included in the current MRE. Table 4-1 above contains only Exploration Permits that are 100% owned by Lithium Ionic and does not include any of the mineral claims under options by Lithium Ionic. The areas currently at Galvani’s name (Outro Lado target) are in the process of being transferred to MGLIT name. Lithium Ionic has already paid for those.

#### **4.4 Surface Rights Property**

Surface rights in Brazil can be applied for if the land is not owned by a third party. The owner of an EA is guaranteed, by law, access to perform exploration field work, provided adequate compensation is paid to third party landowners and the owner of the EA accepts all environmental liabilities resulting from the exploration work.

#### **4.5 Operating Permits**

The Project currently entails only Exploration Permits; no other operational permits are in place.

#### **4.6 Environmental Permits, Licenses and Authorizations**

At the time of compiling of this Report, no Environmental Permits, Licenses or Authorizations were in place.

#### **4.7 Other Relevant Factors**

The Author is unaware of any other significant factors and risks that may affect access, title, or the right, or ability to perform exploration work recommended for the Project.



## **5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY**

### **5.1 Accessibility**

The Project is located in northeastern Minas Gerais State, in the Municipalities of Itinga and Araçuaí, approximately 700 km south of the town of Salinas and 600 km northeast of Belo Horizonte.

The Project is well served by a public and private road network, as a result of its proximity to National Road 251. The Project is accessible year-round by a network of arterial and back country service roads.

National route BR 251 accesses the Port of Vitoria in the State of Espirito Santo, some 850 km from the Project site. This port could represent a potential port of export for any spodumene production from the Project. The national road BR116 and BR415 accesses to Ilhéus Port which is 510 km from the project and is also an option as a shipping port.

**Figure 5-1 Physiographic Example of the Itinga Property**



### **5.2 Local Resources**

The region is characterized by a semi-arid climate with high temperatures almost all year round. It has a temperature mean of 24.5°C and a low annual average rainfall of 450 mm. Severe drought occurs from May to September and torrential and sporadic rains occur from November to April. The average summer temperature high is 33 °C and the average winter high is 18 °C. Exploration activities are currently conducted year-round. It is expected that any future mining activities will also be year-round.

### **5.3 Infrastructure**

The Project area is accessed by a network of arterial and back country service roads. The Company has established a core logging and processing facility on site at the of Lithium Ionic Project.

There are two major communities nearby, with population of 40,000 or more. Salinas is located approximately 70 km south and approximately 25 km east of the town of Araçuaí (population of ~40,000),

both connected by major sealed roads and serviced by the local municipal airports and by mobile phone network from the principal Brazilian service providers. The closest major domestic airport is located at Montes Claros, 230 km west of Salinas. The state of Minas Gerais is well serviced by infrastructure, roads, hydroelectric power, water and the port of Vitoria in the neighbouring Espirito Santo State.

#### 5.4 Climate

The region is characterized by a semi-arid climate with high temperatures almost all year round. It has a temperature mean of 24.5°C and a low annual average rainfall of 450 mm. Severe drought occurs from May to September and torrential and sporadic rains occur from November to April. The average summer temperature high is 33 °C and the average winter high is 18 °C.

Exploration activities are currently conducted year-round. It is expected that any future mining activities will also be year-round.

#### 5.5 Physiography

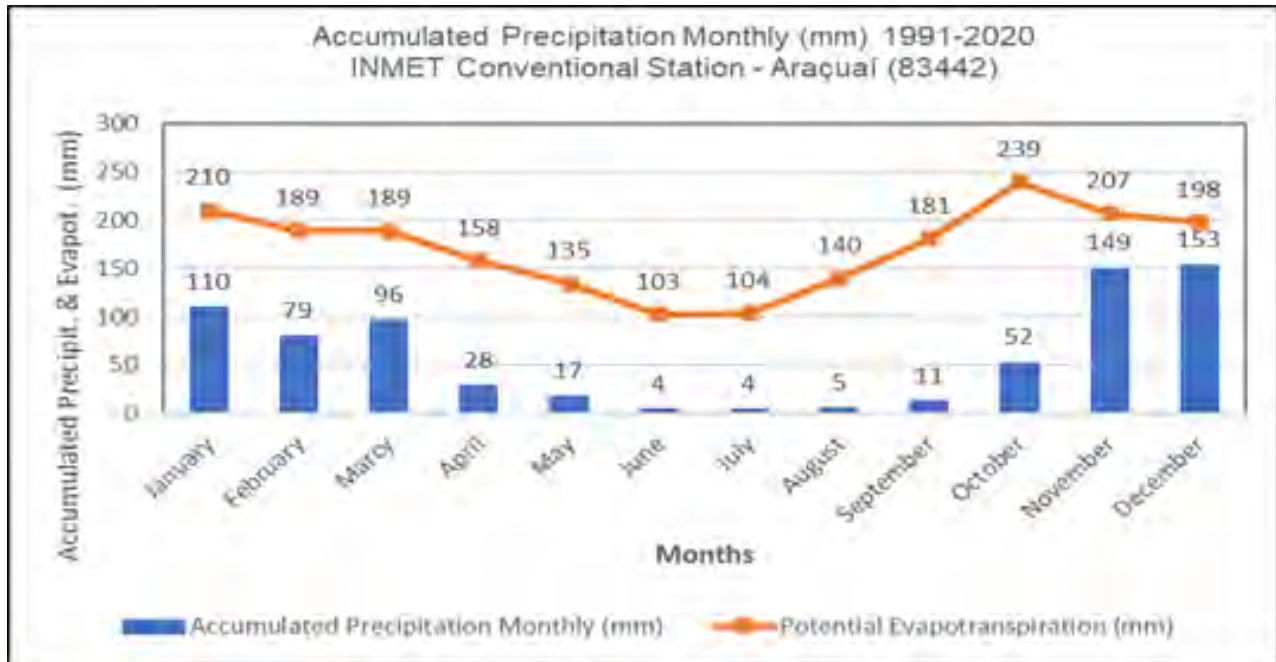
The Project topography in the project region consists of gently rolling hills with less than 500 m difference in elevation. The hilltops are covered with a veneer of alluvium, up to 5 m thick, which is not present on the hill slopes where bedrock is frequently exposed.

The Project area is characterized by thick thorn scrub and trees of medium height - except where it has been cleared for agriculture. The natural vegetation on the hilltops is typical of savannah grassland.

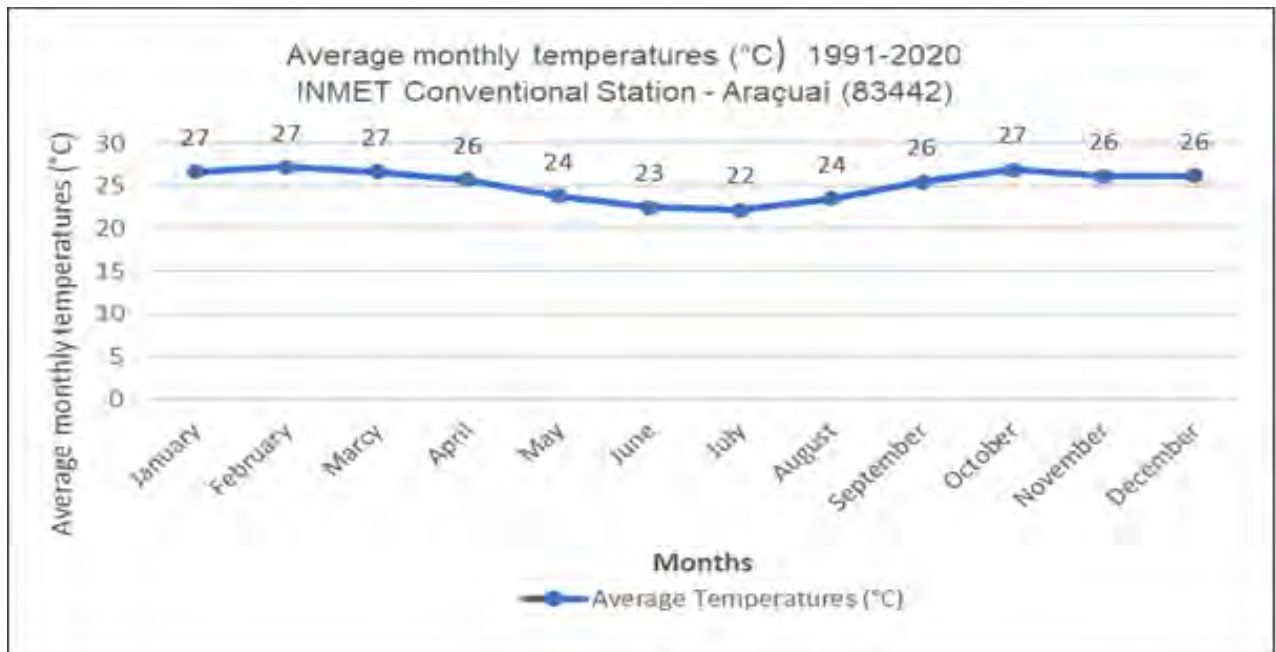
The average annual precipitation is moderate compared to other regions of Brazil. The indicated annual average measurements at the Araçuaí station was 707 mm, while the evapotranspiration averages about 2,000 mm, a deficit of 1,345 mm/year. This climatic condition is a strongly semi-arid in characterization.

The low precipitation can result in better geotechnical stability conditions than in tropical regions, with rainy summers (due to the lower erosivity of the rain). In this sense, this natural stability condition, it's a positive evaluation for overall risk management of the Outro Lado and the Bandeira sites. However, water scarcity may require a robust water management and planning for water use for the Outro Lado and the Bandeira.

**Figure 5-2 Accumulated precipitation (mm) and Potential Evapotranspiration (mm) from the Araçuaí Station**



(Source - INMET, 2023).



(Source - INMET, 2023).

**Figure 5-3 Piauí Stream nearby Bandeira Exploration Permit Perimeter**



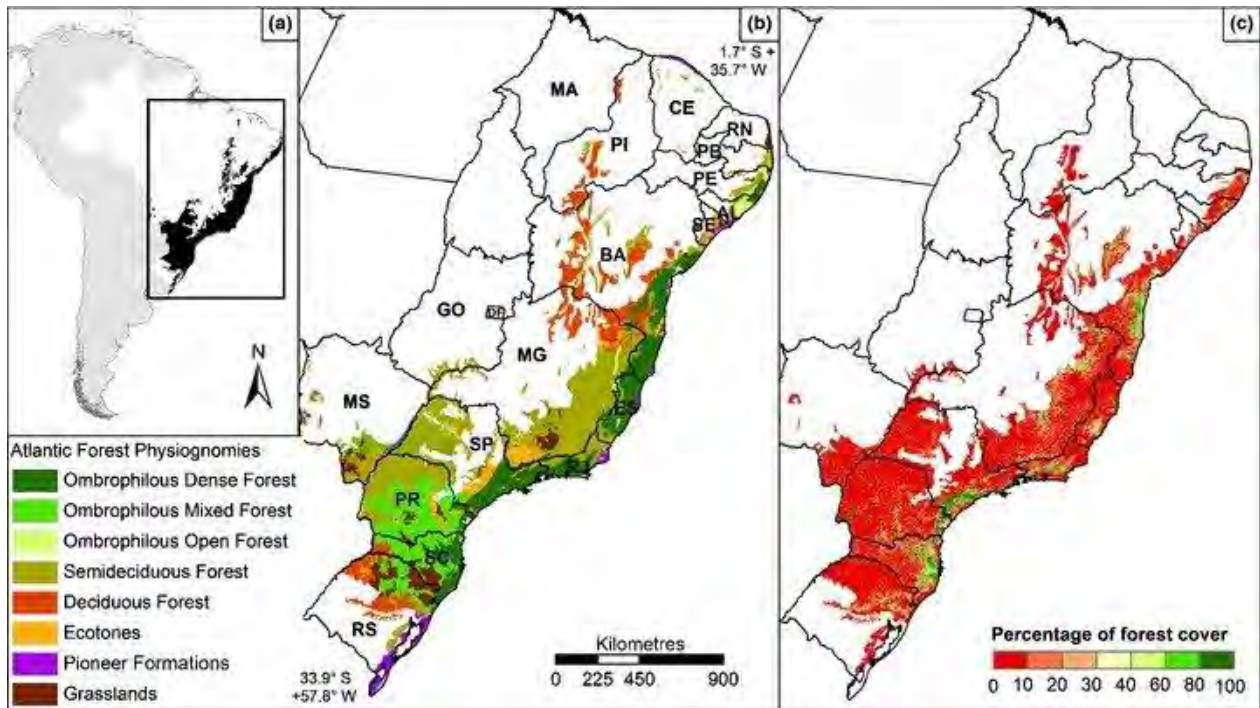
(Source - INMET, 2023).

## 5.6 Vegetation

The Project is located in the Atlantic Forest Biome and thus includes Dense Ombrophylous Forest, Mixed Ombrophylous Forest (Araucária Forest), Seasonal Semideciduous Forest, and Seasonal Deciduous Forest, as well as mangroves, restinga vegetation, highland grasslands, interior swamps, and forest enclaves in the Northeast and associated ecosystems, with the respective established delimitations on the map of the Brazilian Institute of Geography, and Statistics (IBGE, 2008).



**Figure 5-4 Forest Cover in South-East of Brazil**



In Brazil, the Atlantic Forest is a national heritage, and it's protected by the Law N°. 11,428, of December 22, 2006, regulated by Decree N°. 6,660, of November 21, 2008.

## 6 HISTORY

Prior to 2022-2023 initial exploration by the Company, there were a total of 7 documented drill holes totaling 850.42 m on the Outro Lado site. The diamond drill holes were completed by previous owner (Galvani) before a purchase agreement/deal between (Galvani) and Lithium Ionic was signed on June 13, 2022. These historic drill holes are included in the database and have been used in the MRE.

### 6.1 Historical Exploration

Table 6-1 below shows the drill hole ID, collar, location including significant Li<sub>2</sub>O % intercepts. These historic drill holes are included in the database and have been used in the current MRE.

**Table 6-1 Historical Drill Holes**

Drilled	Section	Status	X	Y	Z	AZ	DIP	Depth	Total (m)	Mineralized Interval			
										From	to	(m)	Li <sub>2</sub> O (%)
OLDD001	LT 100 NW	Finished	185745	8146287	259.33	VERTICAL	-90	59.04		25.00	43.00	18.00	1.58
OLDD002	LT 400 NW	Finished	185490	8146481	257.06	VERTICAL	-90	152.02				NSR	
OLDD003	LT 200 NW	Finished	185635	8146367	260.27	200	-78	100.62		71	83.00	12.00	1.78
OLDD004	LT 00	Finished	185890	8146264	259.84	200	-80	35.39				NSR	
OLDD005	LT 00	Finished	185900	8146291	257.92	210	-45	239.55				NSR	
OLDD006	LT 400 NW	Finished	185489	8146478	256.92	190	-45	109.06	GALVANI	76.75	97.00	20.25	1.62
OLDD007	LT 800 NW	Finished	185130	8146574	259.14	180	-60	154.74	850.42	22.79	25.17	2.38	1.08

### 6.2 Historical Mineral Resource Estimates

There is no historical mineral resource estimation for the Project.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional Geology

The Project area lies in the Eastern Brazilian Pegmatite Province (EBP) that encompasses a very large region (about 150,000 km<sup>2</sup>) of the States of Bahia, Minas Gerais, and Rio de Janeiro. Approximately 90% of the EBP is located in the eastern part of Minas Gerais state.

The pegmatite swarm is associated with the Neoproterozoic Araçuaí orogeny. Granitic rocks that formed during the Araçuaí orogeny have been separated into five different supersuites, coded as G1, G2, G3, G4 and G5. The granite intrusive events are interpreted to have formed during a collisional episode related to the Gondwana Supercontinent (Trans-Amazonian event). The granite supersuites range in age from pre-collisional (G1 at 630–585 Ma) to post collisional (G4 and G5 at 535–490 Ma). The pegmatite swarm is interpreted to be related to the G4 supersuite, in particular, the Piauí batholith (Pedrosa-Soares et al., 2009).

In the general Project district, pegmatites are typically hosted by a medium-grey, biotite–quartz schist. The pegmatites are generally concordant with the schist foliation, which is coincident with the overall strike of the schists. The pegmatite–schist contacts display recrystallization features such as biotite eyes within cordierite masses, and development of millimeter-sized, black tourmaline needles that are almost always perpendicular to the schist foliation.

#### 7.1.1 Pegmatites

Pegmatites are generally divided into two main types:

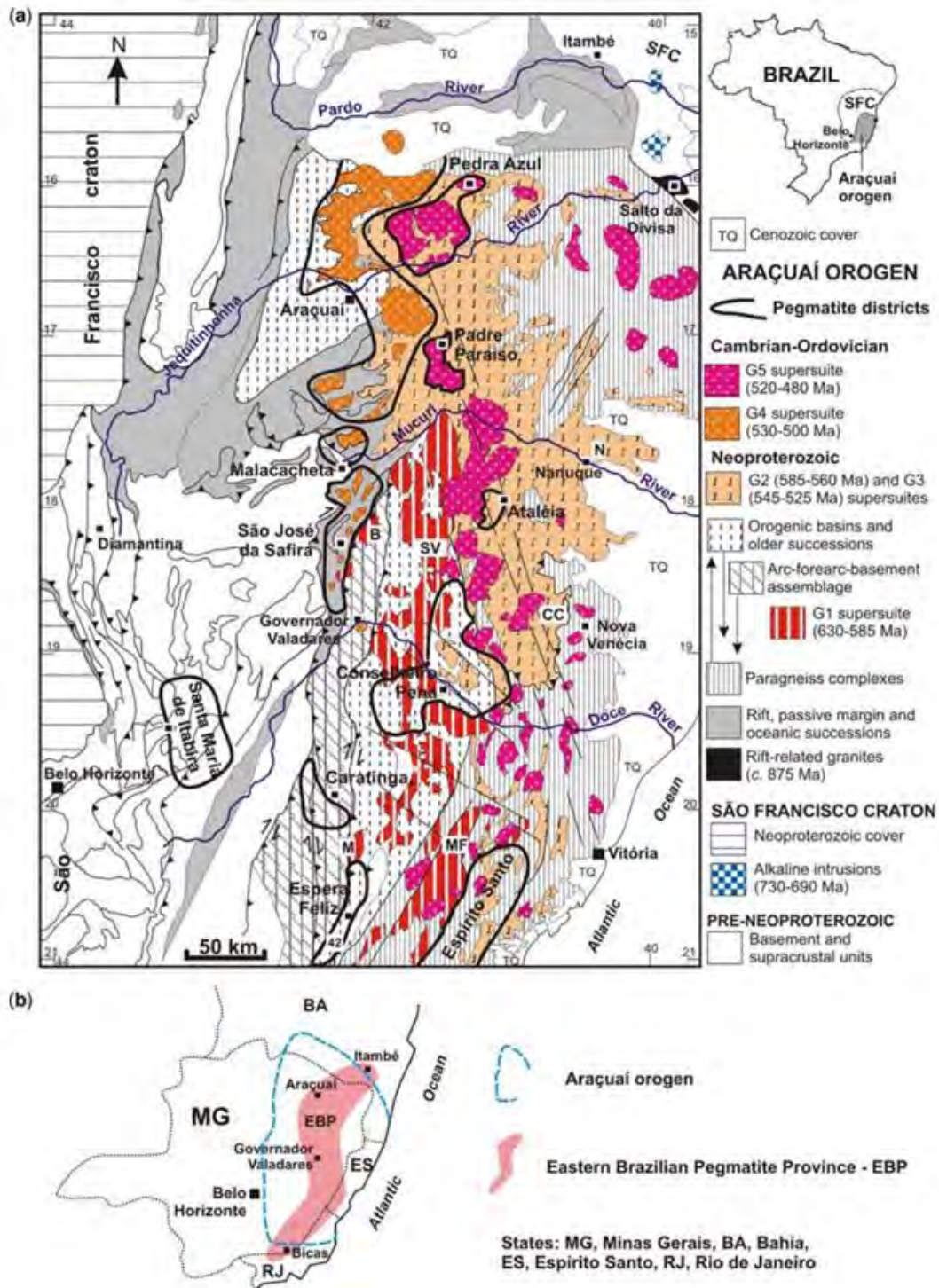
1. Anatectic (directly formed from the partial melting of the country rock)
2. Residual pegmatite (fluid rich silicate melts resulting from the fractional crystallization of a parent magma).

The pegmatites in the Project area are interpreted to be residual pegmatites and are further classified as representative of lithium–cesium–tantalum or LCT types.

Pegmatites in the Araçuaí and Itinga district tend to be tabular in shape, with widths, thicknesses and lengths that vary widely. The dikes typically have sharp contacts with the schist host rock and have a discontinuous, thin, fine-grained (chilled margin) border zone. They typically do not display classic concentric zoning around a quartz core (e.g. Simmons et al, 2003), instead, the Araçuaí and Itinga district dikes display a characteristic layered anisotropic internal fabric (London, 1992).



**Figure 7-1 Geological Map of the Araçuaí Orogen**



Source: Pedrosa-Soares, 2011

## 7.2 Structural Geology

No structural geology data is available.

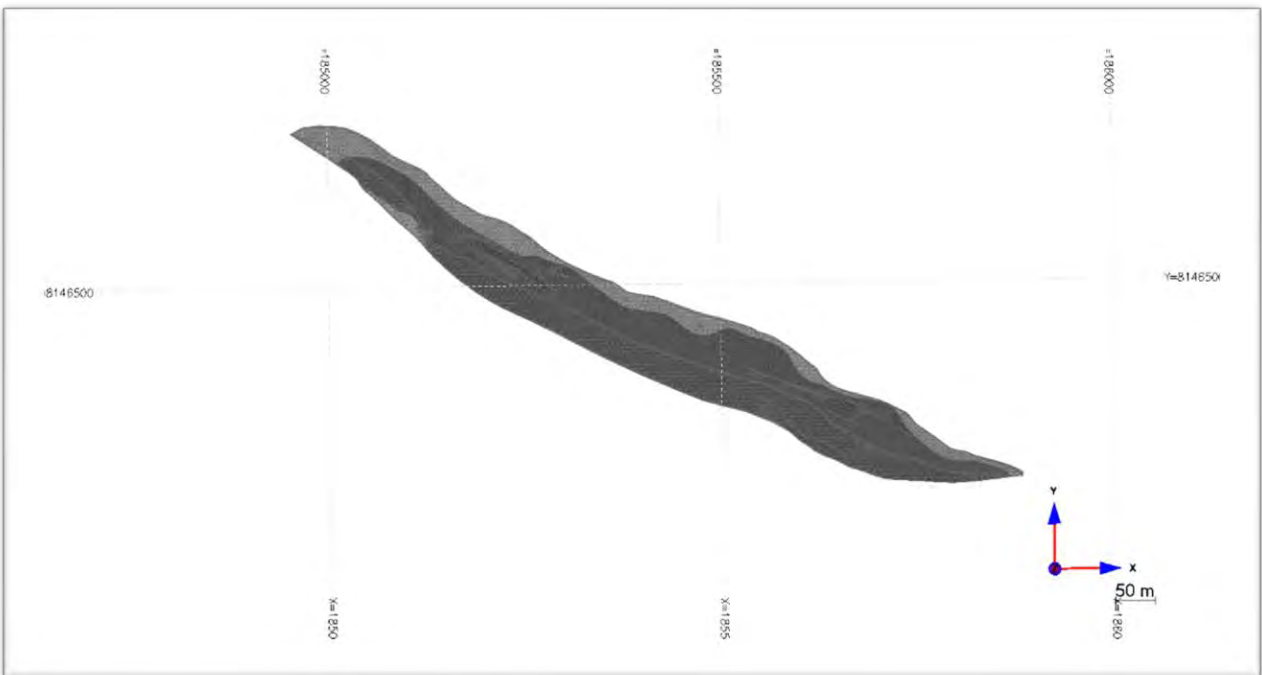
### 7.3 Geological Model

The pegmatite on the Outro Lado and on the Bandeira deposits are primarily hosted in a biotite–quartz schist, which is similar to the host rock described in other pegmatite occurrences in the area.

#### Outro Lado

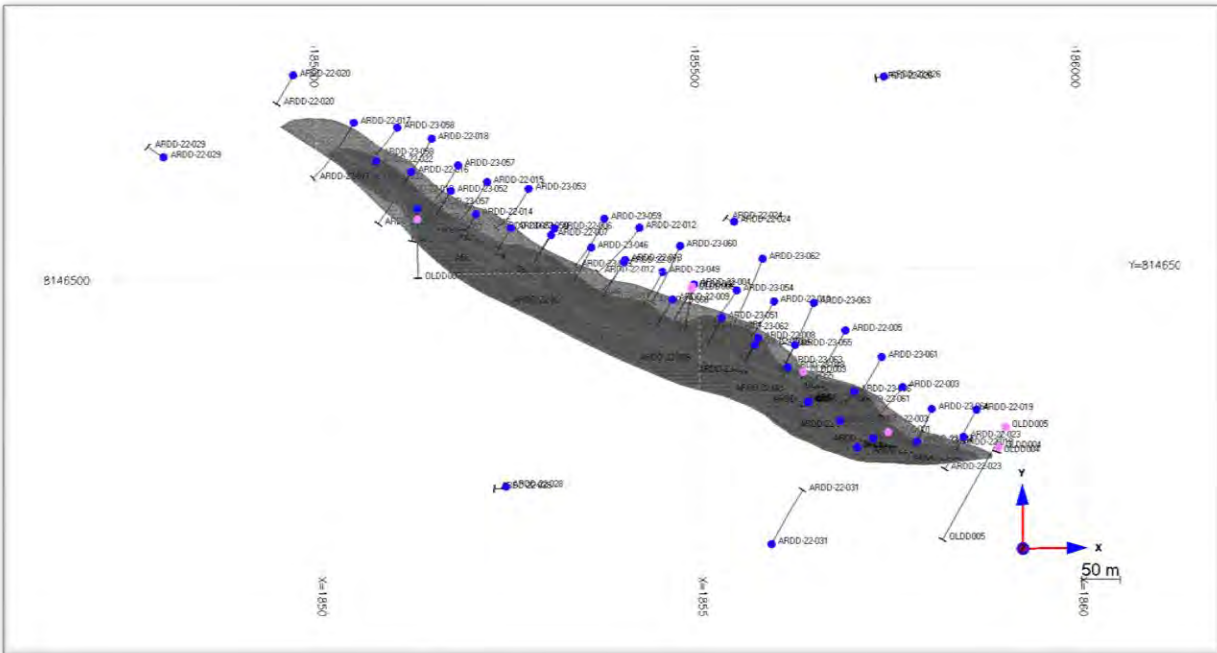
Pegmatite that contain spodumene and are Lithium bearing, strikes northwest ( $\sim 296^\circ$ ) and dips at  $\sim 46\text{--}65^\circ$  to the northeast. The dike is about 880 m long, 20–30 m thick and has been intersected to a vertical depth of approximately 122 m from the surface. The plan view of the dike is shown below without the drill hole traces, in Figure 7-2 below the dike is shown with drill hole traces to illustrate orientation and depth from surface.

**Figure 7-2 Plan View of the Outro Lado Lithium bearing Dike, striking  $\sim 296$  Degrees North, Surface Trace shown without Drill Hole Traces (UTM Sirgas2000, 24S)**



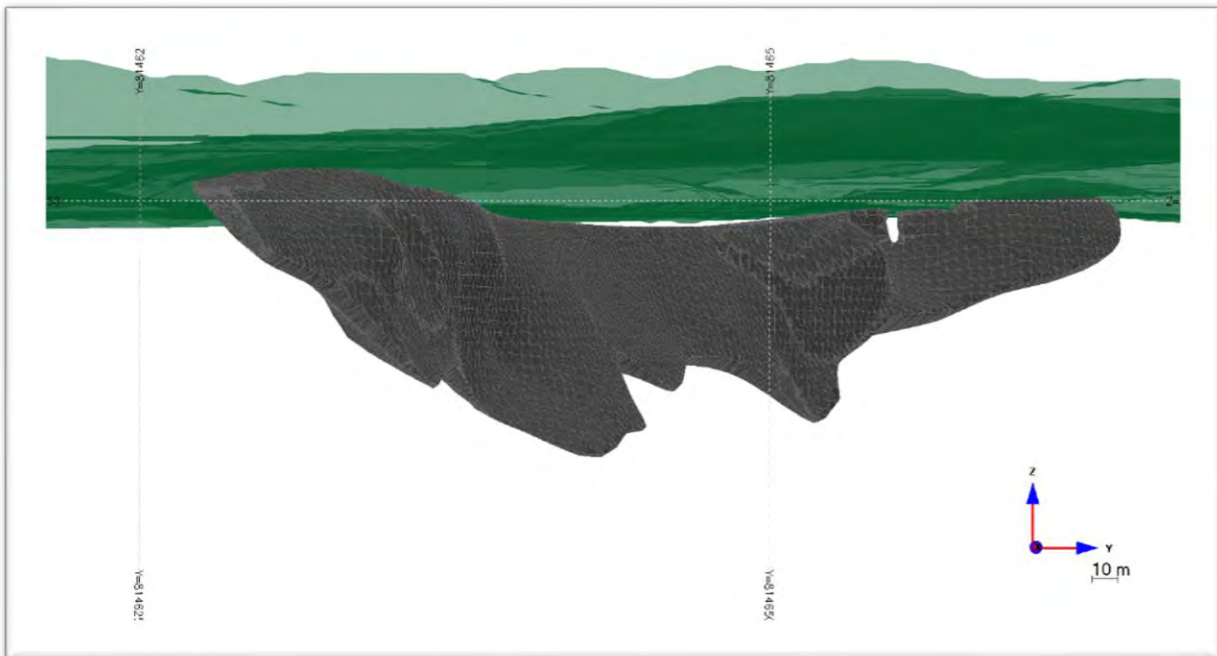
North direction is via the x-y rose where y is North direction and x points East.

**Figure 7-3 Plan View of the Outro Lado Lithium bearing Dike, striking ~296 Degrees North, Surface Trace shown with Drill Hole Traces (UTM Sirgas2000, 24S)**

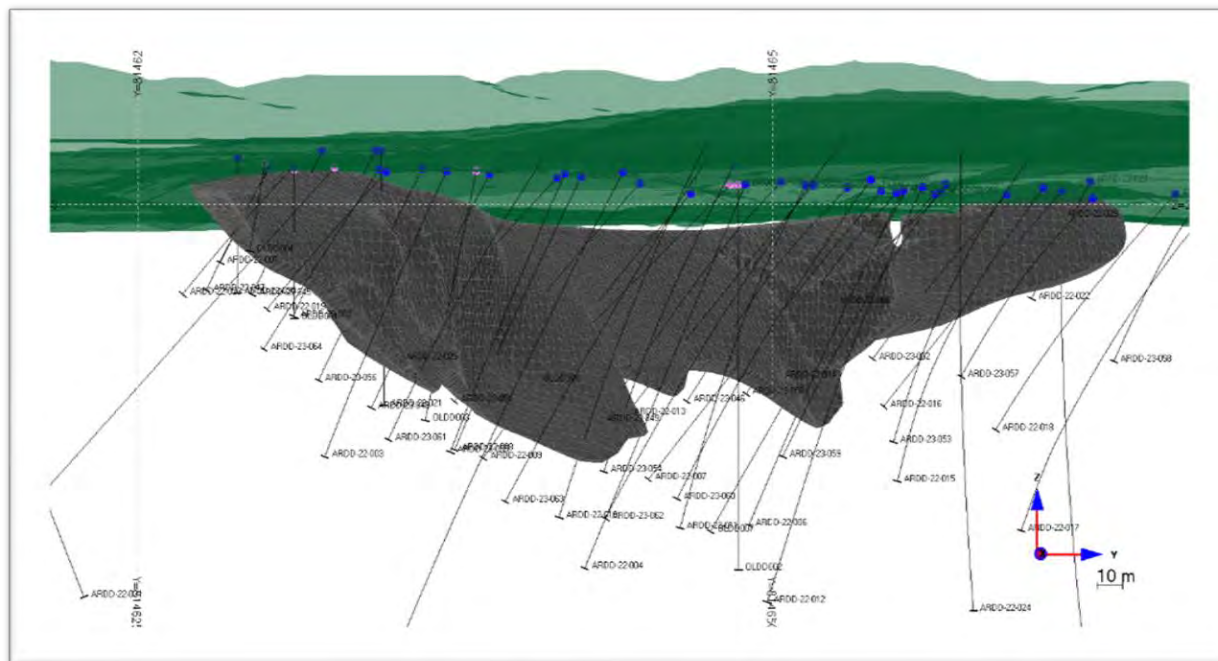


North direction is via the x-y rose where y is North direction and x points East.

**Figure 7-4 Isometric View of the Modeled Outro Lado Structure (Lithium bearing Pegmatite) from ~ 180 m below the Topography. Z Axis shown to Indicate Depth from Surface (Surface Topography shown as Green Fill) (UTM Sirgas2000, 24S)**



**Figure 7-5 Isometric View of the Modeled Outro Lado Structure (Lithium bearing Pegmatite) from ~ 180 m below Topography with Drill Hole Traces and Pierce Points along the Structure looking Roughly SW (Topography shown as Green Fill) (UTM Sirgas2000, 24S)**



The pegmatite shows a classic border, intermediate and central zones. The border zone tends to be more albite rich and the highest spodumene content is generally in the central zone. The NDC pegmatite is a high-grade mix of mainly spodumene but also containing some petalite with a variable ratio depending on the thickness of the zone, although petalite can be found throughout the deposit.

### ***Bandeira pegmatite***

A similar biotite–quartz schist to Outro Lado is also host to the Bandeira pegmatite. Bandeira pegmatite model indicates two different orientations for the pegmatite structures and can be divided into *North West* segment and the *South East* segment.

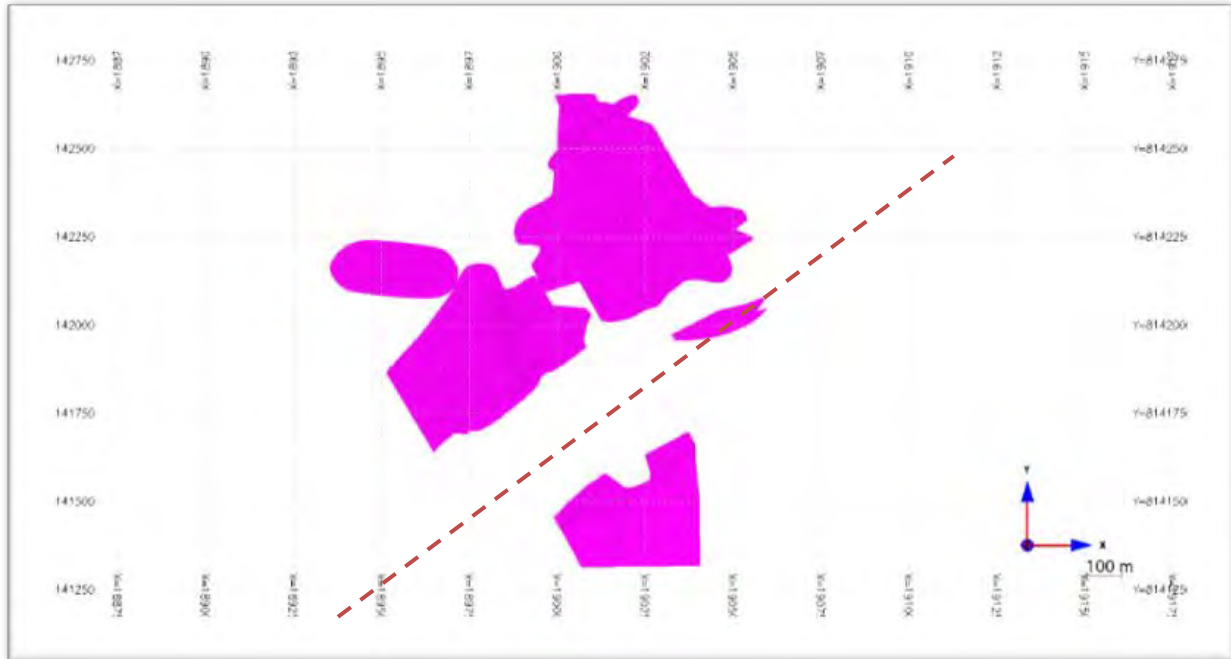
***Northwest segment*** of the pegmatite has a general trend of approximately 056° (striking NE) and has fluctuating dip ranging from 37° to 60° generally striking ~ 060° (north east).

***The southeast*** segment of the dyke swarms have a general trend striking ~240 (southwest) and dips to the southeast at ~62°. Portion of the dyke on the edge of the southeastern side of the model has a tabular shape which terminates to the northwest with a 60 degree dip to the south east. These two pegmatite dyke systems at the Bandeira deposit don't seem to be connected and are separated by a lateral NE-SW spatial distance extending to about 150 meters.

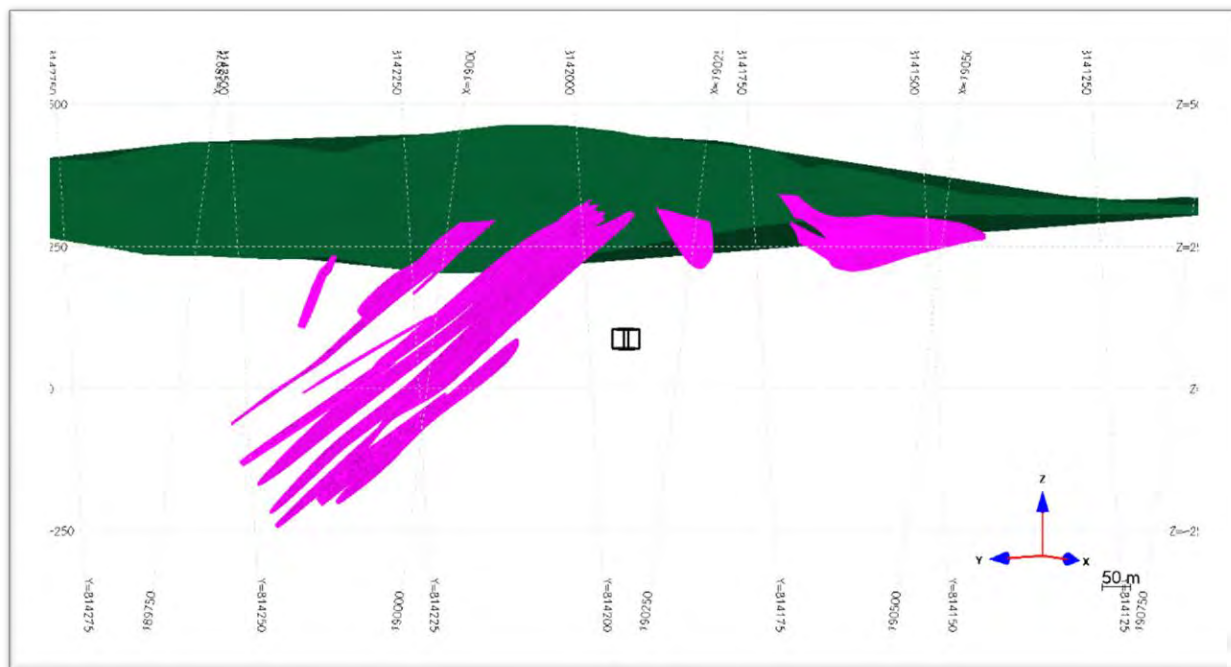
Each of these dyke systems at the Bandeira deposit have been modeled and wireframed separately using Genesis software proprietary 3D wireframing algorithm '*Planar Envelopes*'.



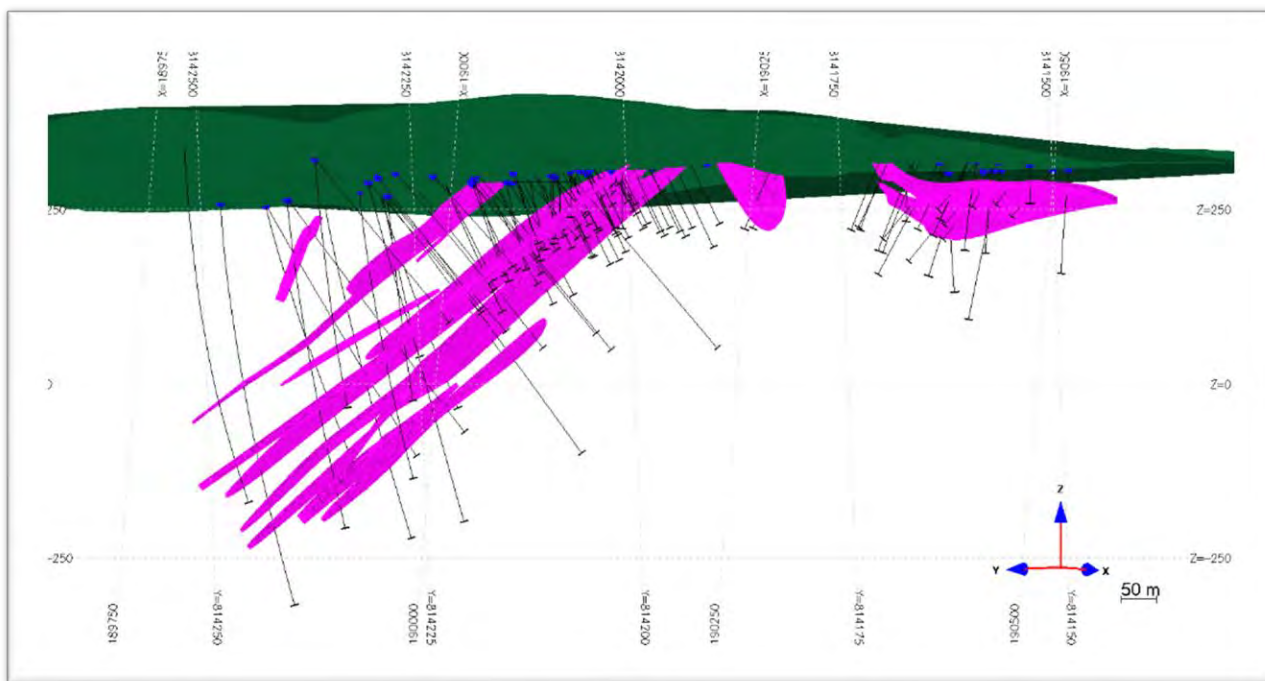
**Figure 7-6 Plan View of the Bandeira Pegmatite Structures (shown in pink). Dashed Line Separating Opposite Dipping Structures (Northwest and Southeast Segments). X-Y Coordinates Indicate ‘y’ Pointing to North and ‘x’ Pointing due East, (UTM Sirgas2000, 24S)**



**Figure 7-7 Isometric View of the Bandeira Pegmatite Structures below the Topographic Surface (Topography filled Green) showing NW and SE Structures (shown in pink) looking NE, (UTM Sirgas2000, 24S)**



**Figure 7-8 Isometric View of the Bandeira Pegmatite Structures with Drill Hole Traces and Pierce Points shown below the Topographic Surface. The NW and SE Structures shown in pink, looking NE, (UTM Sirgas2000, 24S)**



## 7.4 Mineralization Model

Spodumene can form 28–30% of the pegmatite mass, microcline and albite contents range from 30–35%, with microcline content dominant over albite, muscovite comprises about 5–7% and the remainder of the rock mass consists of quartz. The pale green-colored spodumene crystals are elongate or tabular, ranging from millimeter to centimeters in scale, and have been observed at meter-scale in outcrop. Spodumene cuts the microcline matrix, and intergrowths of spodumene and quartz, sometimes in association with muscovite, are common. Accessory minerals, such as columbite and tantalite form in association with albite and quartz. Latestage mineralization includes sphalerite and pyrite.

## 8 DEPOSIT TYPES

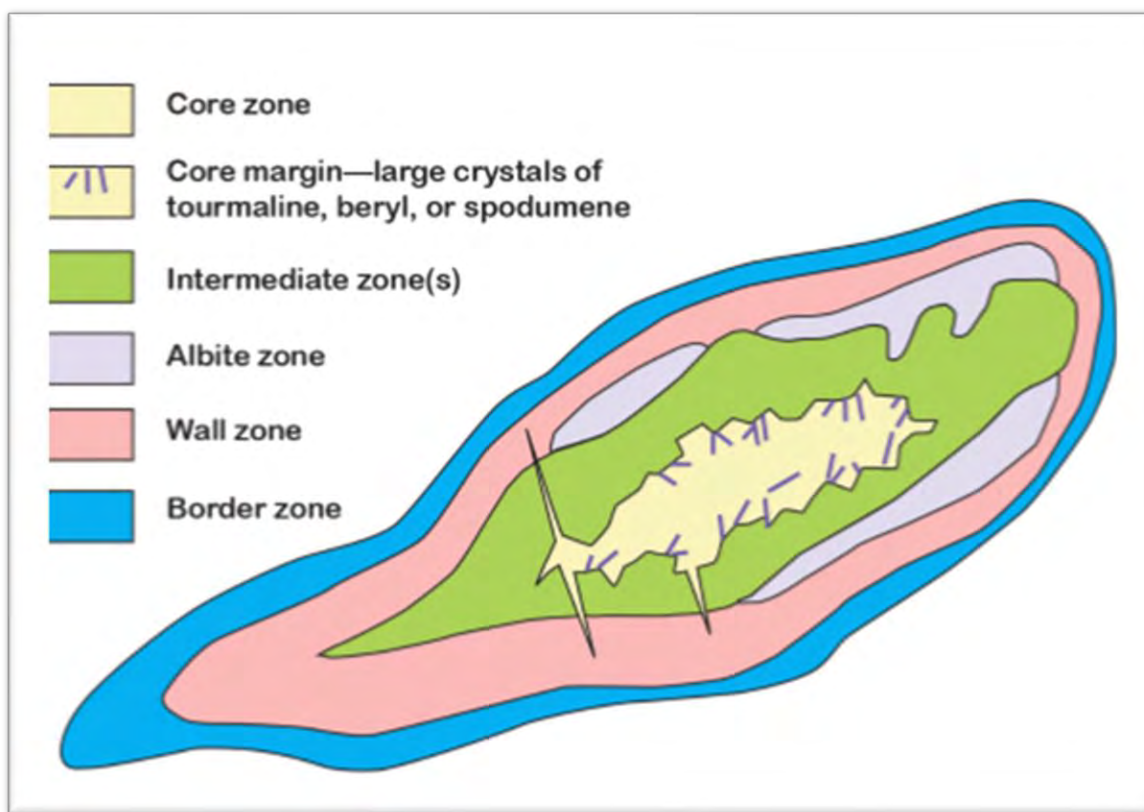
The deposits within the Project area are all considered to be examples of LCT-type pegmatites. The following deposit type descriptor for such pegmatites is summarized and abstracted from Bradley and McCauley (2013).

All known LCT pegmatites are associated with convergent-margin or collisional orogens. LCT pegmatite maxima at ca. 2650, 1800, 525, 350, and 100 Ma correspond to times of collisional orogeny and, except for a comparatively minor peak at 100 Ma, to times of supercontinent assembly. The largest known deposits are Archean in age (Viana and al, 2003).

LCT pegmatites represent the most highly differentiated and last to crystallize components of certain granitic melts. Parental granites are typically peraluminous, S-type granites, although some Archean examples are metaluminous, I-type granites. LCT pegmatites are enriched in the incompatible elements' lithium, cesium, tin, rubidium, and tantalum, and are distinguished from other rare-element pegmatites by this diagnostic suite of elements.

The dikes typically occur in groups, which consist of tens to maybe hundreds of individual pegmatites and cover areas up to a few tens of square kilometers.

**Figure 8-1 Main Zones of an Idealized Pegmatite**



LCT pegmatites are known to form as far as 10 km from the parental granite. The more distal the pegmatite, more fractionated is the source magma, however most highly fractionated rare-element-enriched pegmatites only constitute 1–2% of regional pegmatite populations.

Pegmatite dikes are commonly late syntectonic to early post-tectonic with respect to enclosing rocks. Most LCT pegmatites intrude metasedimentary rocks, which are often metamorphosed to low-pressure



amphibolite to upper greenschist facies. Individual pegmatites have various forms including tabular dikes, tabular sills, lenticular bodies, and irregular masses. They are significantly smaller than typical granitic plutons, and typically are of the order of tens to hundreds of meters long, and meters to tens of meters wide. Most LCT pegmatite bodies show some sort of structural control. At shallower crustal depths, pegmatites tend to be intruded along anisotropies such as faults, fractures, foliation, and bedding planes. For example, in more competent rocks such as granites, pegmatites commonly follow fractures whereas pegmatites intruded into schists tend to conform to foliation. In higher-grade metamorphic host rocks, pegmatites are typically concordant with the regional foliation, and form lenticular, ellipsoidal, or tapered cylindrical bodies.

Lithium is mostly found in the silicates spodumene ( $\text{LiAlSi}_2\text{O}_6$ ), petalite ( $\text{LiAlSi}_4\text{O}_{10}$ ), and lepidolite (Li-mica,  $\text{KLi}_2\text{Al}(\text{Al},\text{Si})_3\text{O}_{10}(\text{F},\text{OH})_2$ ). Lithium phosphate minerals, mainly montebrasite, amblygonite, lithiophilite, and triphylite, can be present in some LCT pegmatites. Tantalum mineralization predominantly occurs as columbite–tantalite ( $[\text{Mn},\text{Fe}][\text{Nb},\text{Ta}]_2\text{O}_6$ ). Tin is found as cassiterite ( $\text{SnO}_2$ ). Cesium is mined exclusively from pollucite ( $\text{CsAlSi}_2\text{O}_6$ ). Most individual LCT pegmatite bodies are concentrically, though irregularly, zoned. However, there are unzoned examples known. Within an idealized pegmatite, four main zones can be defined (Figure 8-1).

These comprise:

- **Border:** chilled margin just inside the sharp intrusive contact between pegmatite and country rock. Typically, a few centimeters thick, fine-grained, and composed of quartz, muscovite, and albite.
- **Wall:** <3 m thick. Largest crystals <30 cm. Main minerals are albite, perthite, quartz, and muscovite. Graphic intergrowths of perthite and quartz are common. Can form economic muscovite concentrations that can be mined. Tourmaline and beryl may be present.
- **Intermediate:** Term used to refer to everything between the wall and the core. These may be discontinuous rather than complete shells, there may be more than one, or there may be none at all. Major minerals include plagioclase and potassium feldspars, micas, and quartz. Can host beryl, spodumene, elbaite (tourmaline), columbite–tantalite, pollucite (zeolite), and lithium phosphates. Typically, coarser-grained than the wall or border zones.
- **Core:** Often mono-mineralic quartz in composition. Perthite, albite, spodumene or other lithium aluminosilicates, and (or) montebrasite (lithium phosphate) may occur with the quartz.

LCT pegmatites crystallize from the outside inward. In an idealized zoned pegmatite, first the border zone crystallizes, then the wall zone, then the intermediate zone(s), and lastly, the core and core margin.

The QP considers that exploration programs that use the deposit model set out above would be applicable to the Project area.

## 9 EXPLORATION

Trench sampling program, rock chip sampling programs, structural mapping and geophysical surveys were completed on the Property.

### 9.1 Trench Sampling Program

A total of 21 trenches were completed in 2022 at the Bandeira target by Lithium Ionic totaling 1,346.89 m. Table 9-1 below shows the trench information and location. Table 10-3 includes 7 significant Li<sub>2</sub>O % intercepts from these trenches. Assays from trenches are included in the database and have been used in the MRE.

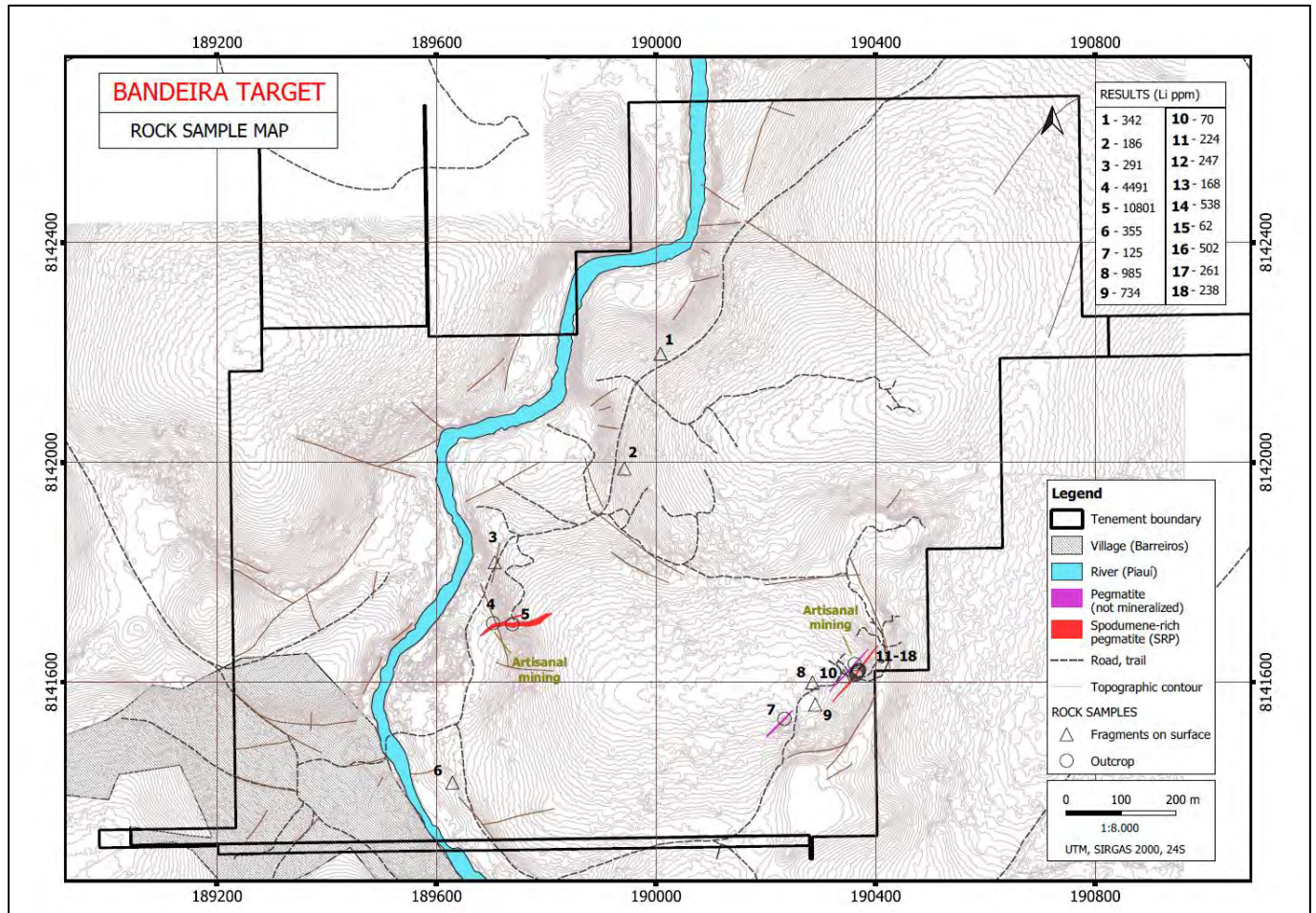
**Table 9-1 Total Trenches**

Hole Name	X	Y	Z	Azimuth	Dip	Length	Hole Type	Zone	Contractor
ITTRE-22-001	189772	8141689	296	308	0	42.8	TRENCH	Bandeira	MGLIT
ITTRE-22-002	190395.41	8141704.75	304.03	155	0	66.52	TRENCH	Bandeira	MGLIT
ITTRE-22-003	190155.88	8142045.71	335.68	150	0	36.42	TRENCH	Bandeira	MGLIT
ITTRE-22-003B	190158.01	8142054.81	335.86	150	0	10.78	TRENCH	Bandeira	MGLIT
ITTRE-22-004	189959.77	8141897.98	297.71	155	0	63.67	TRENCH	Bandeira	MGLIT
ITTRE-22-005	190401.4	8142140.95	342.92	150	0	46.96	TRENCH	Bandeira	MGLIT
ITTRE-22-006	190450.77	8142056.31	342.62	150	0	54.1	TRENCH	Bandeira	MGLIT
ITTRE-22-007	190291.74	8142082.44	340.18	150	0	50.06	TRENCH	Bandeira	MGLIT
ITTRE-22-008	190054.96	8141993.94	323.89	150	0	80.19	TRENCH	Bandeira	MGLIT
ITTRE-22-009	189941	8142179	325	150	0	73.6	TRENCH	Bandeira	MGLIT
ITTRE-22-010	189887.75	8142019.27	279.21	150	0	91.4	TRENCH	Bandeira	MGLIT
ITTRE-22-011	190001.3	8141580.92	323.84	150	0	140	TRENCH	Bandeira	MGLIT
ITTRE-22-012	190076.62	8142201.05	311.45	150	0	50.59	TRENCH	Bandeira	MGLIT
ITTRE-22-014	190280	8141600	325	150	0	53	TRENCH	Bandeira	MGLIT
ITTRE-22-015	190480	8141902	317	150	0	8	TRENCH	Bandeira	MGLIT
ITTRE-22-016	190124	8141624	353	150	0	65.8	TRENCH	Bandeira	MGLIT
ITTRE-22-017	190319	8142037	335	150	0	109	TRENCH	Bandeira	MGLIT
ITTRE-22-018	190189	8141789	339	150	0	102	TRENCH	Bandeira	MGLIT
ITTRE-22-020	190543	8142143	340	150	0	51	TRENCH	Bandeira	MGLIT
ITTRE-23-014A	190244	8141651	324	150	0	53	TRENCH	Bandeira	MGLIT
ITTRE-23-021	189819	8141408	302	150	0	98	TRENCH	Bandeira	MGLIT

### 9.2 Rock Chip Sampling Programs

The initial exploration program showed numerous pegmatites hosted in schist, which showed homogenous spodumene mineralisation. The pegmatites cross-cut the rivers with exposure in a general NE-SW trend and continued into the neighbouring claim to the East and SE. Total of 18 locations were sampled and assayed. Figure 9-1 below shows general area from where rock chip samples were collected and assayed on the Bandeira target.

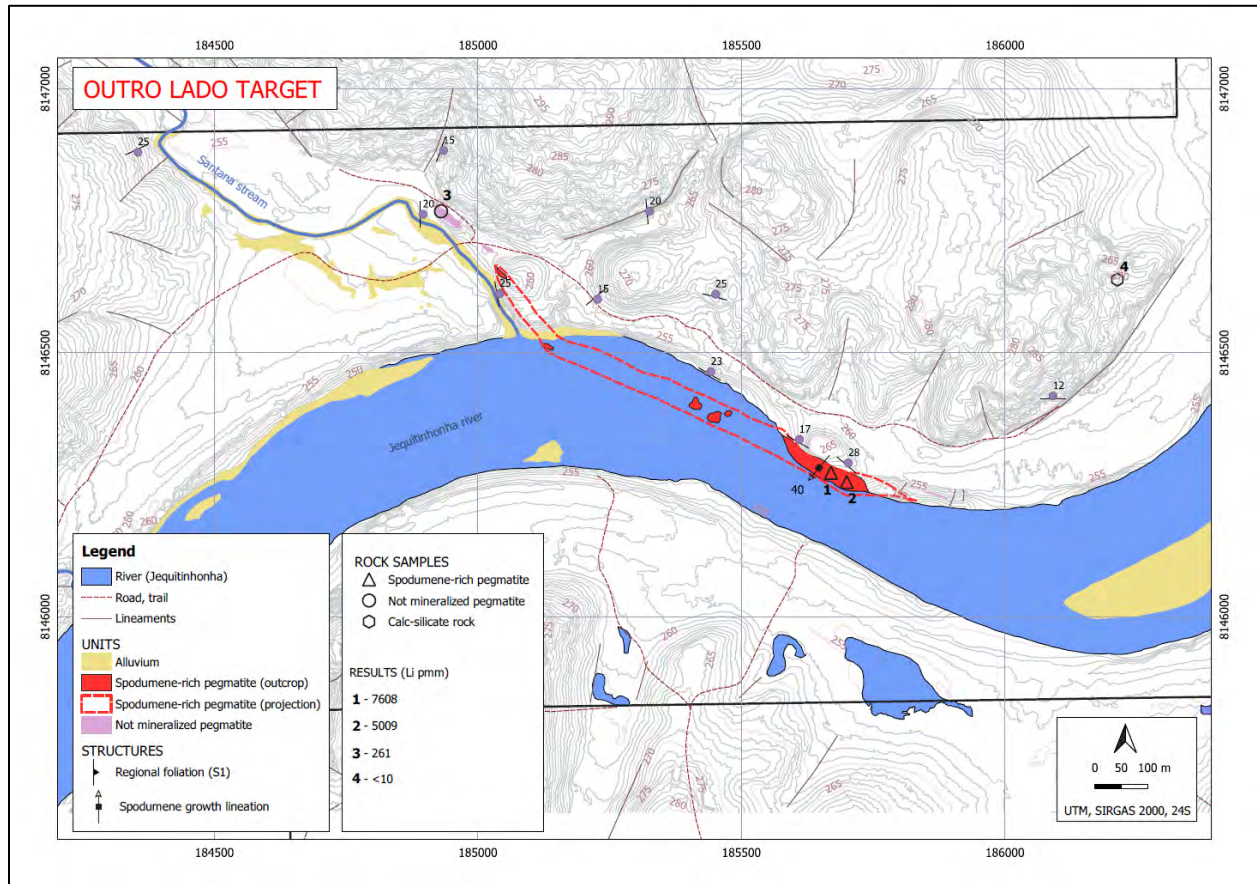
**Figure 9-1 Rock Sample Map of the Bandeira Target**



Source: Lithium Ionic



**Figure 9-2 Rock Sample Map of the Outro Lado Target**

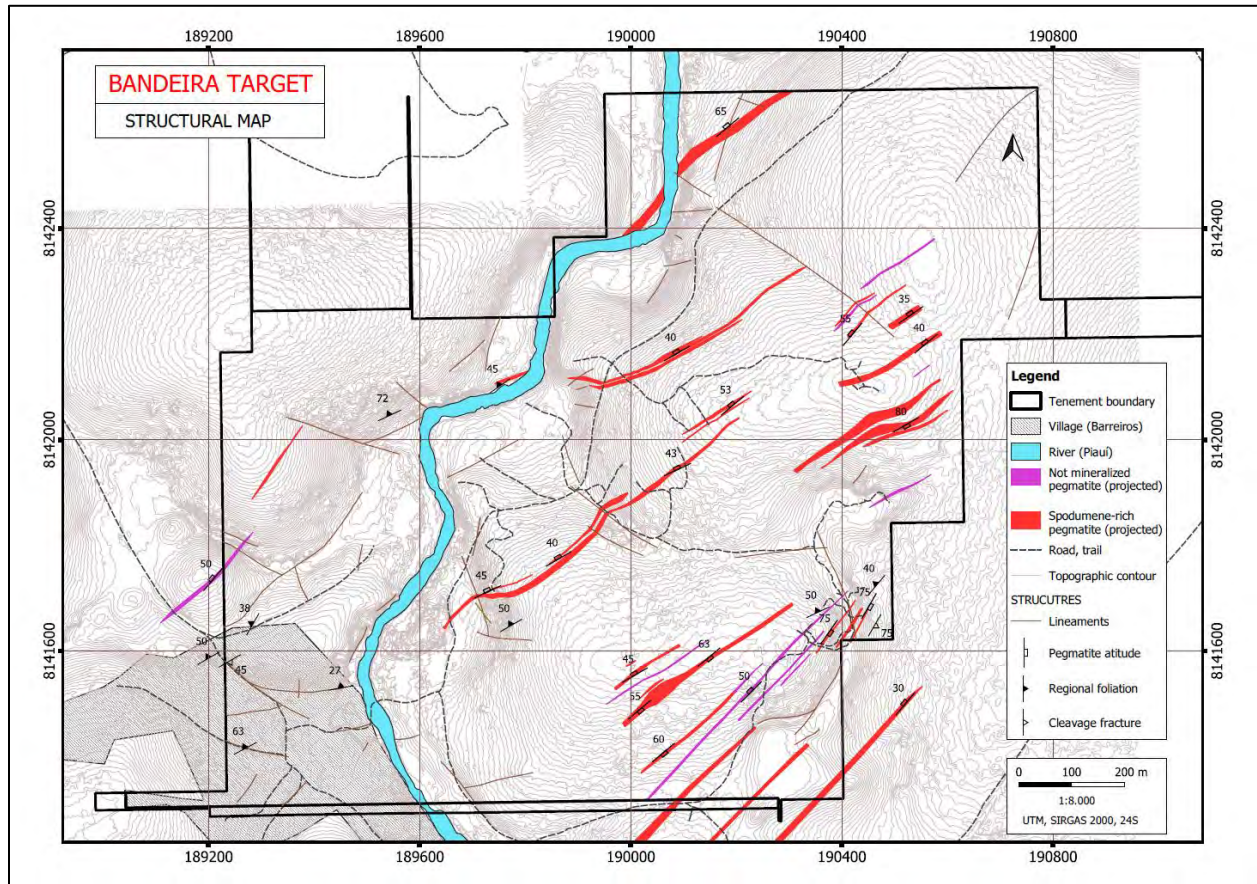


Source: Lithium Ionic

### 9.3 Structural Mapping

Lithium Ionic geologists carried out some basic reconnaissance survey measuring, where available, pegmatite attitude, foliation and cleavage fracture data. Approximately 16 separate outcrops of the pegmatites were measured. Map below is drawn with locations of these measurements. From the data collected, these pegmatites were drawn up on the map that shows general trends and some structural data shown as measured in the field.

**Figure 9-3 Structural Map of Bandeira Target**



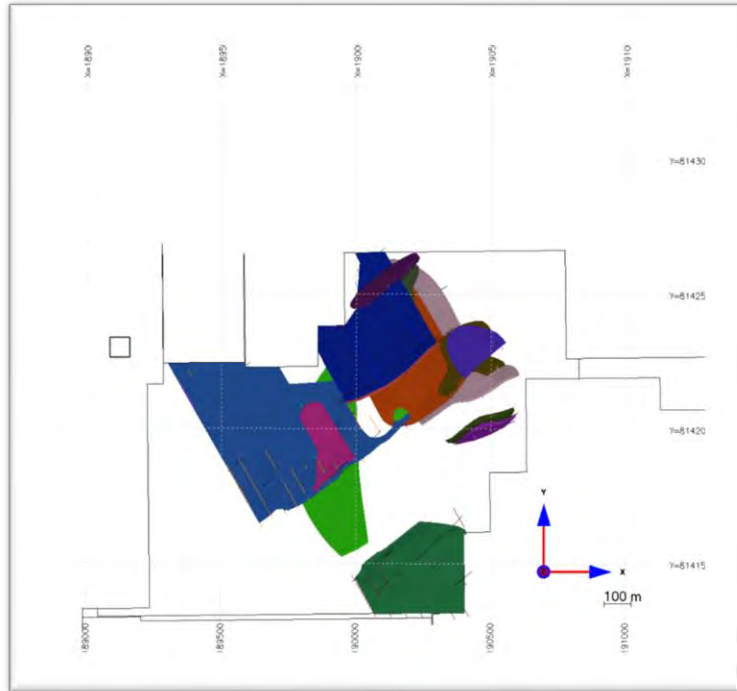
Source: Lithium Ionic

Generally, the structural measurements and the overall pegmatite attitude recorded by Lithium Ionic during the initial reconnaissance of the outcrops correlate well with the geological model constructed using drill core data.

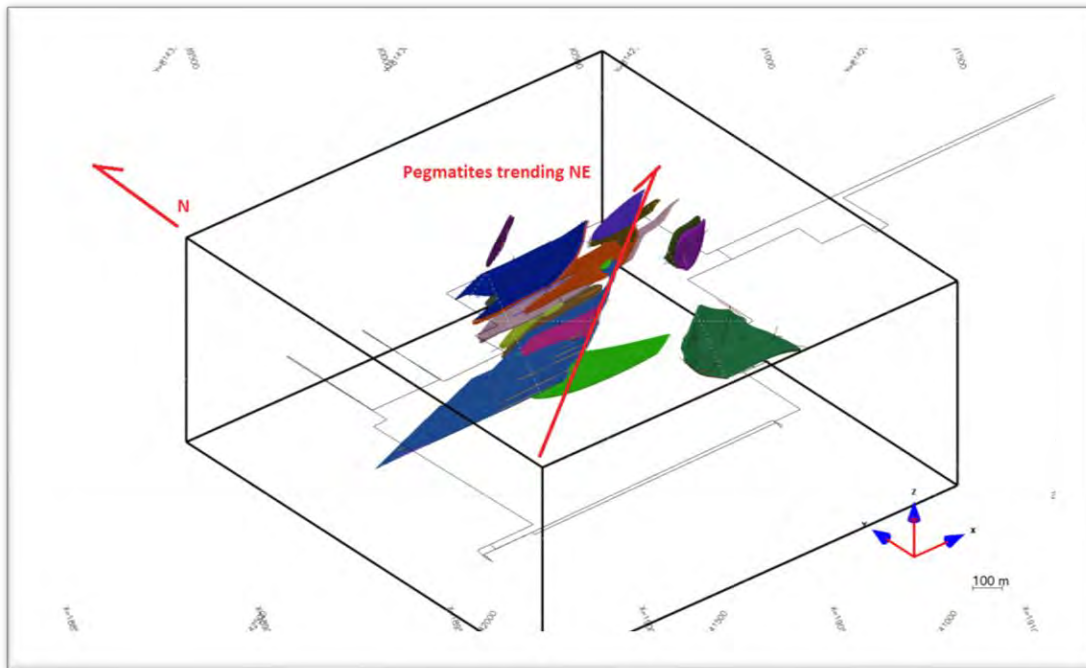
Figure 9-4 showing plan view of wireframed Bandeira pegmatites.

Figure 9-5 showing Isometric view of wireframed Bandeira pegmatites trending NE.

**Figure 9-4 Plan View of Wireframed Bandeira Pegmatites**



**Figure 9-5 Isometric View of Wireframed Bandeira Pegmatites**





## 9.4 Geophysical Surveys

A small-scale geophysical survey consisting of Induced Polarization was conducted on both Bandeira and Outro Lado prospects in 2022.

The methods of induced polarization (IP) and resistivity (RES) is commonly used to delineate the resistive or conductive portions of the pegmatites subsurface. Although common in use by some operators, the inverted data is not always useful or productive in the very early stages of exploration, however, in the case of Lithium Ionic, there were sufficient outcrops to measure some attitude data so the general trend of the pegmatites could be extrapolated using the subsurface IP anomalies. Energy induced data were acquired through the dipole-dipole arrangement in two distinct areas, namely: Area 1 involved 6 lines and totaled 5150 m linear and Area 2 with 5 lines totaling 2850 m linear profiling executed in the months of March and April 2022.

The principle for this method of prospecting is based on the injection of current  $I$ , through several electrodes into the ground. Data acquired depended on the resistivity values at each point, geometry of the terrain and the geometric arrangement of the electrodes (arrays). For an uninterrupted flow of current, the induced polarization depends on the impedance of the terrain and the frequency of the current. The induced polarization can be measured in the time and frequency domains. Despite being complex, IP resembles the discharge of a capacitor (time domain) or the impedance variation of an alternating current (frequency domain) can be measured and the raw data, once processed, can be viewed in 2D or if available, in a 3D environment. Resistivity and induced polarization data were acquired in Areas 1 and 2 with the dipole-dipole arrangement ( $AB=MN=25$  m).

The map in Figure 9-6 shows the location of the lines and measuring stations of the Chargeability and Resistivity data. Some of the pseudo-sections of apparent chargeability and apparent resistivity 2D models of the processed data are shown below.

**Figure 9-6 Location of the Lines and Measuring Stations of the Chargeability and Resistivity data of Area 1 and Area 2 of the Lithium Project**

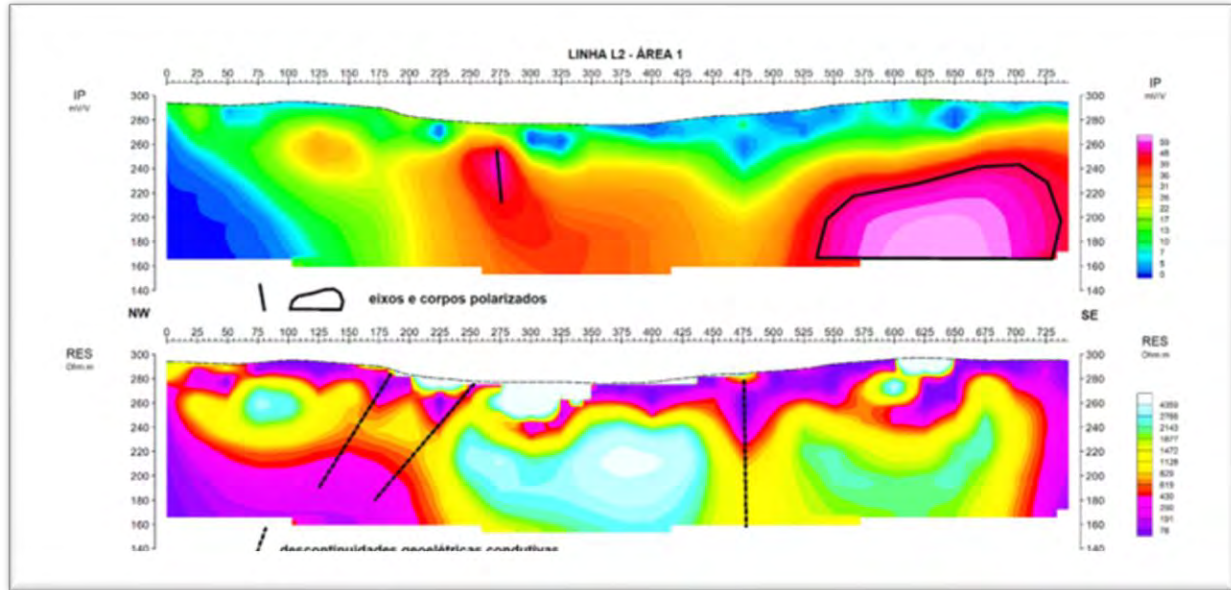


Source: Stevanato, 2022



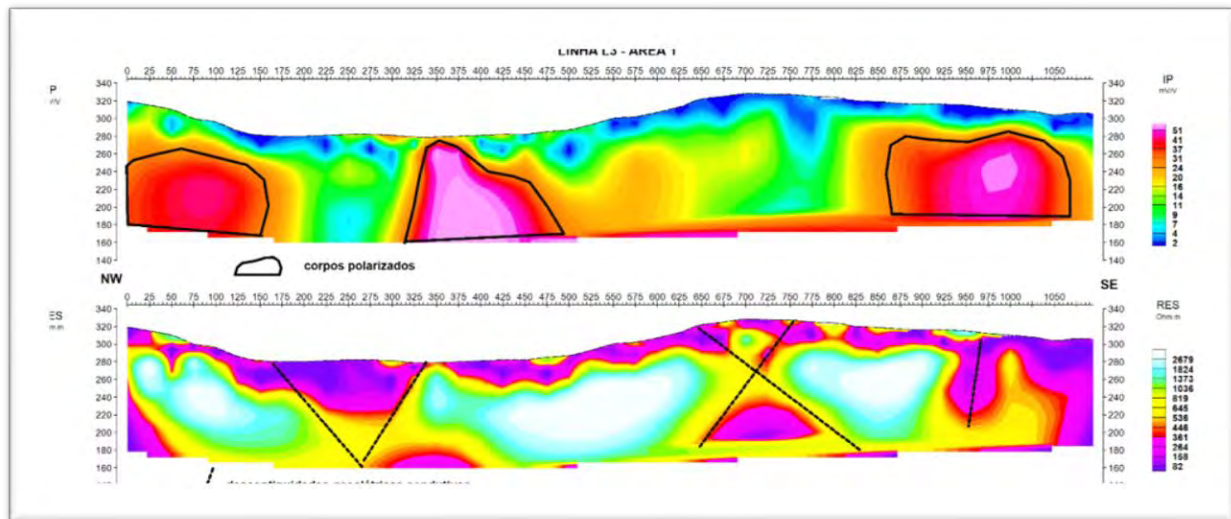
The top panels of Figure 9-7 to Figure 9-12 show some examples of the actual chargeability sections and the lower panels the real resistivity sections of some of the lines are shown below.

**Figure 9-7 Depth Model of the Chargeability (Top Panel) and the Actual Resistivity (Bottom Panel) of Line 2 of Area 1**



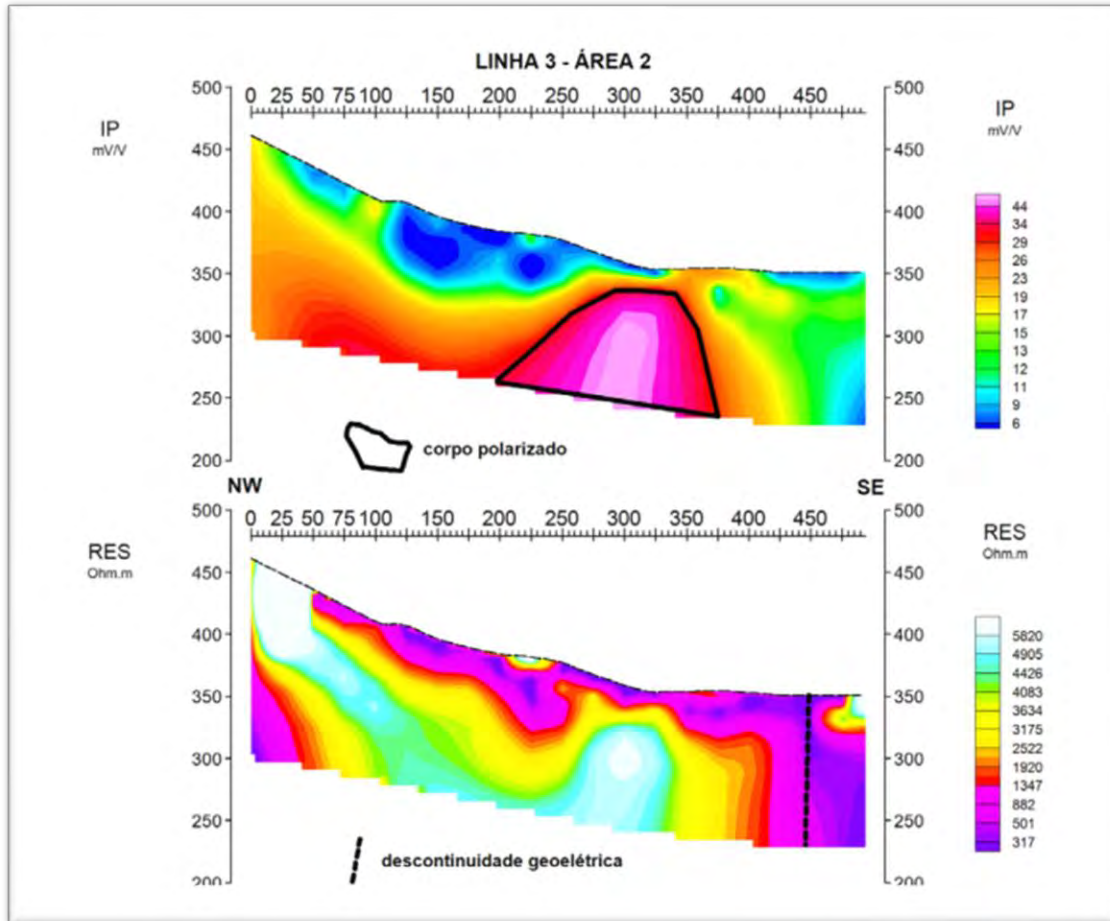
Source: Stevanato, 2022

**Figure 9-8 Depth Model of the Actual Chargeability (Top Panel) and the Actual Resistivity (Bottom Panel) of Line 3 of Area 1**



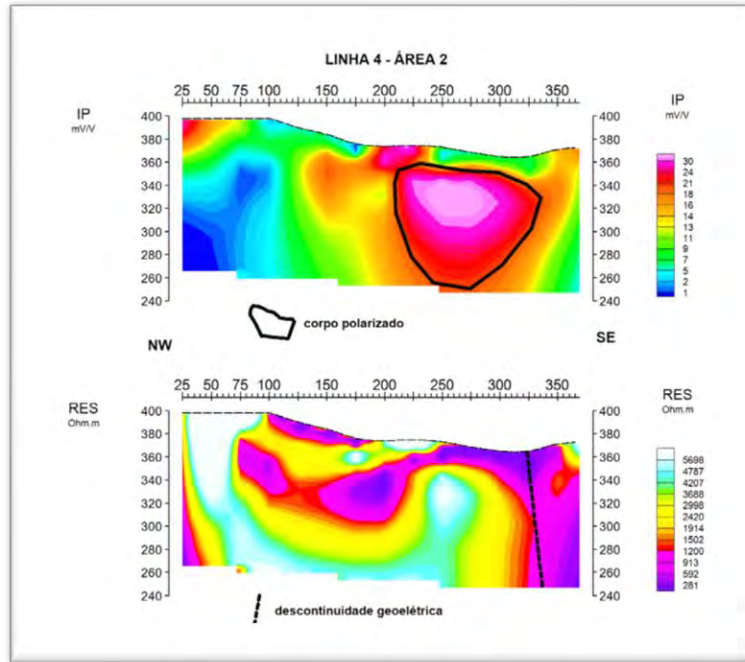
Source: Stevanato, 2022

**Figure 9-9 Depth Model Chargeability (Top Panel) and Resistivity (Bottom Panel) of Line 1 and 2 of Area 2**



Source: Stevanato, 2022

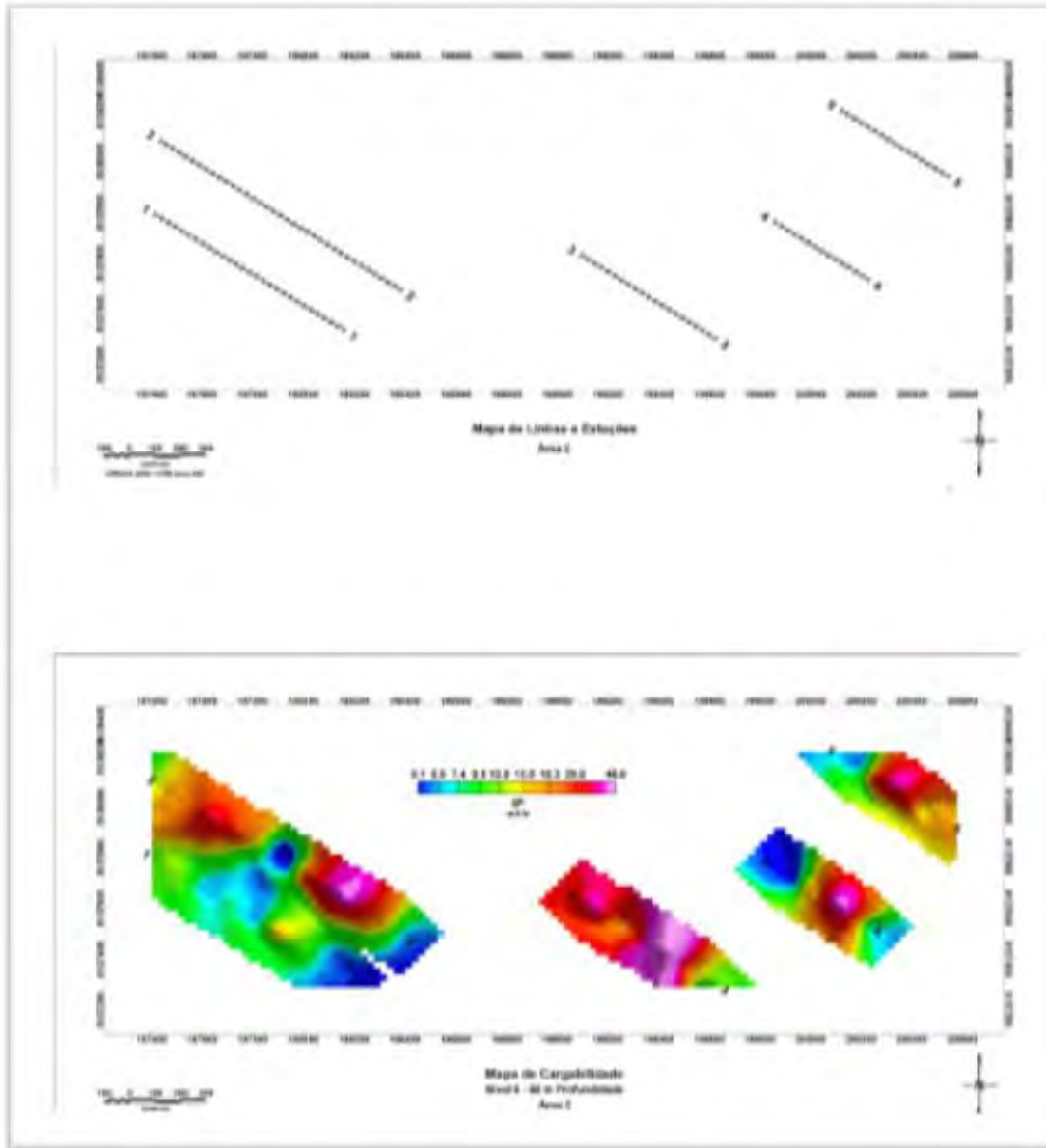
**Figure 9-10 Depth Model Chargeability (Top Panel) and Resistivity (Bottom Panel) of Line 3 of Area 2**



Source: Stevanato, 2022

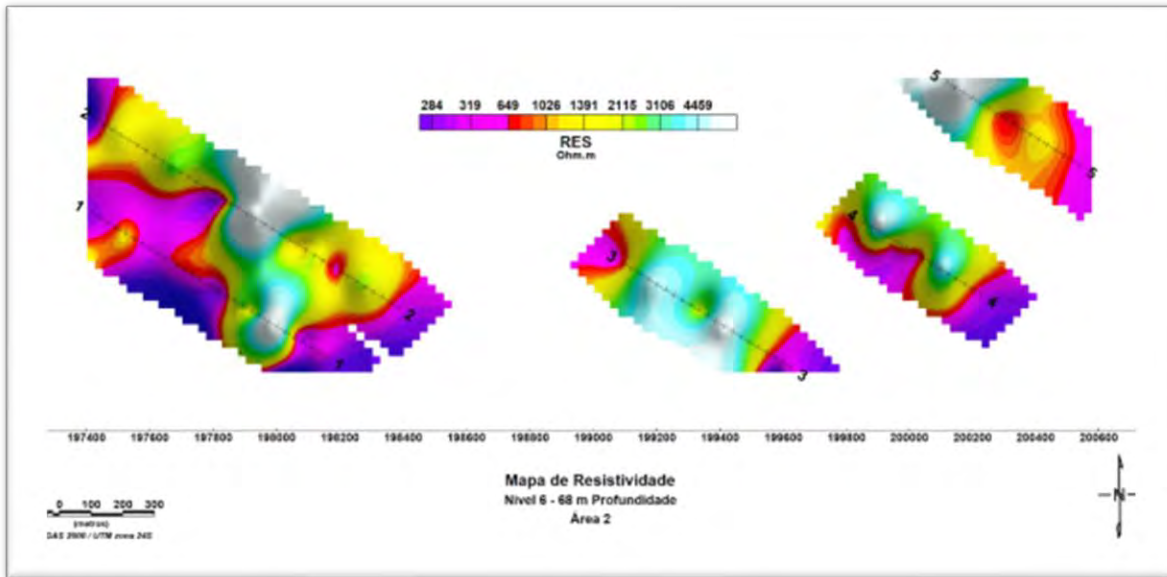
The map in Figure 9-12 shows the location of the lines and measuring stations of Area 2 of the Project and the figure below the map represents the depth level map of the actual chargeability, while Figure 9-12 shows the depth level map of the actual resistivity. The N6 depth level presented in both variables was 68 m.

**Figure 9-11 Depth Map of Real Chargeability (N6 = 68 m)**



Source: Stevanato, 2022

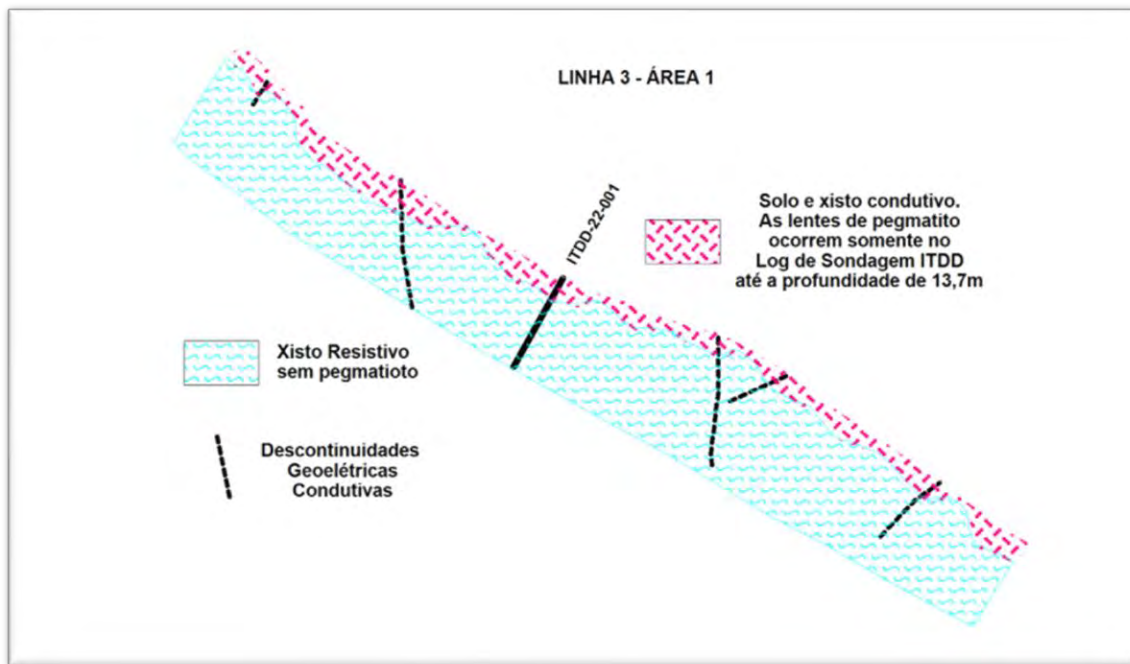
**Figure 9-12 Depth Map of Real Resistivity (N6 = 68 m)**



Source: Stevanato, 2022

The Geophysical-Geological model was designed from the real resistivity data of Line 3 of Area 1. This model was parameterized from the log data of the ITDD-22-001 rotary drilling and is composed of a unit of shales throughout the length measured by geophysics. Superimposed on this homogeneous unit is another consisting of soil and conductive shale that in the probing carried out intercepted the pegmatite lenses to a depth of 13.7 meters. Other interpretations suggest the presence of conductive geoelectric discontinuities that probably correspond to fault and/or fracture systems.

**Figure 9-13 Conceptual Geological Model from Geophysics Data**



Source: Stevanato, 2022

The inverted data was reviewed by Lithium Ionic geoscientists to determine some base line information to determine general attitude of the pegmatitic dykes and, if possible to assist in designing some drill hole targets.



## 10 DRILLING

### 10.1 Introduction

Table 10-1 is a drill summary table showing the drilling completed by Lithium Ionic until June 15, 2023. A total of 179 diamond drill holes (27,507.53 m) were completed in 2022 and 2023.

**Table 10-1 Total Drill Holes**

Pegmatite/Area	Number of Drill Holes	Meters Drilled (m)
Outro Lado	58	7,108.7
Bandeira	119	20,398.83
<b>Total</b>	<b>179</b>	<b>27,507.53</b>

### 10.2 Drill Type

All drilling was core drilling at NQ core size (47.6 mm core diameter) to provide quality logging material, and to recover sufficient material for any future metallurgical testing.

### 10.3 Lithium Ionic Drilling Campaigns

As of June 15, 2023, Lithium Ionic had completed a total of 179 diamond drill holes, see Table 10-1. All of the drilling to the end of June 15, 2023 was used in support of the Mineral Resource estimation. The holes drilled in 2023 which were completed after the DB was closed and are not included in the current resource statement.

### 10.4 Bandeira

Drilling in 2022-2023 consisted of 119 NQ drill holes (20,398.83 m). The drilling is summarized by year in Table 10-2. All of the drill holes are used in the Mineral Resource estimation.

The 2022-2023 drill program was undertaken by three Brazilian-based companies; Servdrill Perfuração e Sondagens Ltda, Servitec Foraco Sondagem SA and Galvani Nordeste Mineração Ltda. Core was stored in locally made wooden boxes and transported to the company's core sheds for logging and sampling. The average pegmatite intersection was from 0.3 to 25 m and an average true thickness of approximately 5 m.

**Table 10-2 Total Bandeira Drilling**

Year	Number of Drill Holes	Meters Drilled (m)
2022-2023	119	20,398.83

Approximately ten percent of the holes have been drilled vertically and the remaining 90% are inclined at between 50° to 90° (average of 75°). The core holes are generally oriented at azimuth 152°, perpendicular to the general orientation of the pegmatite intrusions, and deviate slightly toward the SE.

Drill spacing is typically 90 m to 110 m with some narrower spacing at the middle of the drill pattern and wide at the edges of the pattern. The drill hole intercepts range in thickness from approximately 85% of true width to near true width of the mineralization.

A total of 190 mineralized intercepts including 7 trenches intercepts were used for modelling the 18 mineralized solids of Bandeira. Each solid was assigned a numeric code in the tag column. See Table 14-1 for each solid tag information. Table 10-3 lists the Bandeira drill hole mineralized intervals used in the 3D modelling of the mineralized solids. These intervals were also taken into account for the compositing (see Item 14.5)

**Table 10-3 Total Bandeira DDH Mineralized Intervals**

Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITDD-22-001	8.5	13.7	5.2	101	7,121	1.53
ITDD-22-001	19	19.45	0.45	108	6,346	1.37
ITDD-22-002	33.08	38.74	5.66	101	9,372	2.02
ITDD-22-004B	37.45	38.13	0.68	107	2,035	0.44
ITDD-22-006	54.9	57.6	2.7	107	10,368	2.23
ITDD-22-007	18.2	18.75	0.55	102	2,337	0.50
ITDD-22-007	21.62	27.58	5.96	101	6,197	1.33
ITDD-22-008	45.45	46.8	1.35	101	1,081	0.23
ITDD-22-011	53.14	59.89	6.75	101	9,246	1.99
ITDD-22-012	33.7	34.45	0.75	102	3,451	0.74
ITDD-22-012	36.23	42.03	5.8	101	7,853	1.69
ITDD-22-013	53.18	57.08	3.9	102	7,223	1.56
ITDD-22-013	62.9	65.66	2.76	101	7,715	1.66
ITDD-22-014	77.1	82.8	5.7	101	5,316	1.14
ITDD-22-015	6.16	8.74	2.58	101	4,832	1.04
ITDD-22-015	10.97	11.7	0.73	108	3,070	0.66
ITDD-22-016	39.5	45.35	5.85	101	5,892	1.27
ITDD-22-017	62.21	67.15	4.94	101	4,927	1.06
ITDD-22-018	44.96	45.96	1	101	2,418	0.52
ITDD-22-019	29.83	33.57	3.74	101	9,151	1.97
ITDD-22-021	23.5	24.19	0.69	107	3,416	0.74
ITDD-22-021	31.9	34.73	2.83	106	6,005	1.29
ITDD-22-022	14.31	18.31	4	101	2,542	0.55
ITDD-22-023	33.5	34.26	0.76	103	4,437	0.96
ITDD-22-023	38.53	43.59	5.06	104	9,902	2.13
ITDD-22-023	114.34	115.9	1.56	107	4,691	1.01
ITDD-22-024	28.14	33.86	5.72	103	7,963	1.71
ITDD-22-024	36.35	37.35	1	104	4,974	1.07
ITDD-22-024	117.39	118.76	1.37	107	343	0.07
ITDD-22-024	159.72	161.72	2	106	11,443	2.46

Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITDD-22-025	57.47	58.08	0.61	107	1,522	0.33
ITDD-22-025	67.62	71.31	3.69	106	10,307	2.22
ITDD-22-027	22.78	29.09	6.31	106	1,994	0.43
ITDD-22-028	34.3	35.35	1.05	110	10,086	2.17
ITDD-22-028	38.64	40.25	1.61	107	9,060	1.95
ITDD-22-028	51.39	53.39	2	106	3,103	0.67
ITDD-22-029	41.46	42.25	0.79	103	7,250	1.56
ITDD-22-029	44.28	46.93	2.65	104	5,977	1.29
ITDD-22-030	46.6	53.3	6.7	106	6,923	1.49
ITDD-22-032	13.18	14.33	1.15	103	1,334	0.29
ITDD-22-032	18.35	19.95	1.6	104	9,067	1.95
ITDD-22-032	130.3	135.34	5.04	107	2,994	0.64
ITDD-22-032	137.4	139.2	1.8	106	7,327	1.58
ITDD-22-033A	6.05	10.05	4	110	1,903	0.41
ITDD-22-034	17.42	18.42	1	109	5,416	1.17
ITDD-22-035	103.27	105.17	1.9	111	4,839	1.04
ITDD-22-035	111.93	113.21	1.28	110	6,654	1.43
ITDD-22-035	171.62	176.5	4.88	106	5,958	1.28
ITDD-22-035	179.3	181.02	1.72	114	2,616	0.56
ITDD-22-036	39.1	45.1	6	109	4,161	0.90
ITDD-22-038	43.26	44.66	1.4	111	11,292	2.43
ITDD-22-038	55.73	56.81	1.08	110	1,829	0.39
ITDD-22-038	67.32	71.32	4	107	4,819	1.04
ITDD-22-038	98.13	104.85	6.72	106	5,745	1.24
ITDD-22-039	86.24	91.95	5.71	107	9,911	2.13
ITDD-22-039	94.19	95.86	1.67	106	7,921	1.71
ITDD-22-040	55.9	56.9	1	109	6,315	1.36
ITDD-22-041	37.16	37.97	0.81	111	2,789	0.60
ITDD-22-043	38.05	42.41	4.36	109	6,663	1.43
ITDD-22-045	23.65	24.65	1	113	2,558	0.55
ITDD-22-045	41.57	44.88	3.31	112	6,610	1.42
ITDD-22-046	63	68	5	109	5,451	1.17
ITDD-22-048	57.5	60.11	2.61	113	3,228	0.70
ITDD-22-048	69.39	74.2	4.81	112	5,030	1.08
ITDD-22-049	64.87	67.87	3	109	4,008	0.86
ITDD-22-050	80.7	81	0.3	107	9,462	2.04
ITDD-22-050	96.6	99.31	2.71	106	3,765	0.81
ITDD-23-051	56.98	59.68	2.7	109	2,964	0.64
ITDD-23-052	99.96	100.73	0.77	103	4,054	0.87

Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITDD-23-052	108.25	111.94	3.69	104	2,948	0.63
ITDD-23-052	205.44	209.44	4	107	8,328	1.79
ITDD-23-052	223.63	225.63	2	106	10,842	2.33
ITDD-23-052	255.36	257.46	2.1	114	4,127	0.89
ITDD-23-052	308.2	312.46	4.26	119	4,320	0.93
ITDD-23-053	74.65	77.19	2.54	107	9,068	1.95
ITDD-23-054	118	123	5	101	7,733	1.66
ITDD-23-055	36.97	38.95	1.98	109	1,961	0.42
ITDD-23-056	37.75	49.02	11.27	109	4,084	0.88
ITDD-23-058	122.55	128.55	6	101	9,108	1.96
ITDD-23-059	28.72	32.96	4.24	109	6,131	1.32
ITDD-23-060	111.44	112.13	0.69	103	9,266	2.00
ITDD-23-060	170.03	174.36	4.33	116	3,386	0.73
ITDD-23-060	225.23	229.5	4.27	107	9,446	2.03
ITDD-23-060	252.75	254.57	1.82	106	194	0.04
ITDD-23-060	283.3	284.48	1.18	114	10,050	2.16
ITDD-23-060	315.98	321.2	5.22	117	4,293	0.92
ITDD-23-060	332.62	334	1.38	119	9,469	2.04
ITDD-23-061	61.5	80.19	18.69	109	6,149	1.32
ITDD-23-062	104.43	124.43	20	118	7,523	1.62
ITDD-23-062	349.55	353.47	3.92	106	4,873	1.05
ITDD-23-062	384.5	388.67	4.17	114	4,698	1.01
ITDD-23-063	41.67	55.24	13.57	109	8,035	1.73
ITDD-23-065	159.62	164.6	4.98	103	5,214	1.12
ITDD-23-065	203.93	208.16	4.23	116	7,094	1.53
ITDD-23-065	271.2	277.29	6.09	107	11,748	2.53
ITDD-23-065	321.2	324.22	3.02	106	5,771	1.24
ITDD-23-065	336.67	339.41	2.74	114	6,111	1.32
ITDD-23-065	354.23	378.23	24	117	6,148	1.32
ITDD-23-065	390.1	397.82	7.72	119	8,712	1.88
ITDD-23-066	28.16	37.16	9	109	3,371	0.73
ITDD-23-067	86.96	103.96	17	109	5,620	1.21
ITDD-23-068	92.23	93.97	1.74	101	4,773	1.03
ITDD-23-068	112.79	114.45	1.66	108	1,773	0.38
ITDD-23-069	58.55	75.48	16.93	109	6,012	1.29
ITDD-23-070	78.3	97.3	19	118	4,191	0.90
ITDD-23-070	332.74	336.36	3.62	106	9,968	2.15
ITDD-23-070	339.94	343.42	3.48	114	5,042	1.09
ITDD-23-071	86.49	90.49	4	109	4,200	0.90

Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITDD-23-072	99.14	100.94	1.8	101	6,355	1.37
ITDD-23-072	113.69	117.69	4	108	6,424	1.38
ITDD-23-073	77.82	83.66	5.84	118	9,245	1.99
ITDD-23-073	206.62	213.3	6.68	103	9,229	1.99
ITDD-23-073	243.54	245.1	1.56	116	6,639	1.43
ITDD-23-073	298.08	299.08	1	107	4,913	1.06
ITDD-23-073	352.92	360.92	8	106	7,701	1.66
ITDD-23-073	408.21	426.35	18.14	117	5,831	1.26
ITDD-23-073	443.07	447.07	4	119	9,762	2.10
ITDD-23-074	85.77	90.4	4.63	102	6,452	1.39
ITDD-23-074	95.31	100.25	4.94	101	9,180	1.98
ITDD-23-075	109	119.43	10.43	109	4,337	0.93
ITDD-23-076	82.64	84.05	1.41	103	9,419	2.03
ITDD-23-076	85.55	86.84	1.29	104	10,383	2.24
ITDD-23-076	165.53	168.98	3.45	107	6,435	1.39
ITDD-23-078	321.95	337.78	15.83	101.1	6,601	1.42
ITDD-23-080	255.45	261.66	6.21	106	6,898	1.49
ITDD-23-080	274.7	275.7	1	114	4,264	0.92
ITDD-23-082	99.92	102.23	2.31	103	4,843	1.04
ITDD-23-082	196.2	201	4.8	107	6,867	1.48
ITDD-23-083	59.09	66.12	7.03	118	6,357	1.37
ITDD-23-083	171.31	177.15	5.84	103	8,845	1.90
ITDD-23-083	225.68	226.38	0.7	116	3,316	0.71
ITDD-23-083	310.73	314.78	4.05	106	5,167	1.11
ITDD-23-083	371.44	379.76	8.32	119	9,449	2.03
ITDD-23-084	273.3	284.87	11.57	101	5,374	1.16
ITDD-23-085	73.4	74.47	1.07	109	3,096	0.67
ITDD-23-086	272.46	282.45	9.99	106	5,054	1.09
ITDD-23-086	293.7	299.86	6.16	114	6,166	1.33
ITDD-23-087	53.24	69.96	16.72	109	5,516	1.19
ITDD-23-088	83.32	86.32	3	103	4,441	0.96
ITDD-23-088	199.94	210.19	10.25	106	5,964	1.28
ITDD-23-088	272.46	274.62	2.16	119	10,249	2.21
ITDD-23-089	63.26	72.02	8.76	109	6,356	1.37
ITDD-23-090	259.5	263.5	4	103	8,376	1.80
ITDD-23-090	386.98	389.98	3	107	7,506	1.62
ITDD-23-090	442.9	445.66	2.76	106	8,331	1.79
ITDD-23-090	465.61	471.85	6.24	114	7,308	1.57
ITDD-23-091	479.83	489.24	9.41	101.1	4,839	1.04

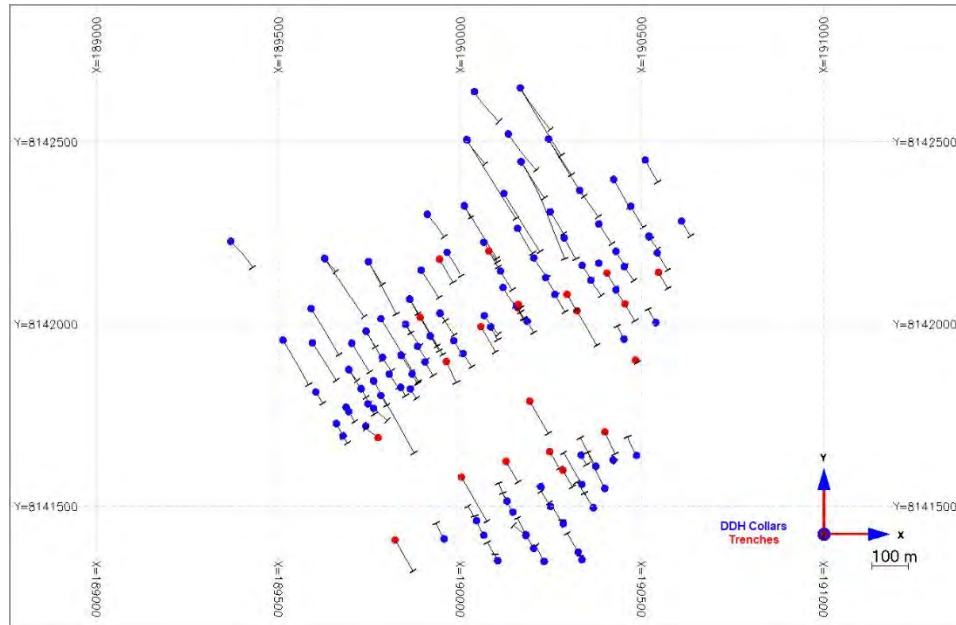


Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITDD-23-092	92.81	95.83	3.02	102	7,315	1.57
ITDD-23-092	103.81	109.42	5.61	101	5,703	1.23
ITDD-23-093	43.65	51.65	8	109	6,842	1.47
ITDD-23-094	80.58	88.26	7.68	101	7,572	1.63
ITDD-23-095	202.91	206.91	4	102	2,923	0.63
ITDD-23-095	216.19	223.07	6.88	101	6,422	1.38
ITDD-23-096	88.95	97.18	8.23	101	7,511	1.62
ITDD-23-097	38.7	44.12	5.42	101	6,879	1.48
ITDD-23-098	62.59	67.59	5	101	7,628	1.64
ITDD-23-099	63.04	65.04	2	102	8,892	1.91
ITDD-23-099	67.96	72.49	4.53	101	5,126	1.10
ITDD-23-100	27.85	28.85	1	101	1,627	0.35
ITDD-23-100	32.49	33.49	1	108	2,594	0.56
ITDD-23-101	76.74	81.74	5	101	7,217	1.55
ITDD-23-102	228.55	233.36	4.81	101	7,580	1.63
ITDD-23-103	197	200	3	101	6,161	1.33
ITDD-23-104	55.89	57.89	2	101	4,320	0.93
ITDD-23-104	58.89	59.89	1	108	6,721	1.45
ITDD-23-105	110.73	116.4	5.67	103	6,908	1.49
ITDD-23-106	133.08	135.23	2.15	108	4,397	0.95
ITDD-23-107	197.74	199.94	2.2	101	6,367	1.37
ITDD-23-107	209.54	213.54	4	108	8,422	1.81
ITDD-23-108	75.26	81.26	6	101	7,399	1.59
ITDD-23-108	86.52	88.52	2	108	8,027	1.73
ITDD-23-109	120.09	127.08	6.99	101	5,936	1.28
ITDD-23-110	58.58	62.84	4.26	101	9,975	2.15
ITDD-23-111	27.8	34.4	6.6	101	6,991	1.51
ITDD-23-113	97.33	99.89	2.56	101	8,140	1.75
ITDD-23-114	71.78	78.15	6.37	101	4,627	1.00
ITDD-23-115	34.08	41	6.92	101	5,861	1.26
ITDD-23-116	112.82	117.36	4.54	102	10,123	2.18
ITDD-23-116	127.44	129.09	1.65	101	3,985	0.86
ITDD-23-117	166.63	169.18	2.55	101	3,452	0.74
ITDD-23-118	160.13	164.07	3.94	101	4,342	0.93
ITDD-23-120	109.66	114.98	5.32	102	6,178	1.33
ITDD-23-120	122.09	123	0.91	101	1,797	0.39
ITTRE-22-001*	25	34	9	101	6,761	1.46
ITTRE-22-004*	12.8	15.8	3	102	3,237	0.70
ITTRE-22-004*	31.88	33.66	1.78	101	4,062	0.87

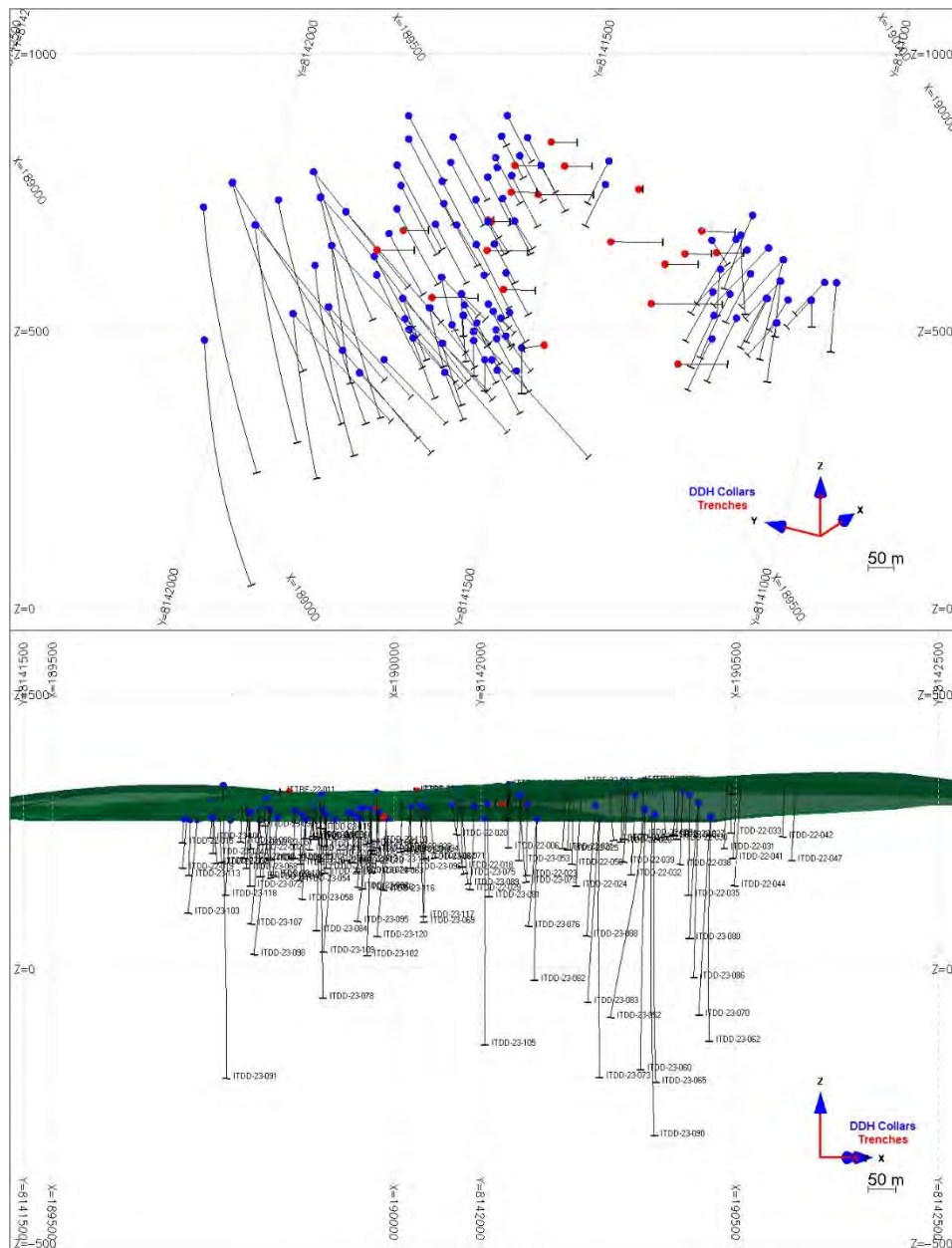
Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ITTRE-22-006*	14.8	15.8	1	112	2,864	0.62
ITTRE-22-011*	74.7	76.7	2	109	5,611	1.21
ITTRE-22-012*	33.2	37.2	4	103	1,296	0.28
ITTRE-22-012*	42	46	4	104	2,327	0.50

\*ITTRE-22-XXX are trenches, please refer to Item 9.

**Figure 10-1 Plan View of the Drilling at Bandeira (blue collars) (UTM Sirgas2000, 24S)**



**Figure 10-2 Longitudinal View Looking NW of the Drilling at Bandeira**



## 10.5 Outro Lado

**Table 10-4 Total Outro Lado Drilling**

Year	Number of Drill Holes	Meters Drilled (m)
2022-2023	58	7108.7

Total of 58 NQ size diamond drill holes were drilled on the property. The drill holes were generally spaced between 90–95 m apart with less than 5% of the drilling being vertical and the remaining drill holes were drilled on a N 215° azimuth. The drill-hole inclination ranged from 50° to 70°, and the deepest hole reached

259.4 m below surface. The average pegmatite intersection was about 160 m, resulting in a typical true thickness of 10-18 m.

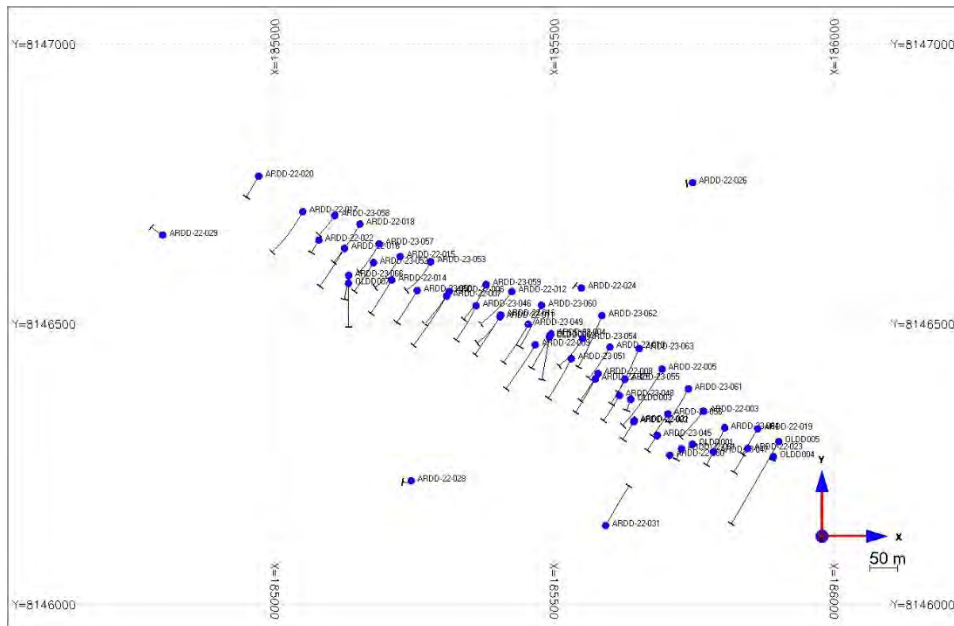
A total of 31 mineralized intercepts were used for modelling the Outro Lado mineralized solid. The solid was assigned a tag “Pegli” in the tag column. See Table 14-1 for solid tag information. Table 10-5 lists the Outro Lado mineralized intervals used the 3D modelling of the mineralized solid. These intervals were also taken into account for the compositing (see Item 14.5).

**Table 10-5 Total Outro Lado Mineralized Intervals**

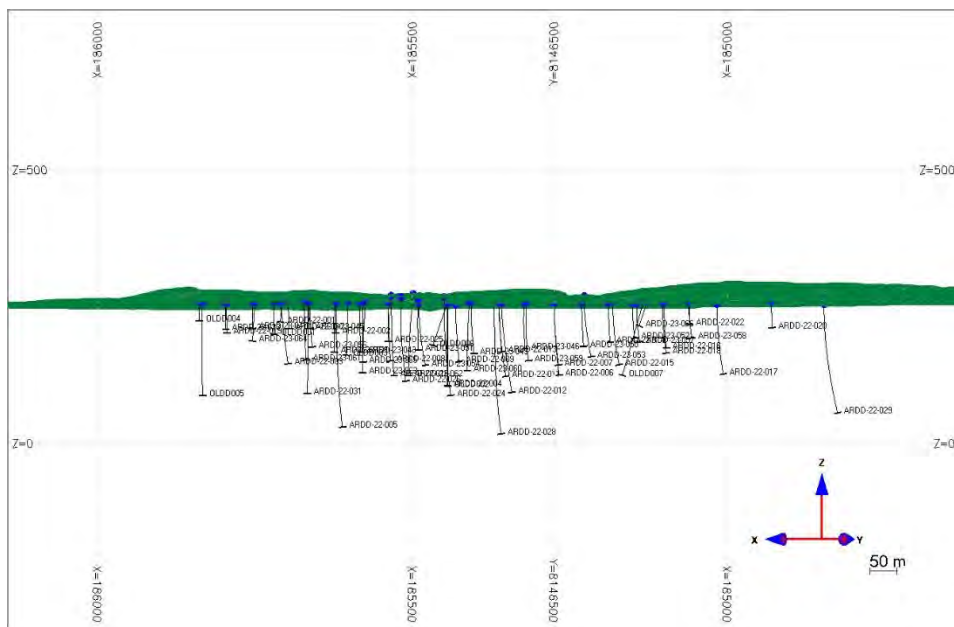
Hole Name	From	To	Length	Tag	Li_ppm	Li <sub>2</sub> O_pct
ARDD-22-001	6.16	29.63	23.47	pegli	7,656.8	1.65
ARDD-22-002	11.3	50.84	39.54	pegli	5,740.8	1.24
ARDD-22-006	94.73	98.76	4.03	pegli	3,413.5	0.74
ARDD-22-007	63.94	83.72	19.78	pegli	8,994.5	1.94
ARDD-22-008	80.43	91.2	10.77	pegli	5,895.9	1.27
ARDD-22-009	58.8	78.34	19.54	pegli	8,213.2	1.77
ARDD-22-010	128.7	133.31	4.61	pegli	5,898.9	1.27
ARDD-22-013	84.15	95	10.85	pegli	8,223.5	1.77
ARDD-22-014	31.98	70.48	38.5	pegli	6,027.4	1.30
ARDD-22-016	29.18	38.18	9	pegli	5,534.8	1.19
ARDD-22-021	16.31	81.71	65.4	pegli	6,197.8	1.33
ARDD-22-022	12.68	31.1	18.42	pegli	6,242.0	1.34
ARDD-22-023	30.52	33.5	2.98	pegli	5,133.6	1.11
ARDD-22-025	37	58.91	21.91	pegli	7,928.6	1.71
ARDD-22-030	5.55	25.63	20.08	pegli	9,859.4	2.12
ARDD-23-045	10.22	41.85	31.63	pegli	4,171.4	0.90
ARDD-23-046	74.67	88.25	13.58	pegli	5,107.5	1.10
ARDD-23-047	19.22	32.22	13	pegli	5,427.2	1.17
ARDD-23-048	29.83	74.83	45	pegli	8,682.5	1.87
ARDD-23-049	87.16	98.16	11	pegli	7,301.8	1.57
ARDD-23-050	49.62	82.17	32.55	pegli	5,534.5	1.19
ARDD-23-051	59.25	92.55	33.3	pegli	7,839.6	1.69
ARDD-23-052	54.14	66.14	12	pegli	5,328.0	1.15
ARDD-23-054	113.1	115.1	2	pegli	7,308.0	1.57
ARDD-23-056	28.07	74	45.93	pegli	6,744.4	1.45
ARDD-23-061	99.88	102.49	2.61	pegli	9,794.1	2.11
ARDD-23-066	19.54	21.03	1.49	pegli	3,205.8	0.69
OLDD001*	25	43	18	pegli	7,318.2	1.58
OLDD003*	57	83	26	pegli	4,806.5	1.04
OLDD006*	76.75	97	20.25	pegli	7,475.5	1.61
OLDD007*	22.79	25.17	2.38	pegli	5,028.0	1.08

\*OLDD001, OLDD003, OLDD006, and OLDD007 are historical drilling from past owner, please refer to Item 6.

**Figure 10-3 Plan View of the Drilling Outro Lado**



**Figure 10-4 Longitudinal View Looking NW of the Drilling at Outro Lado**



## 10.6 Drillhole Collar Survey

Lithium Ionic used REFLEX GYRO IQ down hole survey tool for obtaining all downhole survey data.

According to The REFLEX GYRO-IQ™ website, the tool is capable of maintaining high accuracy of surveys. The tool is connected to a cloud-based data hub, with a secure chain of custody and QA/QC application with real-time access to drilling survey data. Transfer of data from field to office ensures minimum clerical errors related to processing and interpretation.



Lithium Ionic rented the downhole Reflex tool and completed all hole surveys at various locations and attitudes where all necessary survey was done in real time. Lithium Ionic staff had quick access to results through the cloud-based data hub. Design of high-speed survey allowed Lithium Ionic field staff (including geologists and drillers) to obtain:

- survey speeds of more than 150 meters surveyed per minute,
- there were no significant issues with accuracy of results which was confirmed once holes were plotted on a 3D modeling software (example graph below), and
- continuous survey data comes from the tool's north seeking sensors assisted with GPS.

The authors of the report have no way to verify the accuracy of the survey method, hence the authors will rely on the statements and information provided by Lithium Ionic.

## 10.7 Surveying

There were no licensed surveyors used for the down hole survey as Lithium Ionic used a rented tool for the surveys.

## 10.8 Drilling Contractor

There are three drilling companies contracted by Lithium Ionic: Servdrill Perfuração e Sondagens Ltda, Servitec Foraco Sondagem SA and Galvani Nordeste Mineração Ltda.

## 10.9 Drill Collar Monuments

All Drill Core Monuments were surveyed by a Differential GPS and the monuments were placed by the driller once the hole had been completed.

## 10.10 Potential Drilling, Sampling or Recovery Factors

There were no significant drilling, sampling or recovery factors that would impact the outcome of the drilling results and for the estimated MRE (covered in Item 14).

## 10.11 QP's Comments

In the Author's opinion, based on a review of all possible information, the drilling procedures put in place by Lithium Ionic meet acceptable industry standards and that the information can and has been used for geological and resource modeling.

## 11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

### 11.1 2022-2023 Drilling Programs

A total of 141 core holes (21573.4 m) were completed on the Outro Lado and Bandeira targets. All drilling was core drilling at NQ core size (47.6 mm core diameter) to provide quality logging material, and to recover sufficient material for future metallurgical testing. All of the drilling to the end of June 15, 2023 was used in support of Mineral Resource estimation. There were seven holes drilled and completed in 2023 after the effective date of the MRE and are not included in the current resource statement.

#### 11.1.1 Diamond Core Drillhole Samples

All drilling was core drilling at NQ core size (47.6 mm core diameter) to provide quality logging material, and to recover sufficient material for future metallurgical testing. Total number of drill hole samples used in the mineral resource estimate totaled 5055 samples (assays).

#### 11.1.2 Sample Preparation

Samples were prepared on site after logging and entering the data into the database. Core was split in half using a core cutting saw on site. Half the core was left in the core box while the remaining half of the core was placed in sterile plastic bags accompanied by sample printed sample tag and shipped to SGS Geosol lab. All samples preparation included QA/QC program including systematic insertion of standards or certified reference materials (CRMs), blanks, core, and crush duplicates.

Drill core samples were prepared and analyzed by an independent ISO-accredited commercial laboratory. The Quality Assurance and Quality Control program was supported by an independent GE21 technical team.

All samples received at SGS Geosol were inventoried and weighted prior to being processed. Drying was done to samples having excess humidity. Sample material was crushed to 75% passing 3 mm using jaw crushers followed by splitting off 250 g using a Jones splitter and pulverizing to better than 95% passing 75 microns.

The sample shipment is delivered to the SGS Geosol facility, in Vespasiano, Minas Gerais, Brazil via a parcel transport company. SGS Geosol sends a confirmation email with detail of samples received upon delivery. The SGS Geosol facility is ISO 9001, ISO 14001, and ISO 17025 certified.

##### *Drill Core Sample Preparation*

Core samples were prepared by SGS Geosol Laboratórios Ltda (“SGS Geosol”) located in Vespasiano-MG, Brazil. SGS Geosol is an ISO-accredited (ISO:17025:2017) commercial laboratory, completely independent of LIC. Diamond drilling samples were prepared and analyzed by SGS Geosol laboratories in Vespasiano-MG, Brazil. Samples were dried (105°C), crushed (75% passing 3 mm sieve), homogenized, divided (Jones riffle splitter) and pulverized 250 to 300 g of sample in steel mill to 95% passing 150#.

During the preparation process, SGS Geosol included their own blank and standard samples, as well as duplicates and replicate samples.

In addition, quartz washes were used after each sample preparation as a precaution against contamination from high-grade samples.

QC samples are inserted into the sample sequence at an approximate frequency of 1 QC sample per 30 samples (CRM, blank, core duplicate, and crush duplicate). Approximately 30% of samples assayed have been QC samples. In total, 114 blanks, 231 CRMs, 118 core duplicate pairs, and 119 crush duplicate pairs have been submitted for drilling included in the current MRE. All QA/QC samples are analyzed by SGS Geosol lab. Core is transported by a Company geologist or geological assistant to the core storage property.

The drill core is logged for lithology, structure, alteration, and mineralization prior to marking out sample intervals. Sample intervals are defined to mineralization, alteration, and lithology contacts. Suspect high-grade intervals are sampled separately. Once the core is logged and sample intervals determined, the core boxes are carried to the core cutting facility and the core is cut length-wise along the core axis using a diamond bladed saw which is flushed with water. The core is split and then the samples are placed into numbered sample bags. The core is cut by a geologic technician under the supervision of the geologist and then boxed for shipment to the assay labs. No directors or officers of the company are involved in sample collection or preparation. Sample Preparation and Security

Certified reference materials and blanks are inserted into the sample stream, and all samples are bagged in sacks for transport. A control file, the laboratory sample dispatch form, includes the sack number and contained sample-bag numbers in each sack. The laboratory sample dispatch form accompanies the sample shipment and is used to control and monitor the shipment.

### 11.1.1 Sample Analysis

After the preparation described above, the core samples were analyzed by SGS Geosol located in Vespasiano-MG, Brazil. SGS Geosol is an ISO-accredited (ISO 17025:2017) commercial laboratory, completely independent of LIC.

The chemical assays were performed over a total of 5055 core samples (excluding control samples) using the analytical method ICP90A multi-element analysis (fusion by sodium peroxide and finish with ICP-OES). If lithium results are above 15000 ppm, SGS Geosol analyzes just for lithium through ICP90Q\_Li.

All the chemical analyses conducted by SGS Geosol were reported to LIC on PDF format certificates, which were also accompanied by an MS Excel digital file.

### 11.1.2 Protocol for Diamond Drilling (MGLIT, 2022)

Drilling took place under the direct supervision of the on-site geologist. The geologist implemented the drill site, azimuth and dip. The logging geologist is responsible for logs the core and is responsible for quality control, ascertaining that the core is placed in the core boxes correctly and that the core boxes are correctly marked with the hole number and footages. The core boxes are then temporarily stored on site, prior to transport to the Company's core logging, core cutting and core storage facilities.

Core is transported by a Company geologist or geological assistant to the core storage property and secured behind a locked gate. The drill core is logged for lithology, structure, alteration, and mineralization prior to marking out sample intervals. Sample intervals are defined to mineralization, alteration, and lithology contacts. Suspect high-grade intervals are sampled separately. Once the core is logged and sample intervals determined, the core boxes are carried to the core cutting facility and the core is cut length-wise along the core axis using a diamond bladed saw which is flushed with water. The core is split and then the samples are placed into numbered sample bags. The core is cut by a geologic technician under the supervision of the geologist and then boxed for shipment to the assay labs. No directors or officers of the company are involved in sample collection or preparation.

Table of failure

MGLIT Empreendimentos Ltda (Mglit) uses the following criteria for batch acceptance or refusal:

- If one STANDARD fails between 2 standard deviation and 3 standard deviation and no other failure occurs in the batch, the batch is accepted.
- If a STANDARD fails beyond 3 standard deviation the STANDARD is classified as failure.
- If two or more STANDARDS fail between 2 standard deviations and 3 standard deviations in a batch, the batch is failure.
- If both BLANKS (Coarse and fine) fail over the warning line, the batch is classified as a failure until the next BLANK sequence.
- If a DUPLICATE fails over the percent difference between sample duplicate and original sample versus mean of the two assays above 5% and no other failure occurs with other duplicate of the batch, this is accepted.

### *Sampling Method*

Core intervals to be sampled are identified and marked by MGLIt's geologists. Within the mineralized interval, sample intervals must range from 0.30 m minimum to 1.00 m maximum with support of 0.50 m, depending on specific characteristics of the ore zone.

Sample intervals can range from 0.50 m minimum to 1.50 m maximum with support of 1.00 m out of the mineralized intervals. Visual indicators of the intervals to be sampled include lithological contacts and hydrothermal alteration zones that can modify the one-meter sampling interval.

The sampling procedures are as follows:

- Drill core is brought in by drilling contractor team, one or more times per shift, from the drill rig directly to a drill logging and sampling area.
- Core boxes are photographed (three boxes per picture) and logged.
- Sample intervals are marked with dermatographic pencil in the core box.
- Prior to sampling, the drill core is marked by a line drawn along the core at high angles to the foliation, so that systematically the right side of the core is sampled. The other half core is retained for future reference.
- Sample tags are attached on the core box at the end of each sample.
- Sample bags are numbered prior to sampling.
- Sample tags are inserted at the same bags only after the samples are collected.
- For the weathered material a spatula or a machete should be used to equally split the sample into two subsamples along the direction of drilling. Fresh core is cut in half using a diamond saw, and the half core samples are sent to the SGS preparation laboratory, in Vespasiano, MG, Brazil, where the samples are prepared and analyzed.

### Reference Material and controls

- Low Grade Standards (ITAK-1100 and OREAS 750)
- Mid Grade Standards (ITAK-1101 and OREAS 752)
- Pulp Duplicate (request the lab for a duplicate of previous sample)
- Fine Blanks (BLK ITAK QF-15 and BLK ITAK QF-16)
- Coarse Blank (BLK ITAK QG-01)
- Check Assay (forward to ALS, MG-Brazil)

The batch size is 35 samples (from MGLIT), including 30 core samples and 5 quality control samples). In addition, as part of the “father” lab (SGS) Quality control procedure, 5 quality control samples are included by each analytical run performed.

Samples from two or more drillholes can be sent in the same batch.

The MGLIT’s QA/QC program includes the insertion of the following QC samples:

- Fine and coarse blanks: 6% of the batch, or 2 blanks per batch one of each;
- Standards: 6% of the batch, or 2 standards per batch;
- Pulp duplicate: 3% of the batch, or 1 sample in 30;
- Check assay: 3% of the batch, or 1 sample in 30;
- PSA – Particle Size Analysis: results for every check assay samples.

Notes:

Every batch will have 30 core samples and 5 QC samples.

Check assay samples do not form a batch of 35 samples once they are sent in monthly cycles.

The sequence of preparation and analysis must carefully respect and follow the numeric sequence of samples.

The sample number (SAMPLE-ID) should not be repeated in any circumstances. Which includes the duplicate, pulp and check assay samples.

The same criteria of proportionality of control samples should be respected by check assay batches, limited by 2 standards, 2 fine blanks, 1 pulp duplicate.

Blanks

Always follow the sequence: SAMPLE > FINE BLANK > COARSE BLANK

Insert the blanks in the beginning of the possible mineralized interval of each batch. For non-mineralized batches, the blanks should be inserted after the first or second sample.

There is no sample preparation for the FINE BLANK. This sample is already under the specified analytical granulometry and should proceed straight to analysis.

Standards

Insert the MID-GRADE standard in the beginning of the possible mineralized zone. It can be near and not necessary immediately before the identified interval.

Insert the LOW-GRADE standard in the end of the possible mineralized zone. It can be near and not necessary immediately after the identified interval.

Notes

The standards order can be changed based on the geological characteristic of the mineralization.

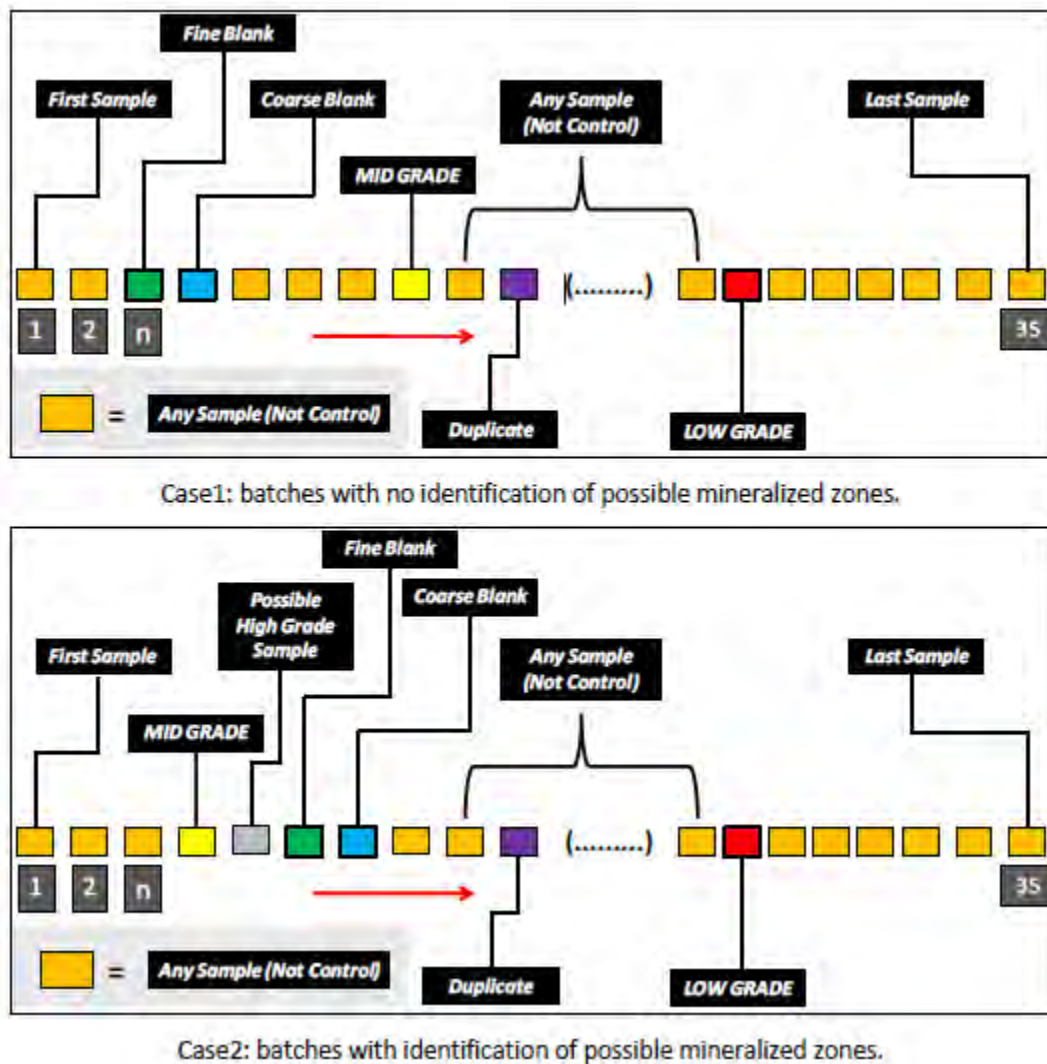
There is no sample preparation for the standards. These samples are already under the specified analytical granulometry and should proceed straight to analysis.

Pulp Duplicate



Insert the Pulp Duplicates in the middle of the batch and always considering that the entire grade spectrum (maximum and minimum) must be tested in the duplicate program.

**Figure 11-1 Logical Sequence Matrix**



**Check Assay**

Check assay samples will be submitted monthly in 35 samples batches. This procedure will always have a temporal delay regarding the initial assay result from its original sample selected for check assay.

The samples to be submitted to check assay should have specific characteristics and never be sequential, i.e. specific typology, sample near a contact, sterile sample between high grade samples, very high grade samples (uncommon result) and where there is differences between the logged core and expected results. It is not usual to execute duplicate pulp over extensive sterile.

The selected check assay samples should compose a batch of the same size of those sent to the “father” lab (SGS Lab), including the QC samples, except the coarse blank.

## Notes

The same analytical procedure adopted in the “father” lab (SGS Lab) should be used in the “son” lab (ALS).

Overall the core duplicate samples are not sent for check assays.

There is no physical preparation of the check assay samples. This sample is already under the specified analytical granulometry and should proceed straight to analysis.

The whole pulp should be sent to the lab. No prior splitting should be performed in the Project.

### PSA – Particle Size Analysis

This type of analysis should be requested to the “son” lab (ALS – Vespasiano, Brazil) selected for external controls, selecting only pulp samples and not QC samples.

The objective of the analysis is to check the percentage of passing 200 mesh (95% Pass). The restrained material should never be over the analytical specification limit adopted by “son” lab.

### Certified Reference Material - Values

The certified reference material is a reference material, which one or more parameters have been certified by a technically valid and recognized procedure and for which a certificate or other valid documentation has been issued by a certifying body.

MGLIT purchased commercial standards previously prepared by OREAS (Ore Research & Exploration) - OREAS 750 and OREAS 752 and Blanks from ITAK (Instituto de Tecnologia August Kekulé) - BLK ITAK QF-15 and BLK ITAK QG-01, following the best practices of the market, which include proper sample preparation, analysis and round robin followed by statistics.

Even for the contamination control, MGLIT consider the quartz blanks that was characterized due the possibility to found trace amount of the controlled elements.

## 11.2 Quality Assurance/Quality Control (QAQC) Samples

The Quality Assurance and Quality Control (“QA/QC”) procedures for the assays, adopted by LIC in the 2022 and 2023 diamond drilling campaign, include preparation duplicates, insertion of Certified Reference Materials (CRM), insertion of preparation and analytical blank samples for all diamond drilling program. The QA/QC assessment in this Item considers control samples inserted by LIC and excludes SGS Geosol laboratory internal control samples (MGLIT, 2023).

### 11.2.1 Certified Reference Materials

The drilling sampling database contains a total of 359 Certified Reference Material (“CRM”) sample results for the 2022 and 2023 drilling campaign (131 in 2022 and 228 in 2023), corresponding to 7.1% of total database samples. The CRM samples were inserted by LIC’s technical team at the exploration site, in an interval of 1 to every twenty 20 samples collected, following LIC’s sampling procedures. CRM control samples were inserted in a way that the SGS Geosol laboratory was unaware of its nature or content. It was used four different CRM materials; two provided by Ore Research and Exploration (OREAS): CRM OREAS 750 and CRM OREAS 752, and two provided by Instituto de Tecnologia August Kekulé (ITAK): ITAK-1100 and ITAK-1101. Table 11-1 shows the certified values for lithium content of CRMs used in this program.

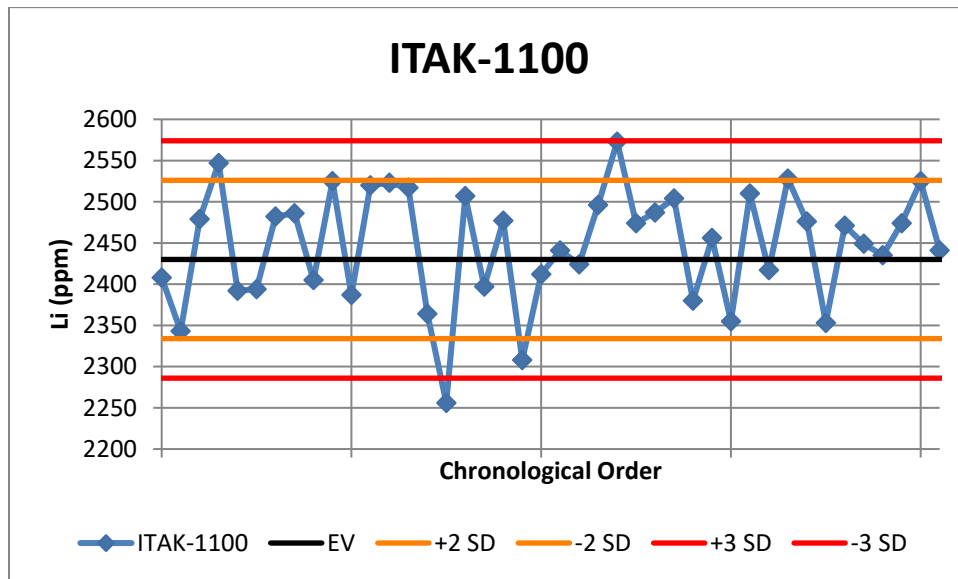
**Table 11-1 Certified Reference Materials for 2022-2023**

Standard	Li (ppm)	
	Certified Value	SD
ITAK-1100	2430	48
ITAK-1101	6710	120
OREAS 750	2300	100
OREAS 752	7070	210

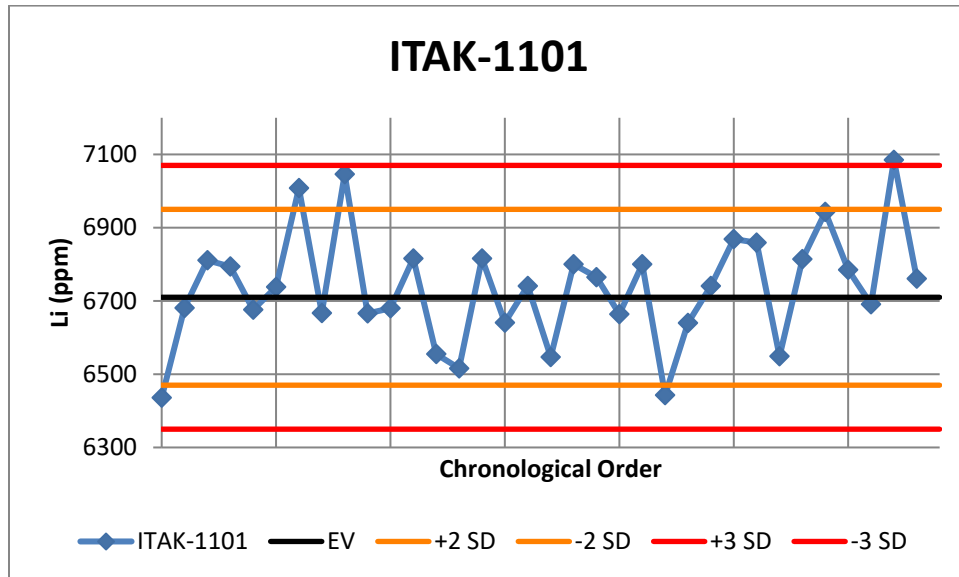
**Table 11-2 2022-2023 Li CRM Performance**

Standard Quality Control for Li_ppm							
	Count	Value	Sigma	Pass	Warning	Failed	% Failed
<b>ITAK-1100</b>	42	2430	48	37	4	1	2.38
<b>ITAK-1101</b>	34	6710	120	29	4	1	2.94
<b>OREAS 750</b>	138	2300	100	135	3	0	0.00
<b>OREAS 752</b>	145	7070	210	142	2	1	0.69

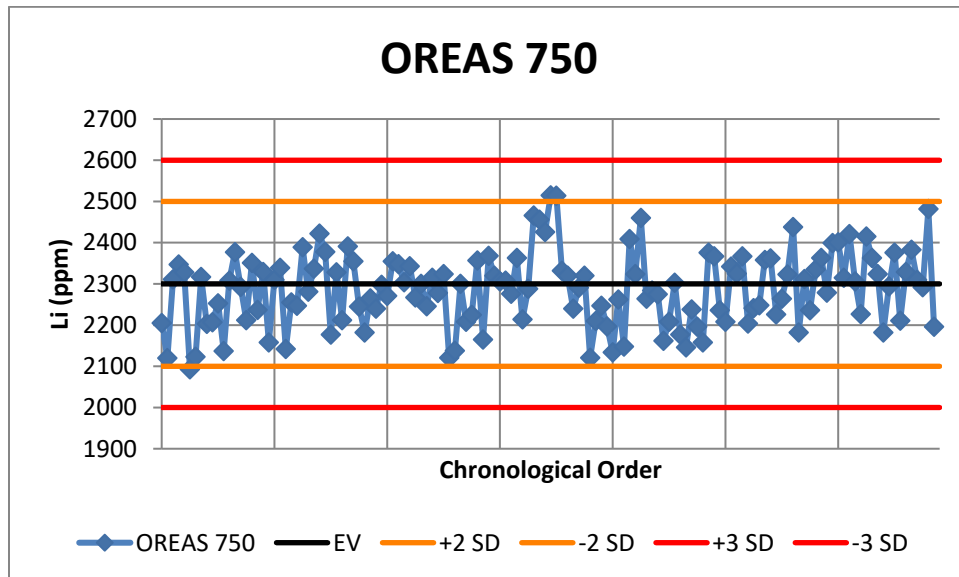
**Figure 11-2 Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard ITAK 1100**



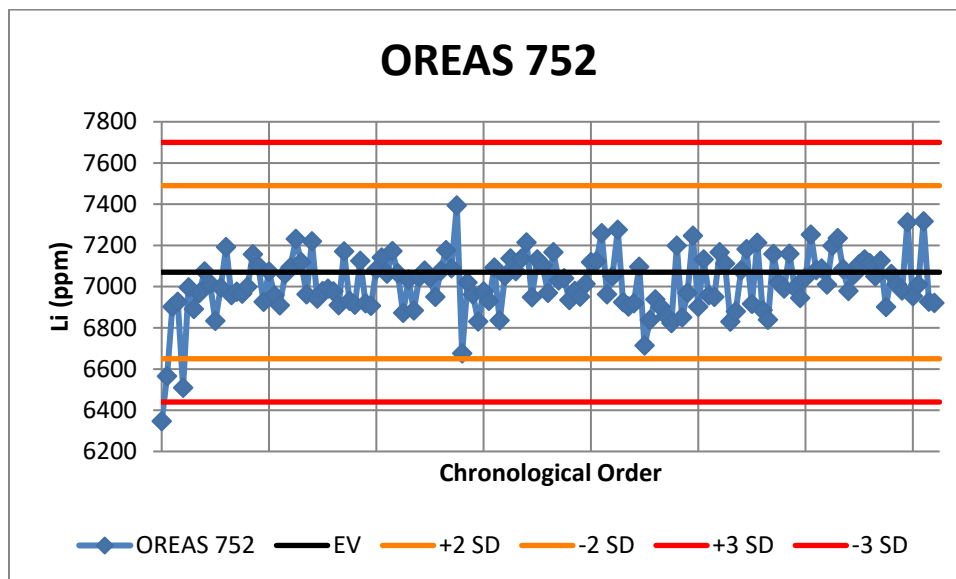
**Figure 11-3 Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard ITAK 1101**



**Figure 11-4 Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard OREAS 750**



**Figure 11-5 Li Standard Sample Analysis Results for the 2022-2023 Itinga Project with Standard OREAS 752**



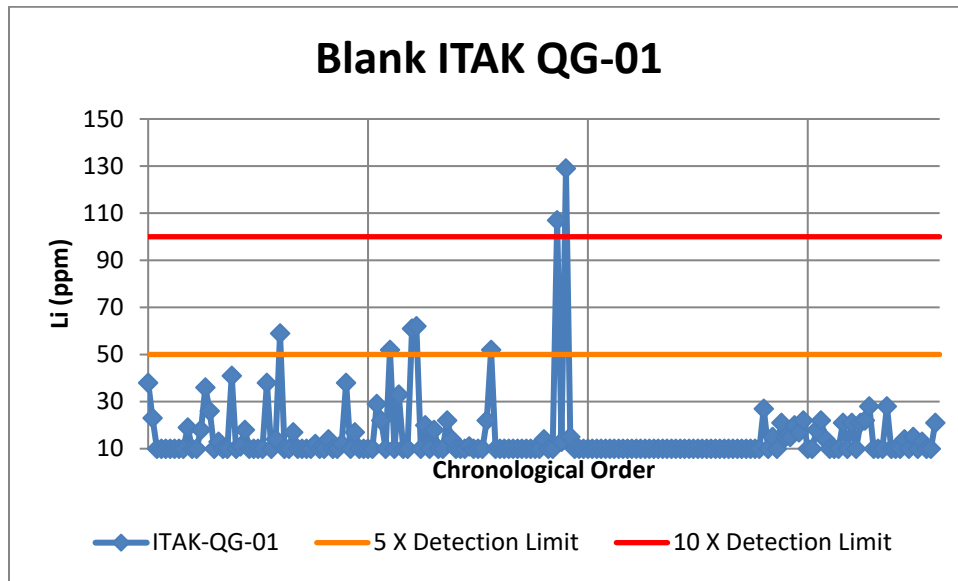
### 11.2.2 Preparation Blanks (Coarse Blank)

On average, one (1) preparation blank sample was inserted every 40 samples. Preparation blank samples were inserted by LIC’s technical team at the exploration site, in a way that the SGS Geosol laboratory was unaware of its nature or content. In the database, a total of 180 preparation blank samples were reported representing about 3.6% of total database. It was used a coarse (>10 mm) quartz based certified blank material (ITAK QG-01) from ITAK (Figure 11-6).

It was observed 7 different assay results for lithium above the upper limit value considered (50 ppm) of which 2 assay results were about the failure limit of 100 ppm. Except for these 2 failures that could be mislabeled samples, these occurrences were not considered as a systematic contamination evidence in the sample preparation process.



**Figure 11-6 Coarse Blank Sample Chart for Li (ppm)**

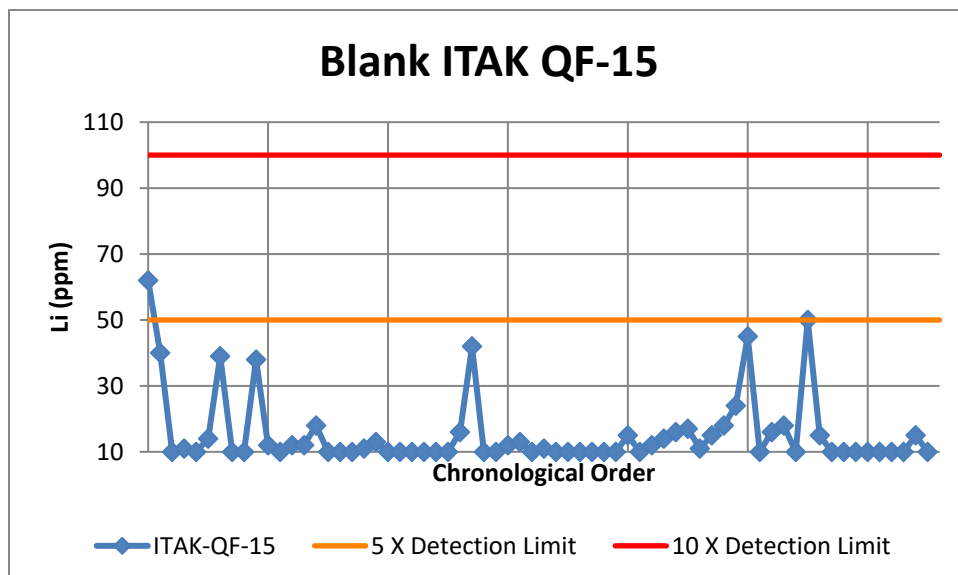


### 11.2.3 Analytical Blanks (Fine Blank)

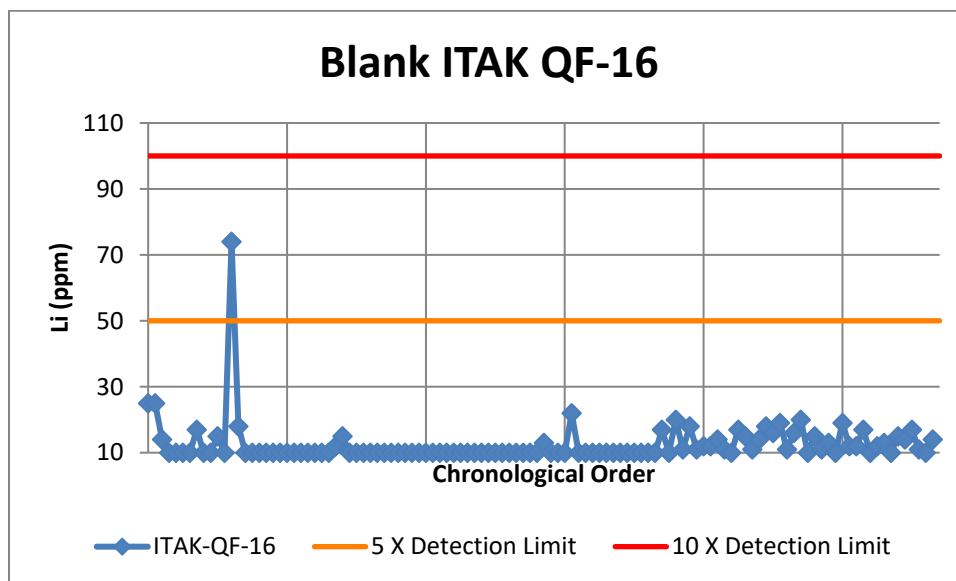
On average, one (1) analytical blank sample was inserted every 40 samples. Analytical blank samples were inserted by LIC's technical team at the exploration site, in a way that the SGS Geosol laboratory was unaware of its nature or content. In the database, a total of 180 fine blank samples were reported representing about 3.6% of total database. It was used two different fine (<200#) quartz based certified blank material (ITAK QF-15 and ITAK QF-16) from the Instituto de Tecnologia August Kekulé ("ITAK") (Figure 11-7 and Figure 11-8).

It was observed 2 single assay results for lithium above the 5 X DL (detection limit) value considered (62 and 74 ppm). This occurrence was not considered a systematic contamination evidence in the sample preparation process.

**Figure 11-7 ITAK QF-15 Fine Blank Sample Chart for Li (ppm)**



**Figure 11-8 ITAK QF-16 Fine Blank Sample Chart for Li (ppm)**



#### 11.2.4 Coarse Duplicate Samples

On average, one (1) coarse duplicate sample was inserted for every 40 samples for 2022-2023 LIC’s drilling campaign. Coarse duplicate samples were inserted by GE21’s technical team at SGS Geosol laboratory in a way that the laboratory was unaware of its nature or content. The total coarse duplicates in the database amount to 180 pairs of samples, which represent about 3.6% of the database.

#### 11.2.5 Pulverized Duplicate Samples

On average, one (1) pulverized duplicate sample was inserted for every 40 samples for LIC’s 2022-2023 drilling campaign. Pulverized duplicate samples were inserted by GE21’s technical team at SGS Geosol laboratory in a way that the laboratory was unaware of its nature or content. The total coarse duplicates in the database amount to 176 pairs of samples, which represent about 3.5% of the database.

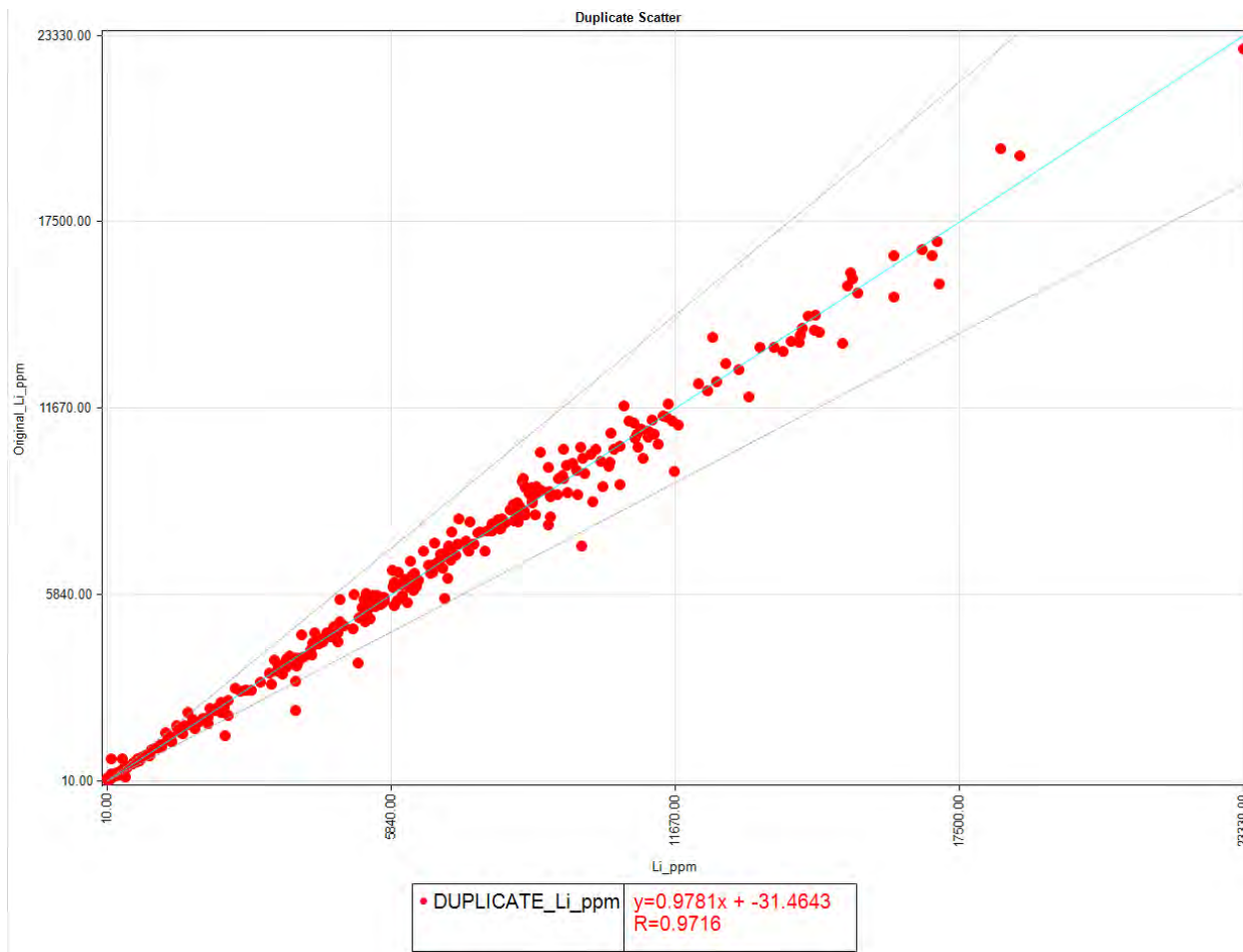
The analysis of both coarse and pulverized duplicate samples was done using scatterplots for comparison and calculated a linear regression, sign test and student T test.

Figure 11-9 shows the precision charts comparing results for sample pairs of coarse and pulverized duplicates for Li (ppm). Table 11-3 shows the statistics of both coarse and pulverized duplicates for Li (ppm). Coarse and pulverized duplicates samples analysis show strong correlation with a coefficient of determination ( $R^2$ ) of 0.9716.

**Table 11-3 Statistics of Coarse and Pulverized Duplicates for Li (ppm)**

<b>Duplicate Quality Control for Li_ppm</b>	
	<b>DUPLICATE: Li_ppm</b>
<b>Count+</b>	161
<b>Count-</b>	194
<b>Count=</b>	1
<b>Odds</b>	0.0902
<b>Sign test</b>	No evidence of a bias
<b>Mean Original</b>	5769.22
<b>Mean Duplicate</b>	5801.95
<b>Mean Difference</b>	32.74
<b>Count</b>	356.00
<b>SD-Diff</b>	428.45
<b>SDM</b>	22.71
<b>t obs</b>	1.44
<b>t crit</b>	1.97
<b>Student T Test</b>	No evidence of a bias

**Figure 11-9 Correlation Plot of Duplicate Samples for Li (ppm) (Coarse and Pulverized Duplicates)**



### 11.2.6 Sample Security

The sample shipment is delivered to the SGS Geosol facility, in Vespasiano, Minas Gerais, Brazil via a parcel transport company. SGS Geosol sends a confirmation email with detail of samples received upon delivery. The SGS Geosol facility is ISO 9001, ISO 14001, and ISO 17025 certified.

At all times samples were in the custody and control of the Company's representatives until delivery to the laboratory where samples were held in a secure enclosure pending processing.

All exploration samples taken were collected by Lithium Ionic staff. Chain of custody (COC) of samples was carefully maintained from collection at the drill rig to delivery at the laboratory to prevent inadvertent contamination or mixing of samples and render active tampering as difficult as possible.

Drill core is stored at the core-logging facilities in Araçuaí under a roof to preserve its condition. The area is fenced and guarded by security. The plastic boxes containing the core boxes are properly tagged with the corresponding drilling information and stored in an organized way and under acceptable conditions.

### 11.2.7 QP's Comments

It is the Author's opinion, based on a review of all possible information, that the sample preparation, analyses and security used on the Project by Lithium Ionic currently meets acceptable industry standards and the drill data can and has been used for geological and resource modeling, and resource estimation of Indicated and Inferred mineral resources. It is suggested QAQC be implemented on all sampling programs including soil and rock (grab, channel, trench, etc.).



## 12 DATA VERIFICATION

The following Item summarise the data verification procedures that were carried out and completed and documented by the Author for this technical report.

As part of the verification process, the Author reviewed all geological data and databases as well as Lithium Ionics sampling procedures and protocols.

Dupéré conducted an independent verification of the assay data in the drill sample database. Digital assay records were randomly selected and checked against the available laboratory assay certificate reports by Dupéré. Assay certificates were available for all diamond drilling completed by Lithium Ionic since the start of the drilling campaign in 2022. All deposit areas have been diamond drilled and the results of the diamond drilling completed by Lithium Ionic is considered representative of the Deposit.

Dupéré reviewed the assay database for errors, including overlaps and gapping in intervals and typographical errors in assay values. In general, the database was in good shape and no adjustments were required to be made to the assay values contained in the assay database.

Verifications were also carried out on drill hole locations, down hole surveys, lithology, SG and topography information. Minor errors were noted and explained by Lithium Ionic during the validation process but have no material impact on the 2023 MRE presented in the current report. The database is of sufficient quality to be used for the current MRE.

Dupéré has reviewed the sample preparation, analyses and security completed by Lithium Ionic on the Property. It is the Author's opinion, based on a review of all possible information, that the sample preparation, analyses and security used on the Project by Lithium Ionic meet acceptable industry standards (past and current) and the drill data can be used for geological and resource modeling, and resource estimation of Measured, Indicated and Inferred mineral resources.

Dupéré reviewed the metallurgical work on the Property and notes that it comes from reputable metallurgical laboratories, and that the results are plausible within the bounds of this type of mineralisation. Dupéré is of the opinion that the metallurgical test work is representative of the deposit at this stage of advancement of the project.

### 12.1 March 2023 Site Visit and Data Verification

The site visit to the Itinga Project of Lithium Ionic was conducted by Mr. Maxime Dupéré, P.Ge., between the dates of March 28, to April 01, 2023. The site visit was focused on the Itinga Property which contained in whole or in part the Outro Lado and Bandeira deposits. The Author participated in a field tour of the Itinga Property to become familiar with conditions on the Property (road access), to observe and gain an understanding of the geology and mineralization, and to verify the work done including surface drilling, trenching and sampling.

Dupéré had the opportunity to examine a number of selected mineralized core intervals from drill holes from the Project, including core from the Bandeira and Outro Lado deposits. Dupéré examined assay certificates and assays were examined against the drill core mineralized zones. All core boxes were well labelled with DDH number, depths and properly stored in core racks inside warehouses. Sample numbers for drill holes were written on the core boxes and it was possible to validate sample intervals and confirm the presence of mineralization in witness half-core samples from the mineralized zones.

Predetermined scheduled time was allotted to each of the target areas. Once on site, allotted time was spent at the Bandeira deposit and the Outro Lado deposit with some allocated time for the adjacent, still under exploration and drilling consideration parts within the current tenements.

During the site visit approximately one and a half day was spent on:

- data review, sampling and sample QAQC protocols and procedures
- data collection procedures, review of the geological logging procedure
- review of core sampling and data management procedures
- Portion of the day was also spent on presentations and overview of how the geological interpretation, modeling, and resource estimation is being carried out by the in-house experts of the company (Lithium Ionic).

Upon arrival in Araçuaí, a meeting was held at the site offices of Lithium Ionic to provide the writer with the latest thoughts and considerations concerning the project and to introduce the project participants. The meeting included agenda topics which covered various aspects of the current project which included; geological settings, mineralization, potential new drilling targets, logging of current drill holes, sampling QAQC, database management, resource estimation/classification and possible mining methods under discussion. Meeting attendees included the following individuals:

Lithium Ionic staff:

- Carlos Henrique Costa, VP Exploration
- Gilberto Silva, Itinga Project Manager
- André Guimarães, Business Development Director
- Antonio Roberto Nunes, Resource Geologist
- Anderson Magalhães Victoria, Project Geologist
- Victor Mirim, Sr. Project Geologist
- Julio Cesar Santos, Project Database Manager
- Renato De Souza Costa, Engineering Director

External Consultants:

- Antonio Carlos Soares Pedrosa, P.Geol.

At the time of the site visit drilling and recovering geological information of the Itinga Project was still ongoing which was expected to complete in a few weeks and thus data would be sent and validated by SGS Geological Services approximately by the end of May 2023.

The Author considers the site visit current, per Item 6.2 of NI 43-101CP. To the Authors knowledge there is no new material scientific or technical information about the Property since that personal inspection. The technical report contains all material information about the Property.

## 12.2 Conclusion

All geological data has been reviewed and verified by the Author as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. There were no significant or material errors or issues identified with the database. Based on a review of all possible information, the Author(s) are of the opinion that the database is of sufficient quality to be used for the current Measured, Indicated and Inferred MRE.

### 13 MINERAL PROCESSING AND METALLURGICAL TESTING

In December of 2022, Lithium Ionic commissioned SGS Geosol to conduct a preliminary Metallurgical Test to ascertain processing of material from Outro Lado and from Bandeira. SGS Geosol Brazil performed a preliminary test work to evaluate use of gravity concentration to obtain a lithium concentrate. The objective of metallurgical test was to separate a lithium concentrate which would be in compliance with specifications of the current market requirement for  $\text{Li}_2\text{O}$  concentrate with allowable amounts of impurity in the final concentrate (6% of  $\text{Li}_2\text{O}$  and less than 1% of Fe).

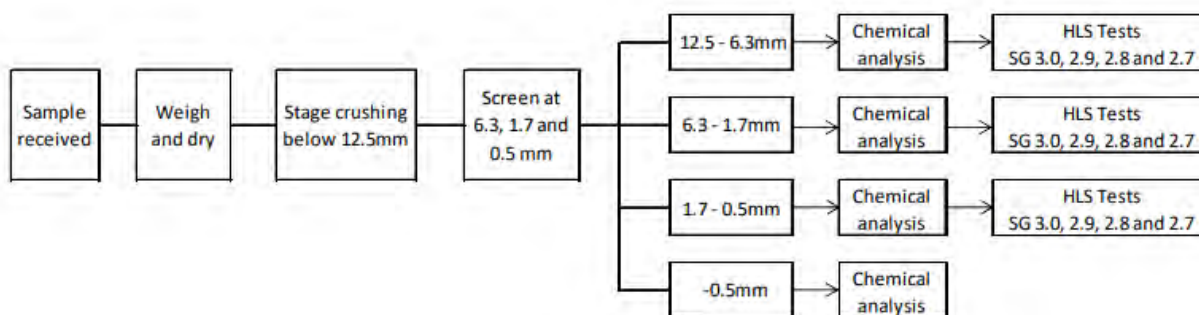
#### 13.1 General

Two samples (20 kg each) were dried and prepared, stage crushed using 31.5, 25.4 and 12.5 mm jaw crusher obtaining 100% of crushed passing 12.5 mm sieve. The crushed material was homogenized using a rotary splitter and submitted to a granulometric test using the 12.5, 6.3, 1.7 and 0.5 mm sieves. Each size range was separated, and representative samples collected for chemical analysis using the method ICP90A/ICP90Q (Sodium Peroxide fusion and ICP-AES finish).

Report concluded using gravity separation and heavy liquid medium (HLM), it is possible to obtain  $\text{Li}_2\text{O}$  concentrates compatible with the current lithium market requirement on the submitted samples. The test concluded that the contained  $\text{Li}_2\text{O}$  of 6% in the concentrate will be in compliance with current market requirements and that a target of  $\text{Li}_2\text{O}$  content of 6% and a recovery of around 78-83% could be achieved using a HL density of around  $2.8 \text{ g/cm}^3$ . 300 g of the (12.5-6.3) mm and (6.3-1.7) mm size ranges and 100g of size range (1.7- 0.5) mm was separated by splitting to perform the HLS tests.

Flow sheet of the procedure described above is shown in Figure 13-1 below.

**Figure 13-1 Flow Sheet of the Procedure**



The size test results are shown in Table 13-1.

**Table 13-1 Size Test Results**

SAMPLE	OUTRO LADO SACO 1 - 2 - 3		BANDEIRA SACO 5 - 6	
	Weight (g)	(%)	Weight (g)	(%)
> 12.5 mm	0	0	0	0
12.5 - 6.3 mm	8260	39,04	7730	39,97
6.3 - 1.7 mm	6930	32,75	6390	33,04
1.7 - 0.5 mm	3200	15,12	2970	15,36
< 0.5 mm	2770	13,09	2250	11,63
Total	21160	100,00	19340	100,00

## 14 MINERAL RESOURCE ESTIMATES

### 14.1 Introduction

Completion of the current MRE for the Property involved the assessment of a drill hole database including trenches, which included all data for surface drilling completed through June 15, 2023, as well as three-dimensional (3D) mineral resource models (resource solid), 3D geological models, 3D surface models of fault structures, a 3D topographic and weathering surface model, and available written reports.

Inverse Distance Squared (“ID<sup>2</sup>”) calculation method restricted to mineralized solid was used to interpolate grades for Li (ppm) therefore Li<sub>2</sub>O (%) into a block model.

Measured, Indicated and Inferred mineral resources are reported in the summary tables in Item 14.10. The current MRE takes into consideration that the Itinga Project; Bandeira deposit may be mined by open pit and underground mining methods; and that the Outro Lado deposit may be mined by underground mining methods.

### 14.2 Drill Hole Database

In order to complete the MRE for the Itinga Project deposits, a database comprising a series of comma delimited spreadsheets containing diamond drill hole and trench information was provided by Lithium Ionic. The database included hole location information, down-hole survey data, assay data, lithology data and density data.

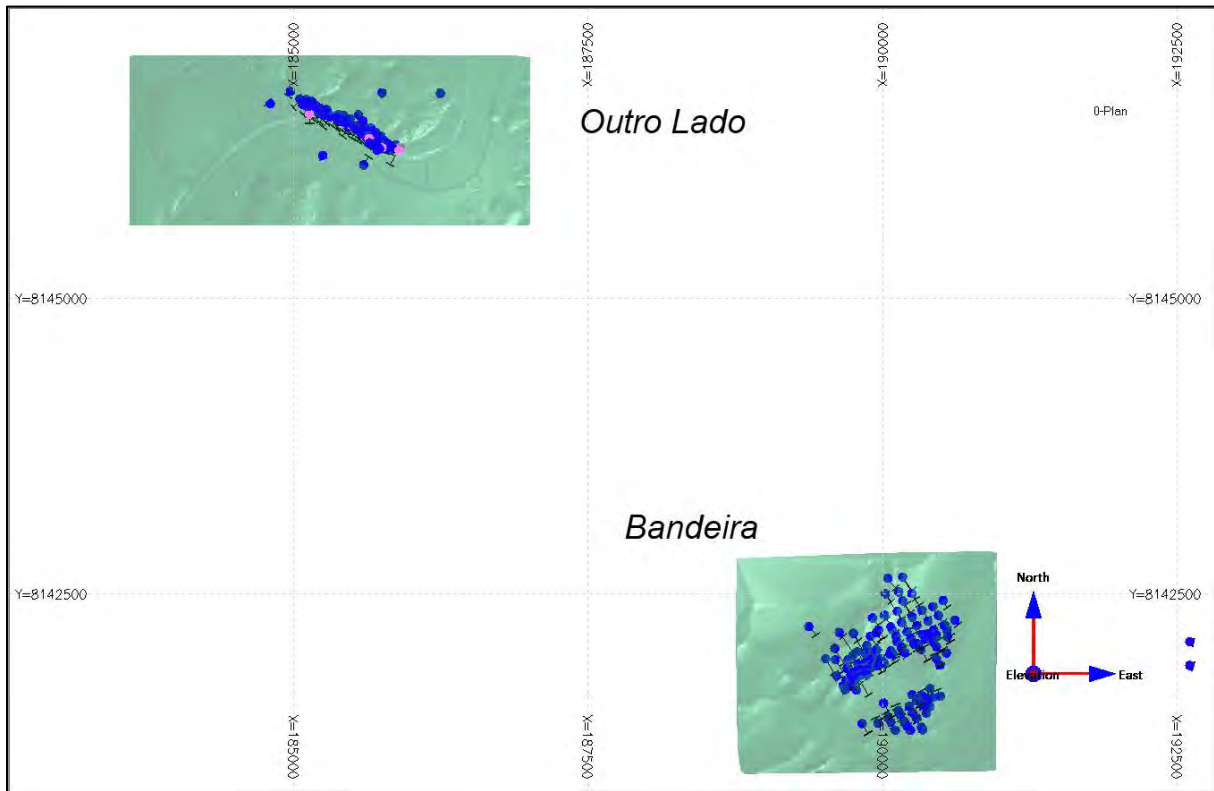
The data in the assay table included assays for Li (ppm), as well as Li<sub>2</sub>O (%), Al (%), As (ppm), B (%), Ba (ppm), Be (ppm), Ca (%), Cd (ppm), Co (ppm), Cr (ppm), Cu (ppm), Fe (%), K (%), La (ppm), Mg (%), Mn (ppm), Mo (ppm), Nb (ppm), Ni (ppm), P (%), Pb (ppm), Sb (ppm), Sc (ppm), Sn (ppm), Sr (ppm), Ta (ppm), Ti (%), V (ppm), W (ppm), Y (ppm), Zn (ppm). After review of the database, the data was then imported into Genesis version 2.1.7 SGS proprietary software (“Genesis”) for statistical analysis, block modeling and resource estimation.

The original database provided by Lithium Ionic included data for 200 surface diamond drill holes and trenches, completed by Lithium Ionic since 2022, totaling 29,052.59 m (Figure 14-1 and Figure 14-2). A total of 21 trenches totaling 1,346.89 m and 179 drill holes totaling 27,745.7 m is used for the MRE. The Bandeira deposit holds 119 drill holes totaling 20,398.8 m. The Outro Lado deposit holds 58 drill holes totaling 7,346.9 m.

The database totaling 5,055 assay intervals for 4,895.28 m. The Bandeira deposit holds a total of 166 assay intervals from trenches totaling 159.71 m, a total of 3,843 assay intervals from drill holes totaling 3,639.53 m. The Outro Lado deposit holds a total of 1,046 assay intervals from drill holes totaling 1,096.04 m.

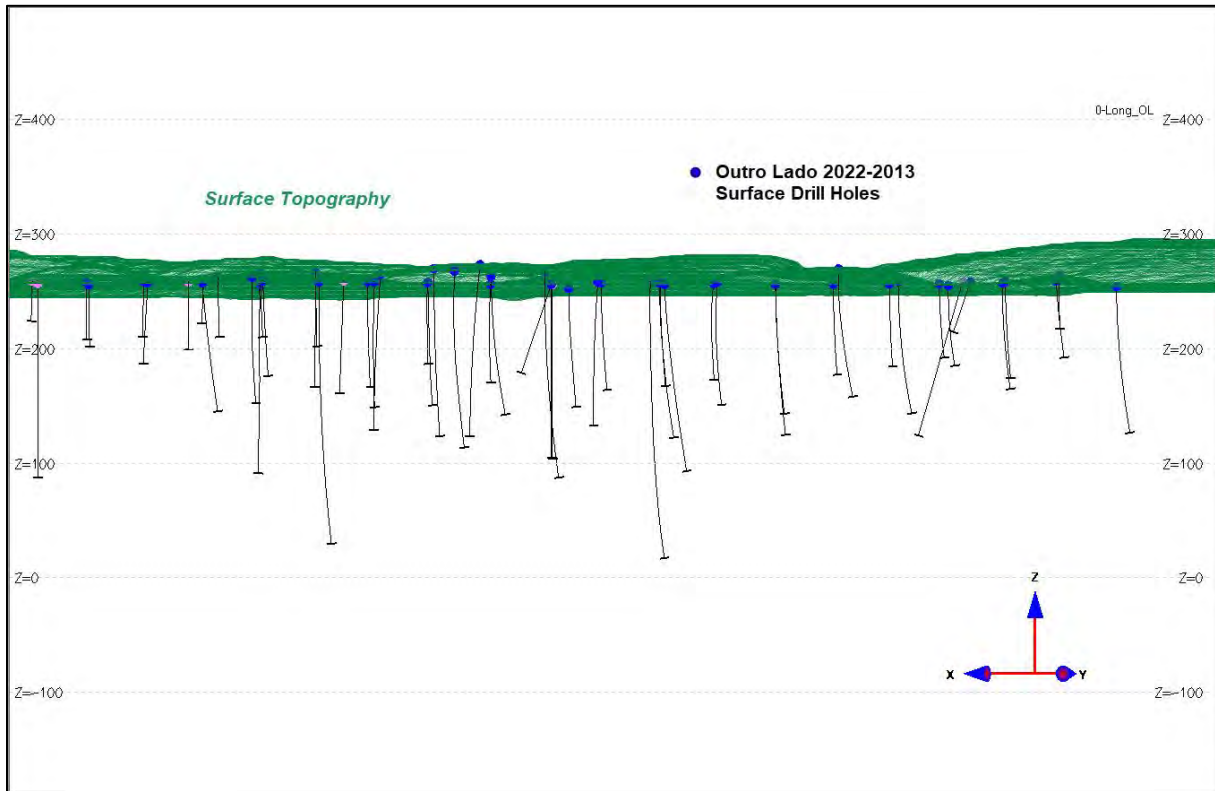
The database was checked for typographical errors in drill hole locations, down hole surveys, lithology, assay values and supporting information on source of assay values. Overlaps and gapping in survey, lithology and assay values in intervals were checked. All assays had analytical values for Li (ppm), (Li<sub>2</sub>O (%)), Al (%), As (ppm), B (%), Ba (ppm), Be (ppm), Ca (%), Cd (ppm), Co (ppm), Cr (ppm), Cu (ppm), Fe (%), K (%), La (ppm), Mg (%), Mn (ppm), Mo (ppm), Nb (ppm), Ni (ppm), P (%), Pb (ppm), Sb (ppm), Sc (ppm), Sn (ppm), Sr (ppm), Ta (ppm), Ti (%), V (ppm), W (ppm), Y (ppm), Zn (ppm).

**Figure 14-1 Plan View: Surface Trenches and Drill Holes, Itinga Property (UTM Sirgas2000, 24S)**

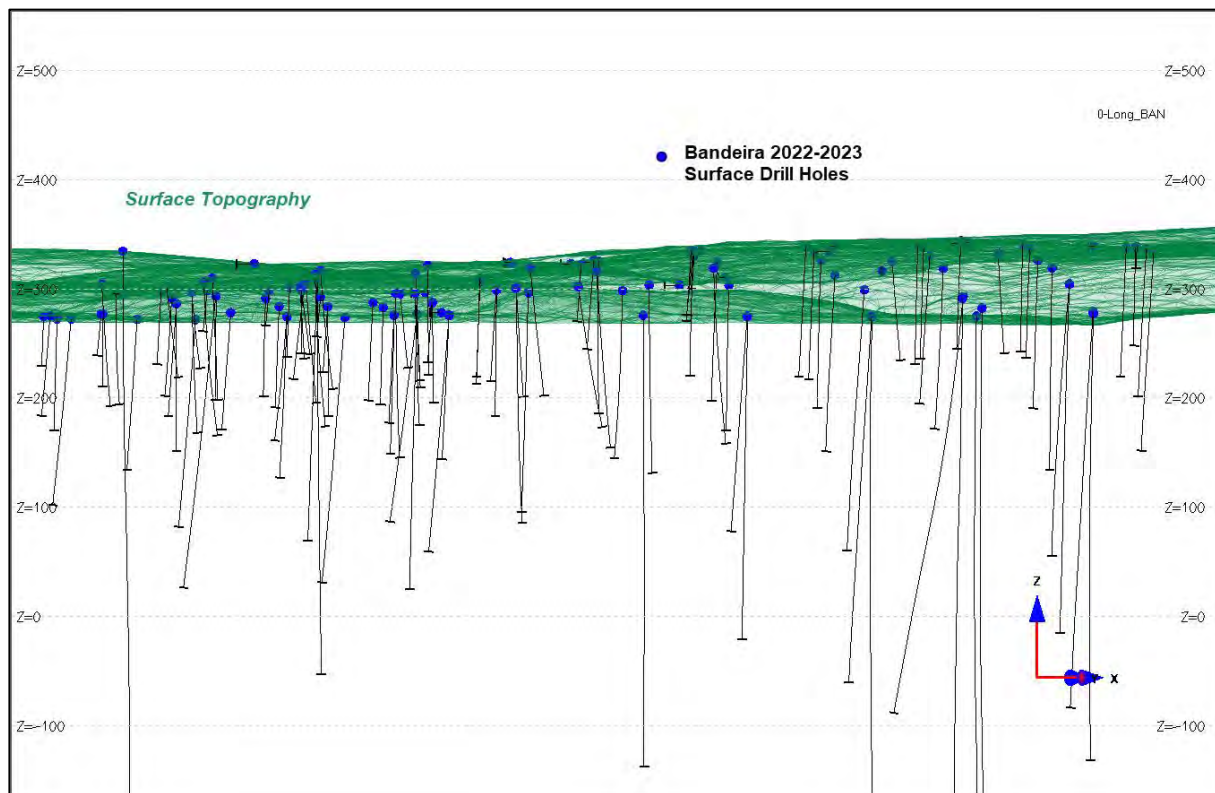




**Figure 14-2 View Looking North: Surface Drill Holes of Outro Lado Deposit**



**Figure 14-3 View Looking North: Surface Trenches and Drill Holes of Bandeira Deposit**



### 14.3 Mineral Resource Modelling and Wireframing

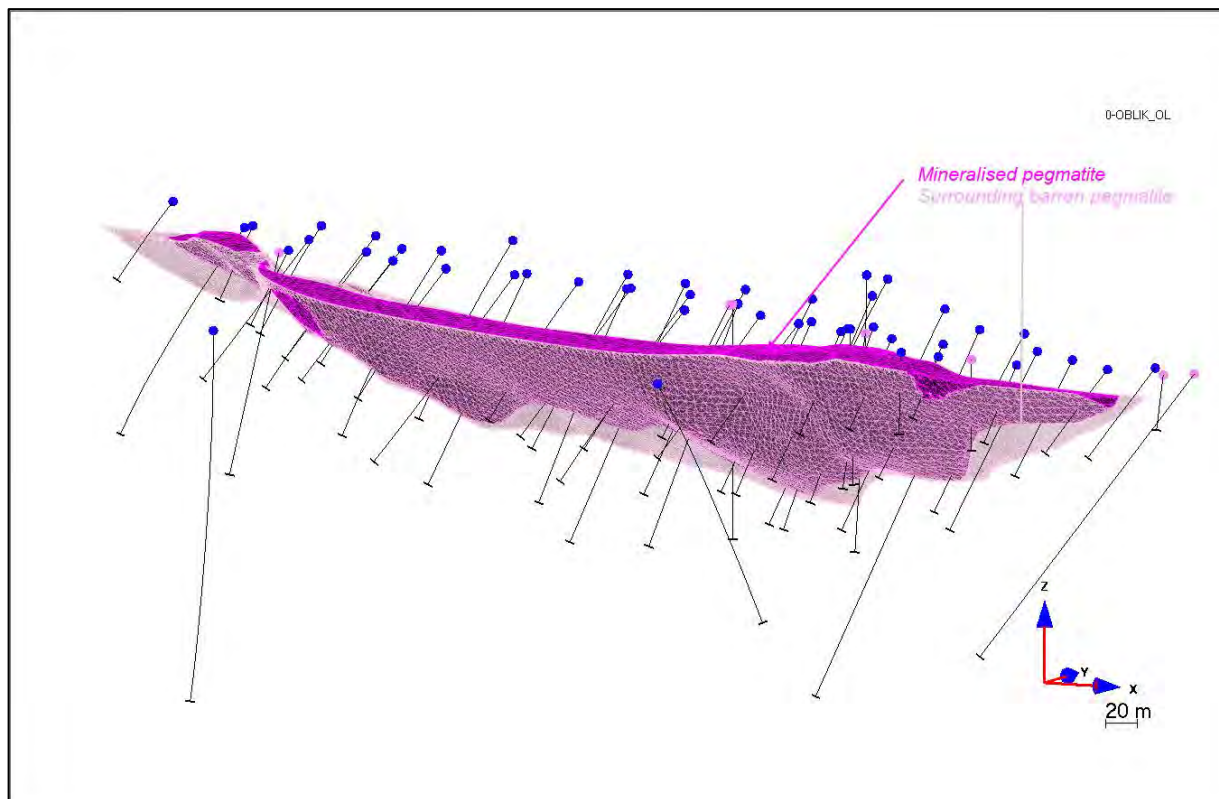
Dupéré was provided with a total of 19 3D Resource models (18 Bandeira and 1 Outro Lado mineral solid), to be used for the current MRE (Table 14-1), as well as 9 lithological 3D solids (Figure 14-4 and Figure 14-6) and a digital elevation surface model. All models were constructed by Lithium Ionic for the current MRE.

The Author has reviewed the resource models on section and in the Author’s opinion the models provided are very well constructed and fairly accurately represents the distribution of the various styles of mineralization. No re-modeling of the deposits is recommended at this time. Limited sporadic mineralization exists outside of these wireframes, as well as along strike and at depth. With additional drilling, some areas of scattered mineralization may get incorporated into the mineral solid.

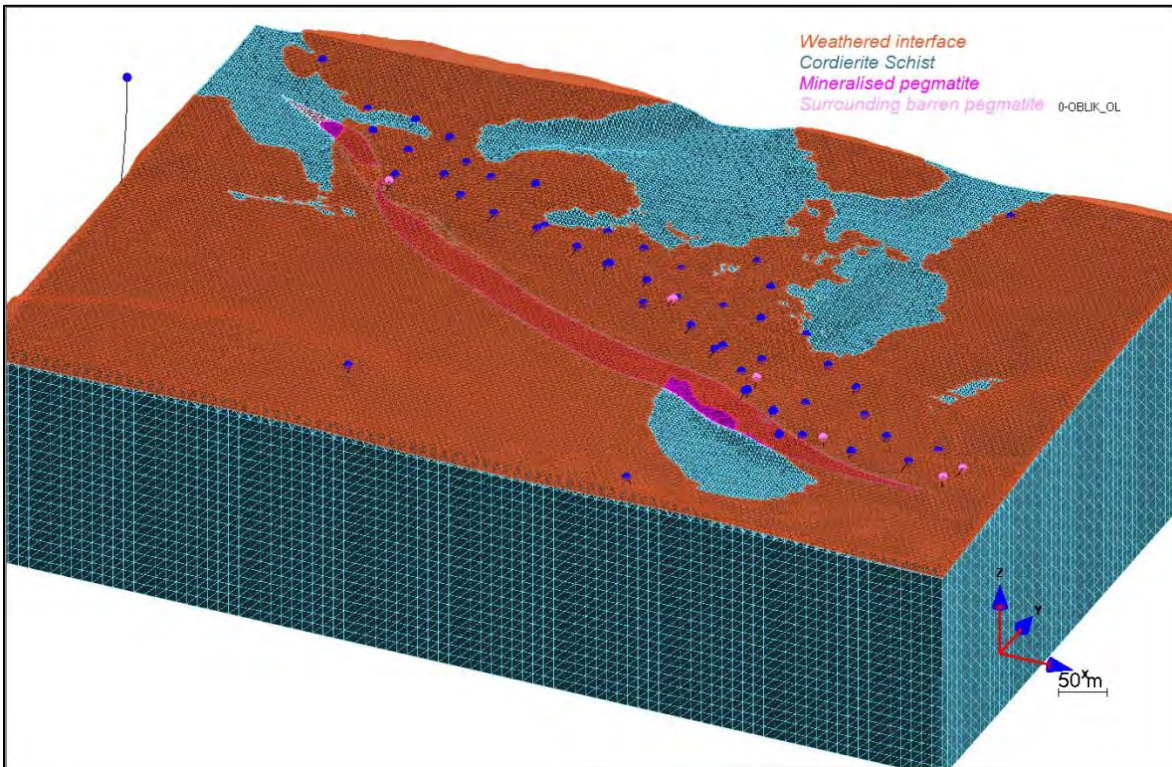
The Bandeira deposit generally strikes 230° and dips/plunges northwest (-40° to -45°). The Outro Lado deposit generally strikes 295° and dips/plunges northeast (-40° to -45°).

Table 14-1 summarizes the mineral solid information. All mineral solids are clipped to topography. A description of the geological and mineralogical domain interpretation and solid generation completed by Lithium Ionic is presented below in Item 14.3.1.

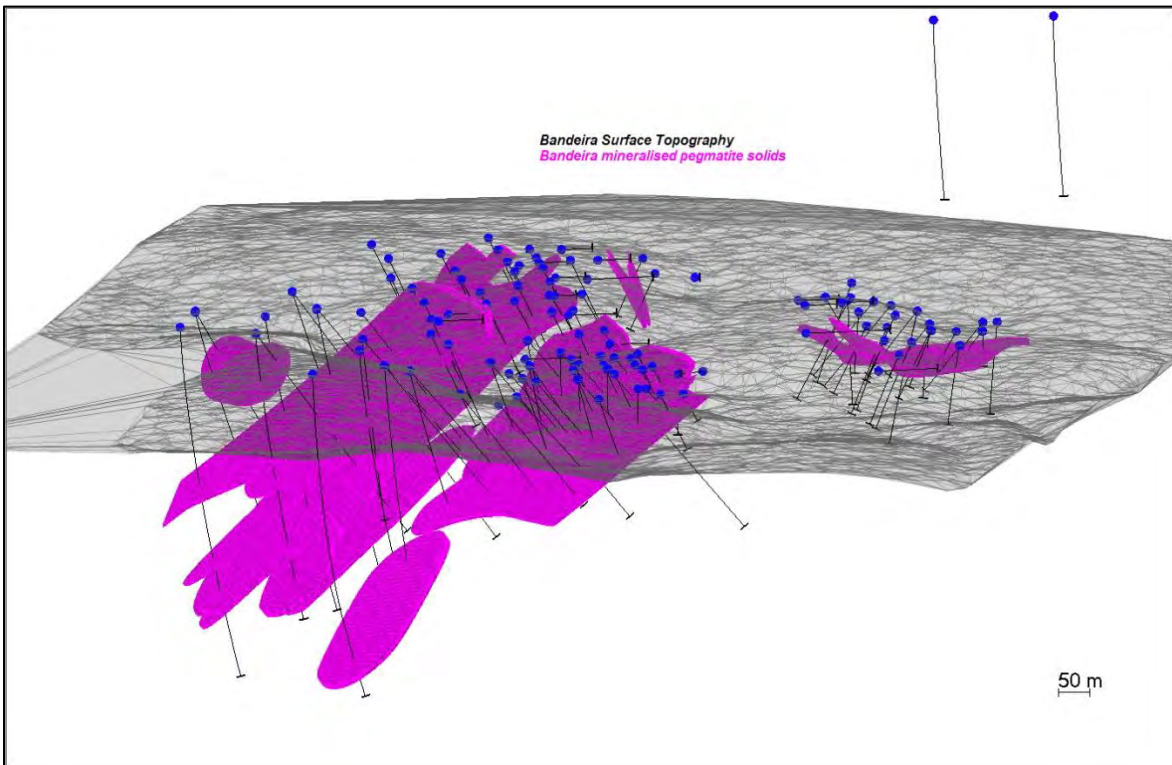
**Figure 14-4 Isometric View Looking Northwest: Outro Lado Mineral Resource Models**



**Figure 14-5 Isometric View Looking Northwest: Outro Lado Geologic Models**



**Figure 14-6 Isometric View Looking Northeast: Bandeira Mineral Resource Models**



**Table 14-1 Itinga Property Domain Descriptions**



Domain	Description	Rock Code	Volume (m <sup>3</sup> )	Density	Tonnes
SOIL	Soil over bedrock	SOIL		2	
SCHST	Cordireite Schist	SCHST		3	
PEGLI	Lithium Bearing Pegmatite (LCT)	PEGLI		2.7	
PEG	Pegmatite (Barren)	PEG		2.7	
QZV	Quartz Vein	QZV		2.7	
CALSI	Calc-Silicate Rock	CALSI		2.7	
OL	Outro Lado Mineral Solid	OL	1,311,265.89	2.7	3,540,417.89
O3 Grade Shell Oficial SGS	PEGLI01 Bandeira Mineralized Solid 01	101	926,487.73	2.7	2,501,516.87
O3 Grade Shell Oficial SGS	PEGLI01A Bandeira Mineralized Solid 01A	101.1	656,313.06	2.7	1,772,045.27
O3 Grade Shell Oficial SGS	PEGLI02 Bandeira Mineralized Solid 02	102	100,918.19	2.7	272,479.10
O3 Grade Shell Oficial SGS	PEGLI03 Bandeira Mineralized Solid 03	103	489,773.02	2.7	1,322,387.16
O3 Grade Shell Oficial SGS	PEGLI04 Bandeira Mineralized Solid 04	104	159,960.43	2.7	431,893.17
O3 Grade Shell Oficial SGS	PEGLI05 Bandeira Mineralized Solid 05	105	910,135.46	2.7	2,457,365.74
O3 Grade Shell Oficial SGS	PEGLI07 Bandeira Mineralized Solid 07	107	524,708.29	2.7	1,416,712.40
O3 Grade Shell Oficial SGS	PEGLI08 Bandeira Mineralized Solid 08	108	55,634.54	2.7	150,213.27
O3 Grade Shell Oficial SGS	PEGLI09 Bandeira Mineralized Solid 09	109	713,742.23	2.7	1,927,104.03
O3 Grade Shell Oficial SGS	PEGLI10 Bandeira Mineralized Solid 10	110	53,872.05	2.7	145,454.54
O3 Grade Shell Oficial SGS	PEGLI11 Bandeira Mineralized Solid 11	111	38,945.19	2.7	105,152.01
O3 Grade Shell Oficial SGS	PEGLI12 Bandeira Mineralized Solid 12	112	59,983.85	2.7	161,956.39
O3 Grade Shell Oficial SGS	PEGLI13 Bandeira Mineralized Solid 13	113	25,286.21	2.7	68,272.76
O3 Grade Shell Oficial SGS	PEGLI14 Bandeira Mineralized Solid 14	114	259,663.20	2.7	701,090.64
O3 Grade Shell Oficial SGS	PEGLI16 Bandeira Mineralized Solid 16	116	122,820.33	2.7	331,614.89
O3 Grade Shell Oficial SGS	PEGLI17 Bandeira Mineralized Solid 17	117	495,478.19	2.7	1,337,791.11
O3 Grade Shell Oficial SGS	PEGLI18 Bandeira Mineralized Solid 18	118	270,560.60	2.7	730,513.63
O3 Grade Shell Oficial SGS	PEGLI19 Bandeira Mineralized Solid 19	119	344,910.23	2.7	931,257.63

### 14.3.1 Geological and Mineralogical Domain Interpretation and Solid Generation

#### *Lithology*

In 2022-2023, Lithium Ionic prepared a geological interpretation representing the rock formations at Itinga for Outro Lado and Bandeira deposits. Cross-sectional interpretations were first generated on paper and in cartography software (QGIS, ArcGIS, Leapfrog) used to assist the modelling process.

#### *Weathering Profile*

Based on the drill hole logging, a weathering surface contact was created.

#### *Mineralization Solid*

Starting In 2022 Lithium Ionic created and updated the geological, grade and mineralization interpretation solid boundaries within the constraints of the geological interpretation, using all available data.

A series of grade shell solids >0.3% Li<sub>2</sub>O(%) mineralization solid were interpreted by Lithium Ionic within the constraints of the geological interpretation, and incorporating all available drill hole information including trenches, using Leapfrog software. Interpretations were conducted as a series of implicit 3D models with a general strike of bearing 300° for Outro Lado, and 235 for Bandeira.

Sectional interpretations spaced at 25 m intervals, perpendicular to the mineralisation trend were also used by the geologists as basis for modeling. Bandeira sections were used with bearing of 240°. Outro Lado sections were used with bearing of 300°.

Polylines were generated on each vertical cross-section for each domain that met the lithological, structural and grade criteria. Mutually exclusive wireframe solids were then generated from the polylines and also from implicit modeling. Lateral extension of 75m was applied to all solids. Barren drillholes and trenches also acted as barriers of modeling. All solids were clipped to the weathering surfaces. Tags were assigned in Genesis software to the wireframe solids, and the wireframes verified.

A total of 18 Bandeira mineralized solids and one (1) Outro Lado mineralized solid were generated by Lithium Ionic and named following sequential order: Bandeira: PEGLI01 PEGLI02 PEGLI03 PEGLI04, PEGLI06, PEGLI07, PEGLI08, PEGLI09, PEGLI10, PEGLI11, PEGLI12, PEGLI13, PEGLI14, PEGLI16, PEGLI17, PEGLI18, PEGLI19.

To facilitate mineralization domain definition, several filters were created in Leapfrog to constrain the selection of samples based on lithology, and grade. Lithological units were restricted to the Bandeira and Outro Lado geological formations and units that were stratigraphically higher.

Grade selection was based on a 0.3% Li<sub>2</sub>O (%) modeling cut-off over a minimum length of 2 m. Table 14-1 summarizes the updated mineralization solid (OL and PEGLI01 through PEGLI19)

#### 14.4 Bulk Density

The Author was provided with a database of 2,634 dry bulk density (“DBD”) measurements for the current MRE. DBD measurements were selected to be spatially and geologically representative (i.e., representative of geology, lithology, structure, mineralization, alteration).

The density database was sub-divided by mineralization and waste domain. A total of 227 for Outro Lado and 573 for Bandeira DBD values are from mineralized solid and 1,8341 values are from waste solid including barren pegmatites solids. Based on a review of the available density data, it was decided that a fixed value of 2.7 be used for each resource model. The average density used by domain for the current MRE are presented in Table 14-1 above.

#### 14.5 Compositing

The assay sample database available for the Bandeira and Outro Lado resource modelling totalled 5055 representing 4,895.27 m of drilling and trenches. Of this, a total of 1,468 assays occurs within the Bandeira and Outro Lado deposits mineral solid. An assay data statistical analysis within the mineralized solid is presented in Table 14-2. Average length of the Bandeira and Outro Lado assay sample intervals is respectively 0.95 m and 1.09 m. Of the total assay population approximately 77% are 1.00 m or less with approximately 83% of the samples between 0.90 and 1.10 m and 84 % between 1.00 m and 1.50 m in length and only 0.8% greater than 1.50 m (Figure 14-7). To minimize the dilution and over smoothing due to compositing, a composite length of 1.0 m was chosen as an appropriate composite length for the current MRE.

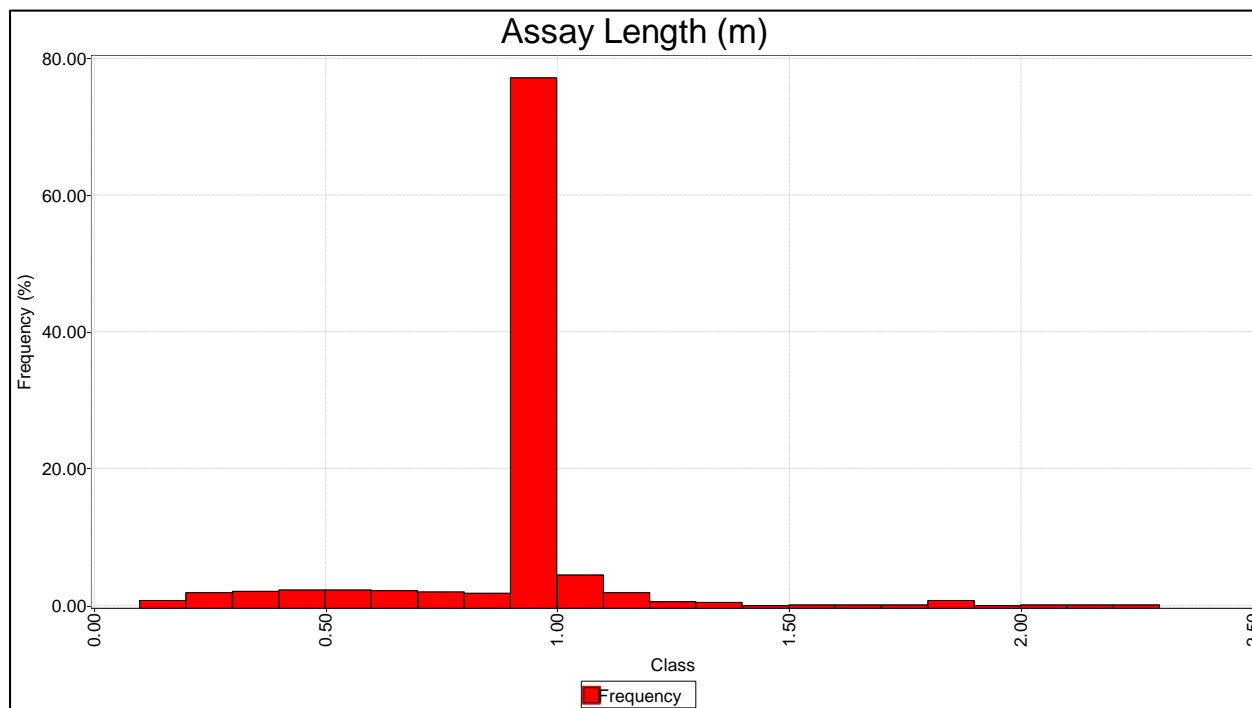
**Table 14-2 Assay Statistics, Bandeira and Outro Lado Deposits Mineral Solid**

Statistics	Li (ppm)	Li <sub>2</sub> O (%)
<b>Bandeira (BAN) and Outro Lado (OL)</b>		
<b>Total # Assay Samples</b>	1468	
<b>Average Sample Length</b>	0.99 m	
<b>Min Value</b>	113	0.02
<b>Max Value</b>	22,900	4.93
<b>Average</b>	6,368	1.37
<b>Weighted Average</b>	6,464	1.39
<b>Sum of Length (m)</b>	1,466.57	1,466.57
<b>Variance</b>	14,469,349	0.67
<b>Standard Deviation</b>	3,804	0.82
<b>% Variation</b>	1	0.60
<b>Median</b>	5,993	1.29
<b>First Quartile</b>	3,317	0.71
<b>Third Quartile</b>	8,847	1.91



<b>Bandeira (BAN)</b>		
<b>Total # Assay Samples</b>	910	
<b>Average Sample Length</b>	0.95 m	
<b>Min Value</b>	113	0.02
<b>Max Value</b>	22,900	4.93
<b>Average</b>	6,121	1.32
<b>Length Weighted Average</b>	6,247	1.34
<b>Sum of Length</b>	860.02	860.02
<b>Variance</b>	14,702,121	0.68
<b>Standard Deviation</b>	3,834	0.83
<b>% Variation</b>	1	0.63
<b>Median</b>	5,709	1.23
<b>First Quartile</b>	2,893	0.62
<b>Third Quartile</b>	8,549	1.84
<b>Outro Lado (OL)</b>		
<b>Total # Assay Samples</b>	558	
<b>Average Sample Length</b>	1.09 m	
<b>Min Value</b>	133	0.03
<b>Max Value</b>	19,770	4.26
<b>Average</b>	6,771	1.46
<b>Length Weighted Average</b>	6,773	1.46
<b>Sum of Length</b>	606.55	606.55
<b>Variance</b>	13,827,586	0.64
<b>Standard Deviation</b>	3,719	0.80
<b>% Variation</b>	1	0.55
<b>Median</b>	6,691	1.44
<b>First Quartile</b>	3,956	0.85
<b>Third Quartile</b>	9,197	1.98

**Figure 14-7 Sample Length Histogram for Drill Core Assay Samples from Within the Bandeira and Outro Lado Deposit Mineral Solid**



One (1) m composites were created and constrained within the individual mineral solids (based on mineralised intervals) from each intersecting drill hole. Any non-assayed intervals were given a value of ‘ 0 % ‘ Li (ppm).

Genesis software creates ‘calculated length’ composites which allows inclusion of intervals in the drill hole which exceeds the minimum composite length. For example, if the mineralized interval is 4.5 meters, 1 meter calculated length composites will generate 4 composites of 1 meter each and the remaining 0.5 meters of mineralized interval will be evenly distributed over the created composite.

These composites were grouped for each of the mineralized solids or the ‘constraining wireframe model’ and used for statistical analysis and/or for any grade capping (Li grade capping however was not used as the grade outliers were deemed to have practically no effect on the interpolated estimation).

A total of 1,503 composite sample points occur within the resource wire frame models (mineralized solids). A statistical analysis of the composite data from within the Bandeira and Outro Lado mineralized solids is presented in (Table 14-3). These values were used to interpolate grade into resource blocks.

**Table 14-3 Statistical Analysis of the 1.0 m Calculated Length Composite Data from Within the Bandeira and Outro Lado Deposit Mineral Solids**

Statistics	Li (ppm)	LiO2 (%)
<b>Bandeira (BAN) and Outro Lado (OL)</b>		
Total # composites	1503	
Average Composite Length	1.04 m	
Min Value	0	0.00
Max Value	19554	4.21
Average	6408	1.38
Weighted Average	6411	1.38
Sum of Length (m)	1482	1481.85
Variance	12603486	0.58
Standard Deviation	3550	0.76
% Variation	1	0.55
Median	6134	1.32
First Quartile	3662	0.79
Third Quartile	8653	1.86
<b>Bandeira (BAN)</b>		
Total # composites	881	
Average Composite Length	0.97 m	
Min Value	113	0.02
Max Value	19277	4.15
Average	6248	1.35
Length Weighted Average	6248	1.35
Sum of Length	862	862.25
Variance	12595049	0.58
Standard Deviation	3549	0.76
% Variation	1	0.57
Median	5798	1.25
First Quartile	3416	0.74
Third Quartile	8497	1.83
<b>Outro Lado (OL)</b>		
Total # composites	622	
Average Composite Length	1.13 m	
Min Value	0	0.00
Max Value	19554	4.21
Average	6634	1.43
Length Weighted Average	6639	1.43
Sum of Length	620	619.60
Variance	12527913	0.58
Standard Deviation	3539	0.76
% Variation	1	0.53
Median	6484	1.40
First Quartile	4107	0.88
Third Quartile	8830	1.90

## 14.6 Grade Capping

A statistical analysis of the composite database within the Bandeira and Outro Lado 3D wireframe models (the “resource” population) was conducted to investigate the presence of highgrade outliers which can have a disproportionately large influence on the average grade of a mineral deposit. High grade outliers in the composite data were investigated using statistical data (Table 14-3), and cumulative probability plots of the 1.0 m composite data. The statistical analysis was conducted for Bandeira and Outro Lado independently and globally in Genesis software.

After review, it is the Author’s opinion that capping of high-grade composites to limit their influence during the grade estimation is not necessary for Li (Li<sub>2</sub>O). The effect of the high-grade outliers is negligible.

**Table 14-4 Grade Capping Statistics Results**

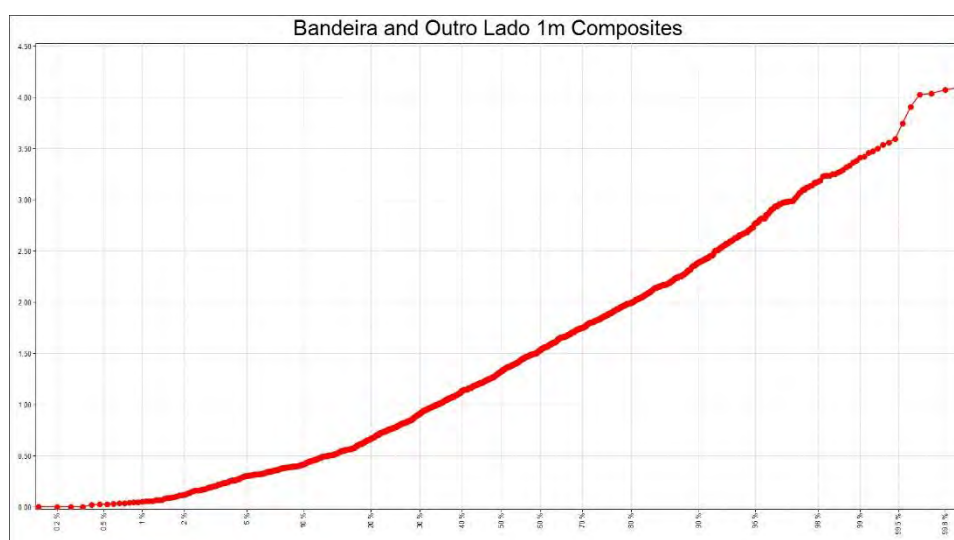
10x-CapFew		
	Capping	Loss (%)
10xmethod	14.28	-
CapFew1	4.07	(0.02)
CapFew2	4.03	(0.03)

Min Confidence						
	Normal			Log		
	Li <sub>2</sub> O_pct	Loss (%)	Cap	Li <sub>2</sub> O_pct	Loss (%)	Cap
Min68	1.40	(2.14)	-	1.37	(3.86)	-
Max68	1.46	2.14	-	1.49	4.18	-
Min95	1.37	(4.20)	2.66	1.32	(7.30)	1.55
Max95	1.49	4.20	-	1.55	8.55	-
Min99	1.35	(5.53)	-	1.29	(9.39)	-
Max99	1.51	5.53	-	1.59	11.56	-

Natural break			
	Ratio	Capping	Loss (%)
Max1	1.12	3.59	(0.17)
Max2	1.04	3.10	(0.65)
Max3	1.04	3.41	(0.27)
Max4	1.03	4.07	(0.02)
Max5	1.02	2.78	(1.48)
Max6	1.02	3.01	(0.82)
Max7	1.02	2.70	(1.81)
Max8	1.02	3.27	(0.38)
Max9	1.02	3.54	(0.20)
Max10	1.02	2.28	(4.40)
Natural Break Final	-	-	1.00

Recommended Capping	
Capping	14.28
Count	1.00
% cap	0.16
Loss (%)	-

**Figure 14-8** Bandeira and Outro Lado 1m Composites



## 14.7 Block Model Parameters

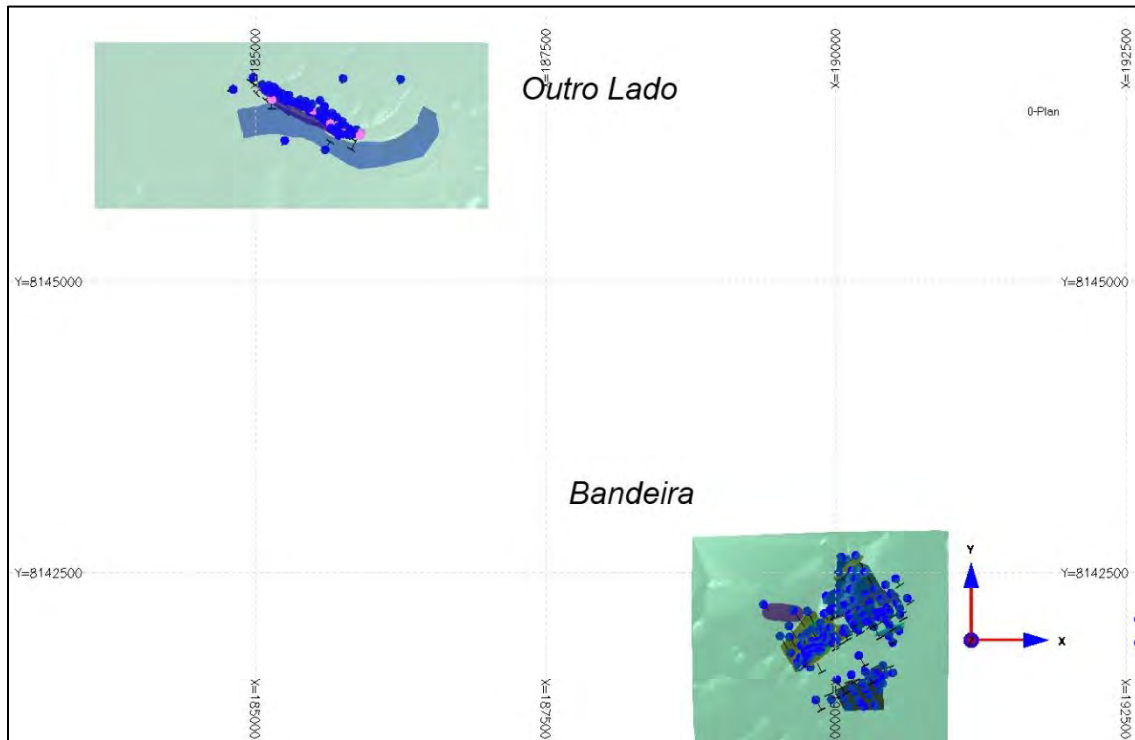
The Property mineral solids are used to constrain composite values chosen for interpolation, and the mineral blocks reported in the estimate of the Mineral Resource. A block model within UTM Sirgas 2000 coordinate space (no rotation) (Table 14-5 and Figure 14-9) with block dimensions of 5 x 5 x 5 m in the x (east m), y (north m) and z (level m) directions was placed over the grade shells with only that portion of each block inside the shell recorded (as a percentage of the block) as part of the MRE (% Block Model). The block size was selected based on drillhole spacing, composite length, the geometry and shape of the mineralized solid, and the selected mining methods. At the scale of the Outro Lado and Bandeira deposits this provides a reasonable block size for discerning grade distribution, while still being large enough not to mislead when looking at higher cut-off grade distribution within the model. The model was intersected with surface topography to exclude blocks, or portions of blocks, that extend above the bedrock surface for resource reporting purposes.

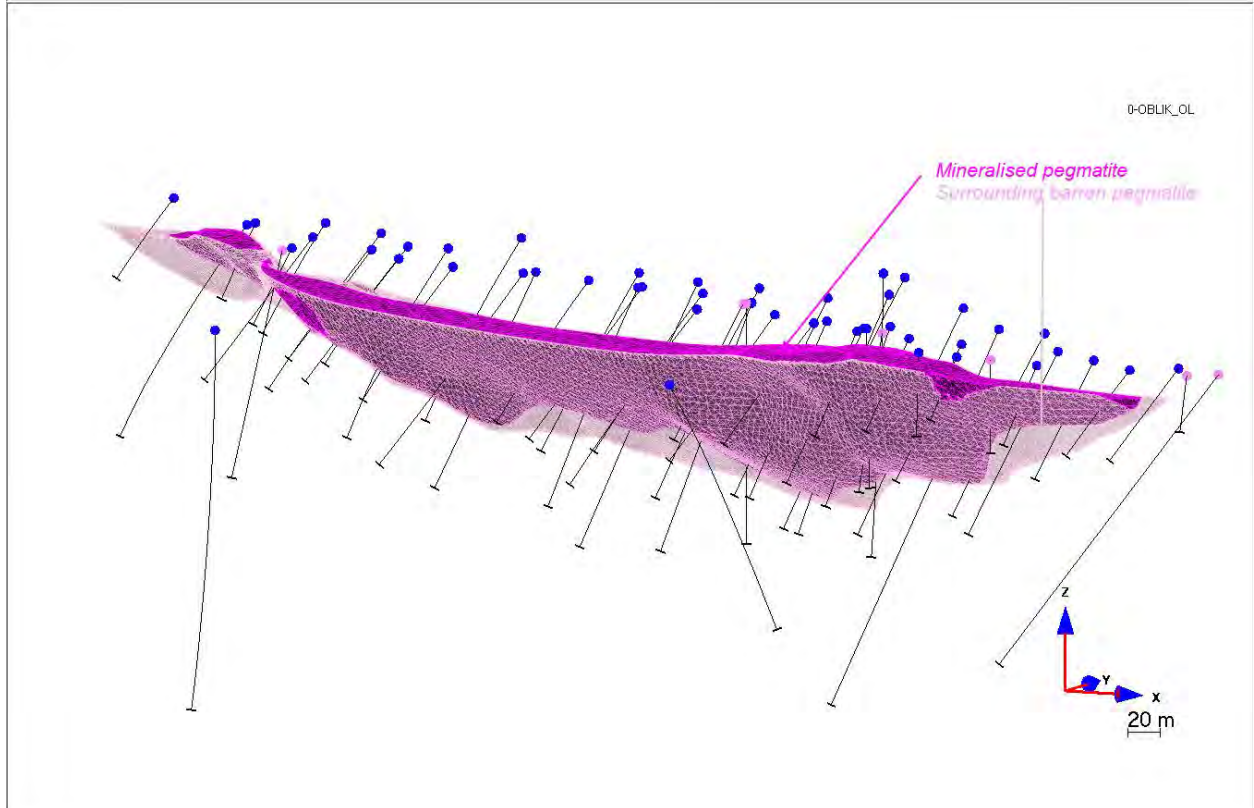
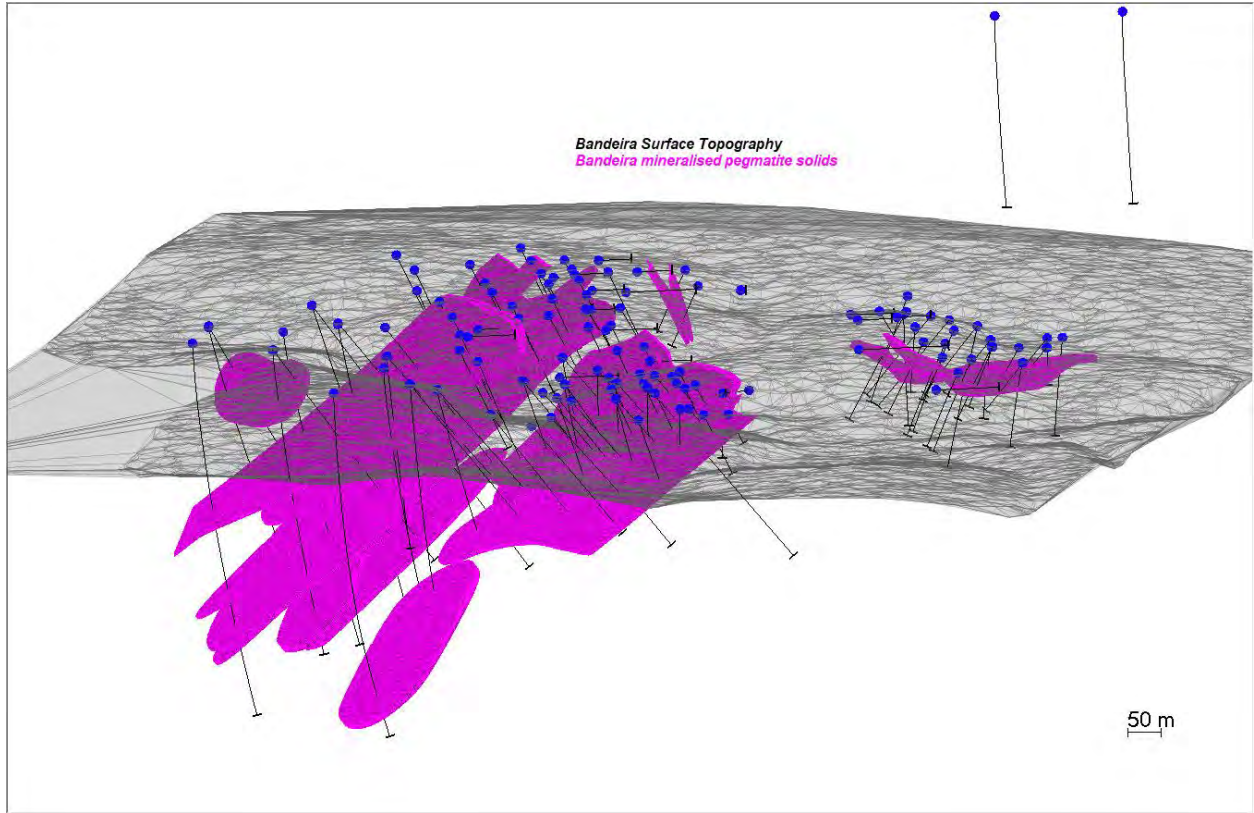
**Table 14-5** Deposit Block Model Geometry

Block Model	Itinga Property, Bandeira & Outro Lado Deposits		
	X (East)	Y (North)	Z (Level)
Origin (SIRGAS 2000)	181950	8138550	-700
Corner Origin (SIRGAS 2000)	181947.5	8138547.5	-702.5
Extent	2350	2050	281
Block Size (m)	5	5	5
Rotation (counterclockwise)	0°		



**Figure 14-9 Isometric View Looking Northwest: Bandeira and Outro Lado Deposits Mineral Resource Block Model and Mineralization Solids**





## 14.8 Grade Interpolation

Li and Li<sub>2</sub>O were estimated for each mineralized solids of the Outro Lado (1 mineralised solid) and Bandeira (18 mineralised solids) deposits. Blocks within each mineralized solid were interpolated using composites assigned (tagged) to that solid. To generate grade within the blocks, the inverse distance squared (ID<sup>2</sup>) interpolation method was used for all solids.

For all solid, the search ellipse used to interpolate grade into the resource blocks was interpreted based on orientation and size of the mineralized solid. The search ellipse axes are generally oriented to reflect the observed preferential long axis (geological trend) of the domain and the observed trend of the mineralization down dip/down plunge (Table 14-6).

Three passes were used to interpolate grade into all of the blocks in the grade shells (Table 14-6). For Pass 1 the search ellipse size (in m) for all mineralized solid was set at 100 x 100 x 30 in the X, Y, Z direction; for Pass 2 the search ellipse size for each domain was set at 200 x 200 x 60; for Pass 3 the search ellipse size was set at 400 x 400 x 120.

Grades were interpolated into blocks using a minimum of 5 and maximum of 15 composites to generate block grades during Pass 1 (maximum of 3 sample composites per drill hole), 5 and 15 for Pass 2 (maximum of 3 sample composites per drill hole), and a minimum of 5 and maximum of 15 composites to generate block grades during pass 3 without any maximum of sample composites per drill hole (Table 14-6). Only the blocks assigned to the mineralised solid Pegli\_13 (Tag: 113) were estimated differently using a minimum of 4 and maximum of 15 composites to generate block grades during Pass 1 (maximum of 3 sample composites per drill hole), 4 and 15 for Pass 2 (maximum of 3 sample composites per drill hole), and a minimum of 1 and maximum of 15 composites to generate block grades during pass 3.

**Table 14-6 Grade Interpolation Parameters by Solid**

Parameter	Outro Lado			Parameter	Bandeira Pegli10 to Pegli11		
	Pass 1	Pass 2	Pass 3		Pass 1	Pass 2	Pass 3
Calculation Method	Inverse Distance squared			Calculation Method	Inverse Distance squared		
Search Type	variable search Ellipsoid			Search Type	variable search Ellipsoid		
Average Azimuth (°) (strike)	300			Average Azimuth (°) (strike)	230		
Principle Dip (°)	-43			Principle Dip (°)	-35 to -45		
Anisotropy X range	100	200	400	Anisotropy X range	100	200	400
Anisotropy Y range	100	200	400	Anisotropy Y range	100	200	400
Anisotropy Z range	30	60	120	Anisotropy Z range	30	60	120
Min. Samples	5	5	5	Min. Samples	5	5	5
Max. Samples	15	15	15	Max. Samples	15	15	15
Max cmp/DDH	3	3	NA	Max cmp/DDH	3	3	NA
Parameter	Bandeira Pegli01 to Pegli08			Parameter	Bandeira Pegli12		
	Pass 1	Pass 2	Pass 3		Pass 1	Pass 2	Pass 3
Calculation Method	Inverse Distance squared			Calculation Method	Inverse Distance squared		
Search Type	variable search Ellipsoid			Search Type	variable search Ellipsoid		
Average Azimuth (°) (strike)	230			Average Azimuth (°) (strike)	70		
Principle Dip (°)	-35 to -45			Principle Dip (°)	60		
Anisotropy X range	100	200	400	Anisotropy X range	100	200	400
Anisotropy Y range	100	200	400	Anisotropy Y range	100	200	400
Anisotropy Z range	30	60	120	Anisotropy Z range	30	60	120
Min. Samples	5	5	5	Min. Samples	5	5	5
Max. Samples	15	15	15	Max. Samples	15	15	15
Max cmp/DDH	3	3	NA	Max cmp/DDH	3	3	NA
Parameter	Bandeira Pegli09			Parameter	Bandeira Pegli13		
	Pass 1	Pass 2	Pass 3		Pass 1	Pass 2	Pass 3
Calculation Method	Inverse Distance squared			Calculation Method	Inverse Distance squared		
Search Type	variable search Ellipsoid			Search Type	variable search Ellipsoid		
Average Azimuth (°) (strike)	variable			Average Azimuth (°) (strike)	70		
Principle Dip (°)	low angle (pringle shape)			Principle Dip (°)	70		
Anisotropy X range	100	200	400	Anisotropy X range	100	200	400
Anisotropy Y range	100	200	400	Anisotropy Y range	100	200	400
Anisotropy Z range	30	60	120	Anisotropy Z range	30	60	120
Min. Samples	5	5	5	Min. Samples	4	4	1
Max. Samples	15	15	15	Max. Samples	15	15	15
Max cmp/DDH	3	3	NA	Max cmp/DDH	3	3	NA
Parameter	Bandeira Pegli14 to Pegli19						
	Pass 1	Pass 2	Pass 3				
Calculation Method	Inverse Distance squared						
Search Type	variable search Ellipsoid						
Average Azimuth (°) (strike)	variable						
Principle Dip (°)	-35 to -45						
Anisotropy X range	100	200	400				
Anisotropy Y range	100	200	400				
Anisotropy Z range	30	60	120				
Min. Samples	5	5	5				
Max. Samples	15	15	15				
Max cmp/DDH	3	3	NA				

## 14.9 Mineral Resource Classification Parameters

The MRE presented in this Report was prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016). The classification of the current MRE into Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources “have reasonable prospects for eventual economic extraction”.

The current Mineral Resource is sub-divided, in order of increasing geological confidence, into Inferred and Indicated categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an

Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

Interpretation of the word 'eventual' in this context may vary depending on the commodity or mineral involved. For example, for some coal, iron, potash deposits and other bulk minerals or commodities, it may be reasonable to envisage 'eventual economic extraction' as covering time periods in excess of 50 years. However, for many gold or base metal deposits, application of the concept would normally be restricted to perhaps 10 to 15 years, and frequently to much shorter periods of time.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

The MRE was classified as Measured, Indicated and Inferred Mineral Resource based on data quality, sample spacing, and pegmatite continuity. The Measured Mineral Resource was defined using a search ellipsoid of 55 m by 55 m by 35 m, and where the continuity and predictability of the mineralized units was reasonable. The Indicated Mineral Resource was defined using a search ellipsoid 110 m by 110 m by 55 m. The Inferred Mineral Resource was assigned to areas where drill hole spacing was greater than 110 m by 110 m by 55 m for all remaining blocks.

#### ***Measured Mineral Resource***

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource.

*It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve. Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.*

#### ***Indicated Mineral Resource***

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.



*Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource Estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.*

### ***Inferred Mineral Resource***

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

*There may be circumstances, where appropriate sampling, testing, and other measurements are sufficient to demonstrate data integrity, geological and grade/quality continuity of a Measured or Indicated Mineral Resource, however, quality assurance and quality control, or other information may not meet all industry norms for the disclosure of an Indicated or Measured Mineral Resource. Under these circumstances, it may be reasonable for the Qualified Person to report an Inferred Mineral Resource if the Qualified Person has taken steps to verify the information meets the requirements of an Inferred Mineral Resource.*

The Mineral Resources at Bandeira and Outro Lado are classified into Measured, Indicated and Inferred categories. The Mineral Resource classification follows the CIM definitions and guidelines and is based on the density of analytical information, the grade variability and spatial continuity of mineralization. The Mineral Resources were classified in two successive stages: automatic classification followed by manual editing of final classification results. The classification was done on blocks within each separate grade shell wireframe models (mineralized solids).

A The first automatic classification stage is focused on composites (and drillholes) rather than blocks. The classification process focuses on each composite respecting a minimum number of nearby composites from a minimum number of holes located within a search ellipsoid of a given size and orientation. For the Measured resource category, the search ellipsoid was 55 m (strike) by 55 m (dip) by 35 m with a minimum of five composites in at least two different drillholes (maximum of three composites per hole) An ellipse fill factor of 67% was applied to the Measured category i.e., that only 67% of the blocks were tagged as Measured within the search ellipse. For the Indicated category, the search ellipsoid was set as twice the size of the Measured category ellipsoid (110 m\*110 m\*50 m) using the same composite selection criteria. An ellipse fill factor of 67% was applied to the Indicated category. All remaining blocks were considered to be in the Inferred category.

This automatic classification, centred on composites, is preferred to the more classical method of classification, centred on blocks, in a sense that it is significantly limiting the spotted dog effect. The author did not modify or do manual addition of classified block clusters on the block models. The spotted dog effect is deemed to be dealt with sufficiently with this method.

### ***Reasonable Prospects of Eventual Economic Extraction***

The general requirement that all Mineral Resources have “reasonable prospects for economic extraction” implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. In order to meet this requirement, the Author considers that the Itinga Property, Bandeira and Outro Lado mineral deposits mineralization is amenable for open pit and underground extraction.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” for Bandeira by an open pit, Whittle™ pit optimization software 4.7.1 and reasonable mining assumptions to evaluate the proportions of the block model (Measured, Indicated and Inferred blocks) that could be “reasonably expected” to be mined from an open pit were used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 14-7. A Whittle pit shell at a revenue factor of 1.0 was selected as the ultimate pit shell for the purposes of this MRE. The optimized pit has been limited to the base of the weathering surface and to the extent of the Property boundary.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” by underground mining methods for Bandeira, the remaining blocks under the optimised pit shell were considered as underground potentially mined by underground mining methods. Blocs touching the optimised pit were not considered.

Due to the proximity of the river the Outro Lado mineral deposit was only considered for underground mining. In order to determine the quantities of material offering “reasonable prospects for economic extraction” by underground mining methods for Outro Lado, the entire mineralised body under the weathering surface was considered as available for underground mining extraction. A specific higher cut-off grade was used due to implied higher mining costs.

The reader is cautioned that the results from the pit optimization and underground stope optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” respectively by an open pit and underground mining methods and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. A selected base case cut-off grade of 0.5% Li<sub>2</sub>O (%) is used to determine the in-pit MRE portion for the Bandeira deposit. A selected base case cut-off grade of 0.8% Li<sub>2</sub>O (%) is used to determine the underground MRE portion for the Bandeira and Outro Lado deposits.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” by underground mining methods, reasonable mining assumptions to evaluate the proportions of the block model (Measured, Indicated and Inferred blocks) that could be “reasonably expected” to be mined from underground are used. The Bandeira and Outro Lado mineralized zones have sufficient widths and continuity suitable for low cost bulk mining methods such as long hole stoping. The average true width of the Bandeira mineralization is 3-6 m within a range of 1.2 m and 14.2 m (more than 50 % of drill intercepts > 5 m true width). The average true width of the Outro Lado mineralization is 20 m within a range of 1.2 m and 52.2 m (61 % of drill intercepts > 10 m true width). Based on other operations in Latin America a minimum mining thickness of 0.8 m is required for low cost bulk mining methods such as long hole stoping.

The underground parameters used, based on mining using low cost bulk mining methods, are summarized in Table 14-7. Based on these parameters, underground (below-pit) Mineral Resources are reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. Underground Mineral Resources are estimated from the bottom of the pit (base of transition mineralization). The underground Mineral Resource grade blocks were quantified above the base case cut-off grade of 0.8% Li<sub>2</sub>O, below the constraining pit shell and within the 3D constraining mineralized wireframes (the constraining volumes).

#### 14.10 Mineral Resource Statement

The current MRE for the Project is presented in Table 14-10 and includes an in-pit and an underground (below-pit) Mineral Resources (estimated from the bottom of the pit) (Figure 14-10 and Figure 14-11).

**Highlights of the Itinga Property, Bandeira and Outro Lado deposits Mineral Resource Estimate are as follows:**

- The Bandeira in-pit Mineral Resource includes, at a base case cut-off grade of 0.5 % Li<sub>2</sub>O, 1.14 Mt grading 1.43 % Li<sub>2</sub>O, in the Measured category, 3.1 Mt grading 1.33 % Li<sub>2</sub>O, in the Indicated category and 5.9 Mt grading 1.4 % Li<sub>2</sub>O, in the Inferred category.
- The Bandeira below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 3.0 Kt grading 1.1 % Li<sub>2</sub>O, in the Measured category, 0.35 Mt grading 1.26 % Li<sub>2</sub>O, in the Indicated category and 5.5 Mt grading 1.147 % Li<sub>2</sub>O, in the Inferred category.
- The Outro Lado below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 2.58 Mt grading 1.47 % Li<sub>2</sub>O, in the Measured category, 3.85 Mt grading 1.34 % Li<sub>2</sub>O, in the Indicated category and 11.9 Mt grading 1.44 % Li<sub>2</sub>O, in the Inferred category.

**Table 14-7 Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation**

Parameter	Value	Unit
Li <sub>2</sub> O Price (at a concentrate of 6%)	\$1,500	US\$ per tonne
In-Pit Mining Cost	\$2.50	US\$ per tonne mined
Underground Mining Cost	\$60.00	US\$ per tonne mined
Processing Cost (incl. crushing & G&A)	\$17.00	US\$ per tonne milled
General Pit Slope	60	Degrees
Process Recovery	65	Percent (%)
Mining loss / Dilution (open pit)	5/5	Percent (%) / Percent (%)
Mining loss/Dilution (underground)	10/10	Percent (%) / Percent (%)

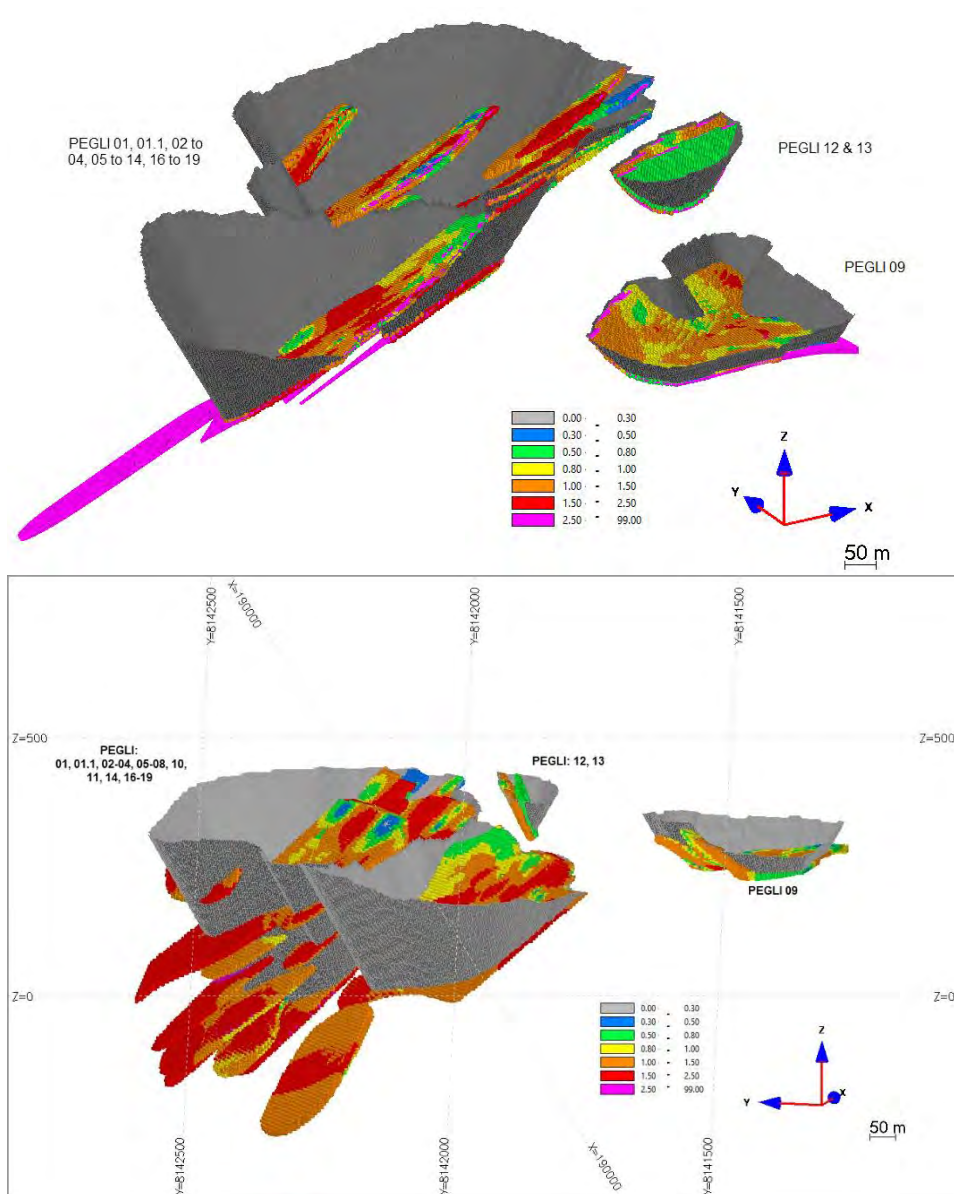
**Table 14-8 Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023**

<u>Deposit/Cut-Off Grade</u>	<u>Category</u>	<u>Resource (tonnes)</u>	<u>Grade (% Li<sub>2</sub>O)</u>	<u>Contained LCE (t)</u>
Bandeira Open-Pit (0.5% Li <sub>2</sub> O)	<b>Measured</b>	1,137,000	1.43	40,000
	<b>Indicated</b>	3,105,000	1.33	102,000
	<b>Measured + Indicated</b>	4,242,000	1.36	142,000
	<b>Inferred</b>	5,915,000	1.4	205,000
Bandeira Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	3,000	1.1	0
	<b>Indicated</b>	353,000	1.26	11,000
	<b>Measured + Indicated</b>	357,000	1.26	11,000
	<b>Inferred</b>	5,530,000	1.47	201,000
Outro Lado (Galvani) Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	2,578,000	1.47	94,000
	<b>Indicated</b>	393,000	1.43	14,000
	<b>Measured + Indicated</b>	2,971,000	1.46	108,000
	<b>Inferred</b>	416,000	1.48	15,000
<b>TOTAL</b>	<b>Measured</b>	3,719,000	1.46	134,000
	<b>Indicated</b>	3,852,000	1.34	127,000
	<b>Measured + Indicated</b>	7,570,000	1.4	261,000
	<b>Inferred</b>	11,861,000	1.44	422,000

(1) The effective date of the MRE is June 24, 2023.

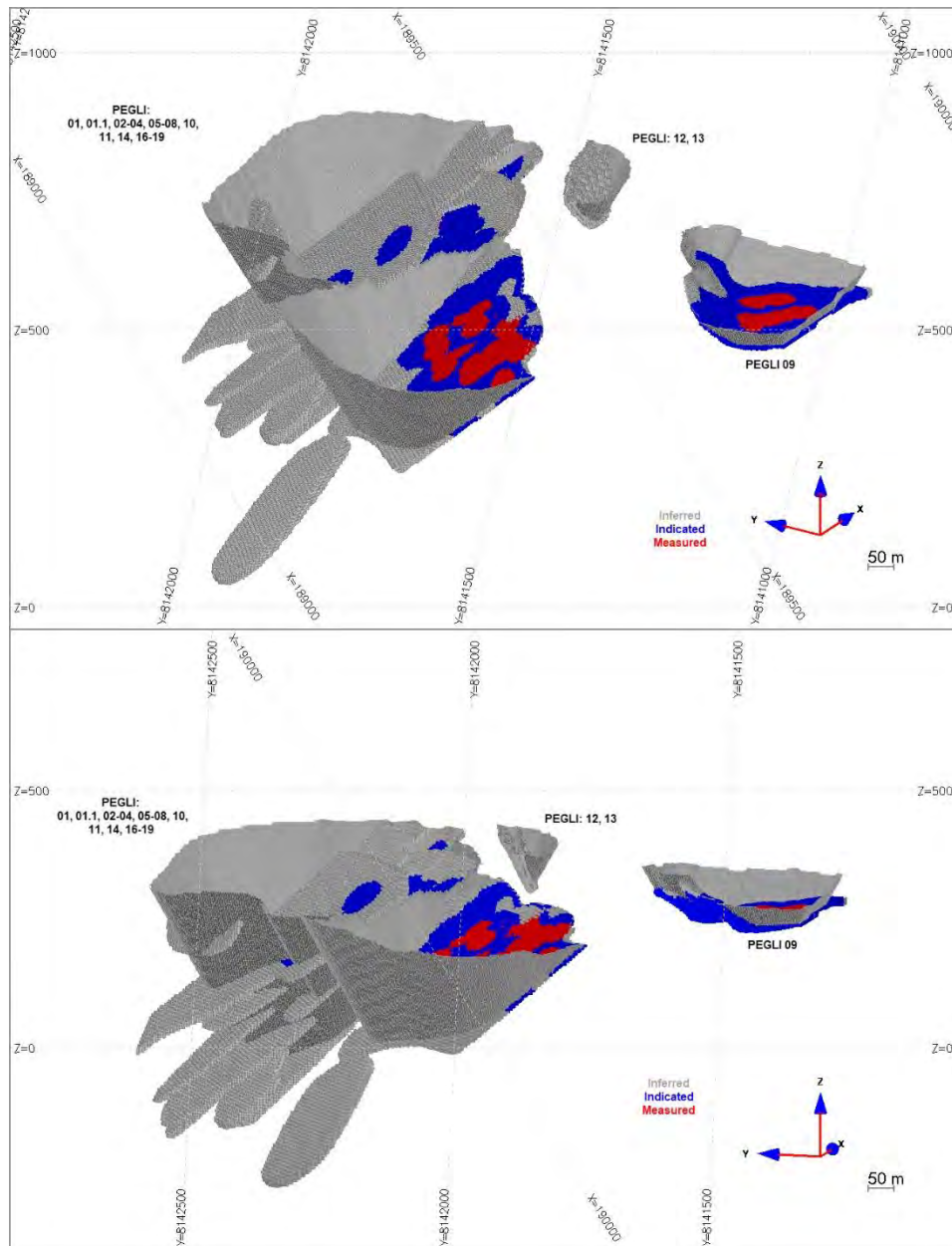
- (2) *The classification of the current Mineral Resource Estimate into Measured, Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.*
- (3) *All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.*
- (4) *All Resources are constrained by continuous 3D wireframe models (constraining volumes) and are considered to have reasonable prospects for eventual economic extraction.*
- (5) *Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*
- (6) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Project. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (7) *It is envisioned that parts of the Bandeira deposit may be mined using open pit mining methods. In-pit mineral resources are reported at a cut-off grade of 0.5% Li<sub>2</sub>O within a conceptual pit shell,*
- (8) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (9) *It is envisioned that parts of the Bandeira deposit may be mined using underground mining methods. Underground (below-pit) Mineral Resources are estimated from the bottom of the pit (base of transition mineralization) and are reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*
- (10) *It is envisioned that the Outro Lado deposit may be mined using underground mining methods and is reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*
- (11) *Based on the size, shape, location and orientation of the Bandeira and Outro Lado deposit, it is envisioned that the deposit may be mined using low cost underground bulk mining methods.*
- (12) *Bulk density values were determined based on physical test work from each deposit model and waste model.*
- (13) *The pit optimization and in-pit base case cut-off grade of 0.5% Li<sub>2</sub>O considers a mining cost of US\$2.50/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material, an overall pit slope of 60°. The below-pit base case cut-off grade of 0.8% Li<sub>2</sub>O considers a mining cost of US\$60.00/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material.*
- (14) *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

**Figure 14-10 Isometric View Looking Northwest: Bandeira Deposit Mineral Resource Block Grades and Whittle Pit**



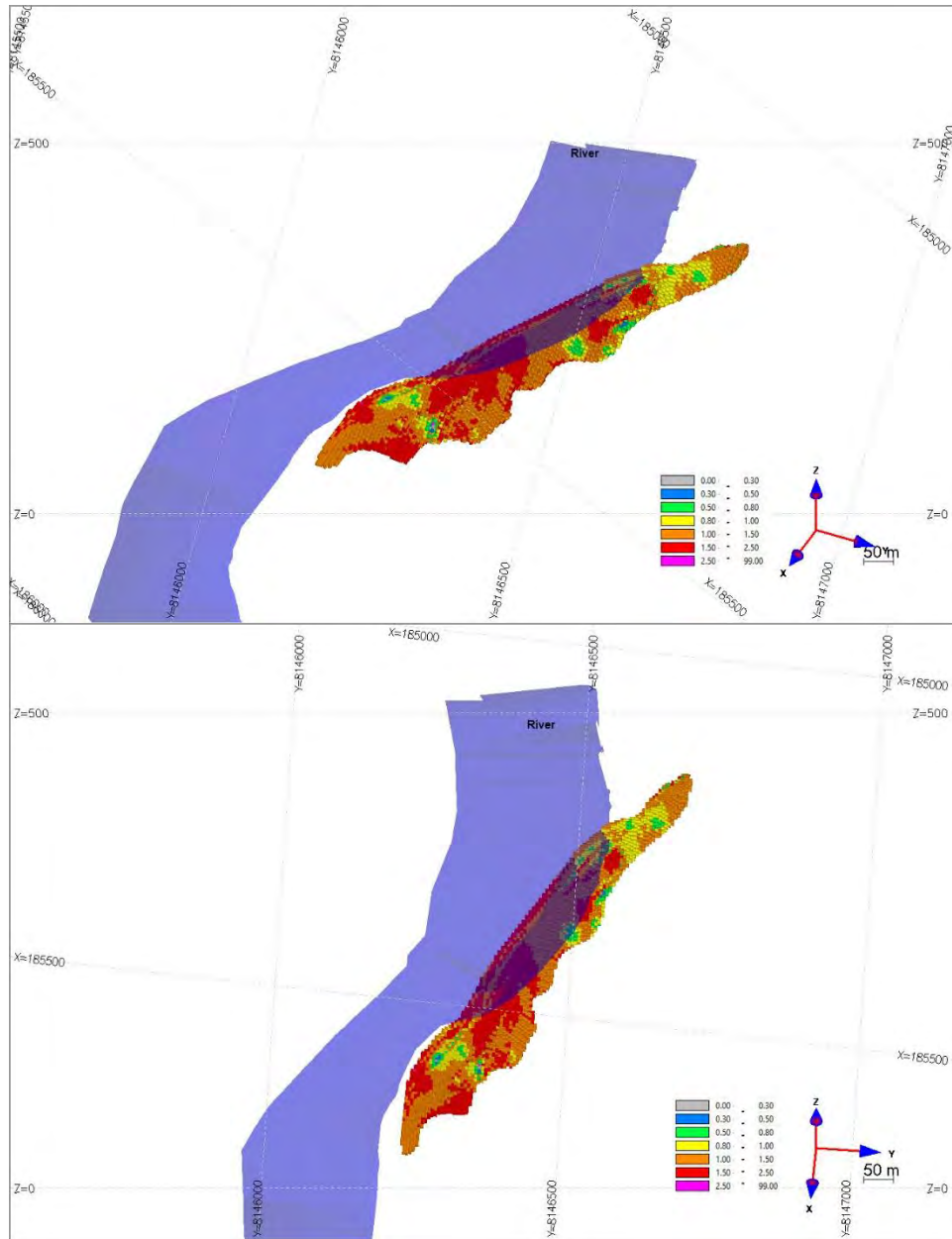


**Figure 14-11 Isometric View Looking Northwest: Bandeira Deposit Classified Blocks and Revenue Factor 1.0 Whittle Pit**

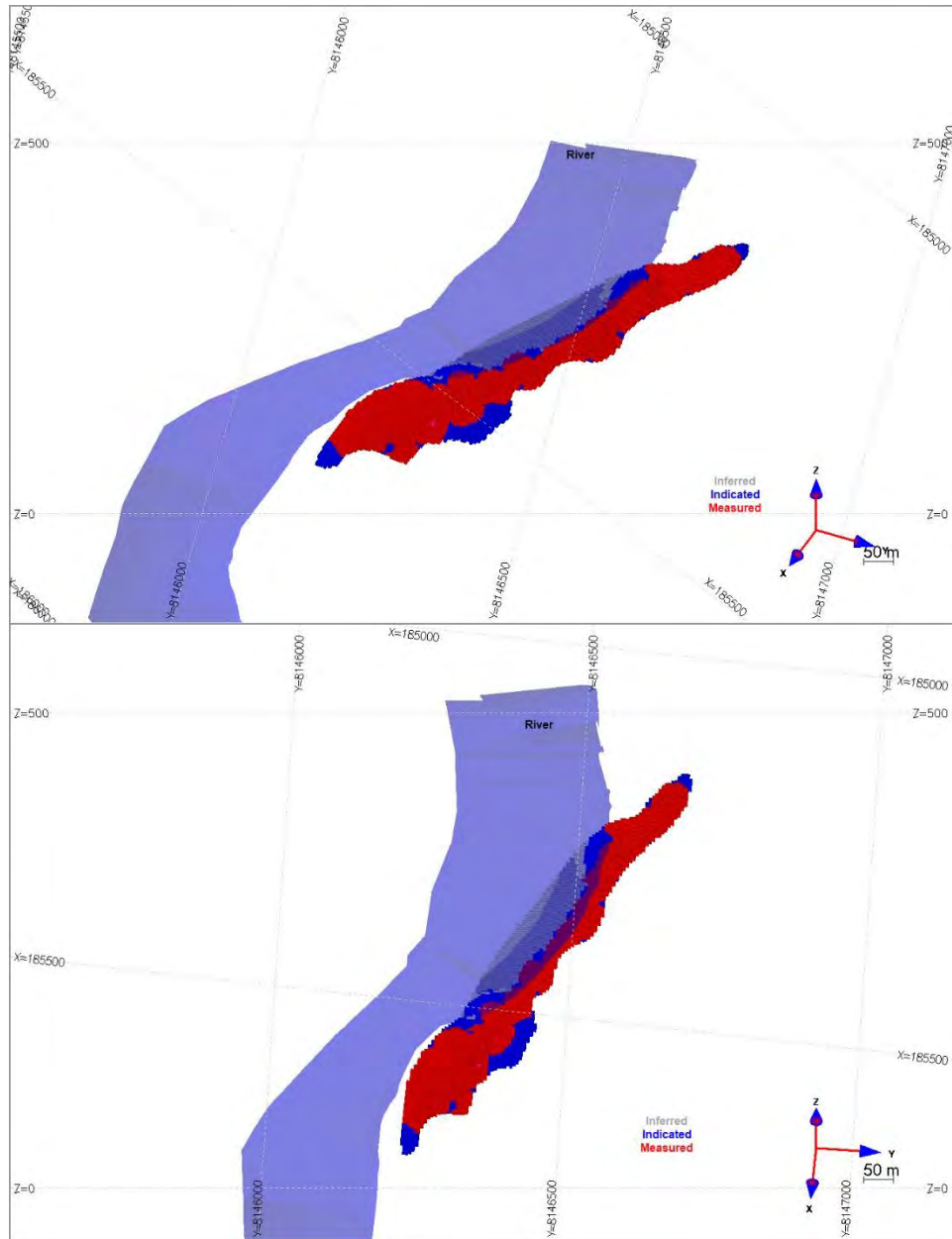




**Figure 14-12 Isometric View Looking Northwest: Outro Lado Deposit Mineral Resource Block Grades Selected for Underground Mining**



**Figure 14-13 Isometric View Looking Northwest: Outro Lado Deposit Classified Blocks Selected for Underground Mining**



### 14.11 Model Validation and Sensitivity Analysis

The total volume of the Bandeira and Outro Lado deposits resource blocks in the Mineral Resource model, at a 0.0% Li<sub>2</sub>O cut-off grade value compared well to the total volume of the 3D models with the total volume of the block model being 1.3 % lower than the total volume of the mineralized solids (Table 14-9). The slightly higher volume of the solids is the result of possible parts of overlapping of solids not being counted in the MRE and the calculation methods of the selected software. Where solids overlap, Genesis assigned a priority either randomly or defined by the user.

Visual checks of block grades against the composite data on vertical section showed good correlation between block grades and drill intersections.

A comparison of the average composite grades with the average grades of all the blocks in the block model at a 0.0% Li<sub>2</sub>O % cut-off grade was completed and is presented in Table 14-10. The block model average grades compared well with the composite average grades. The lower composite grades on Bandeira compared to the block grades are likely due to higher grade variability including low grade values of the composites.

For comparison purposes, additional grade models were generated using a varied inverse distance weighting (ID<sup>3</sup>) and nearest neighbour (NN) interpolation methods. The results of these models are compared to the chosen models at various cut-off grades in a series of grade/tonnage graphs shown in Figure 14-4. In general, the ID<sup>2</sup> and ID<sup>3</sup> models show similar results, and both are more conservative and smoother than the NN model. For models well-constrained by wireframes and well-sampled (close spacing of data), ID<sup>2</sup> should yield very similar results to other interpolation methods such as ID<sup>3</sup> or Ordinary Kriging.

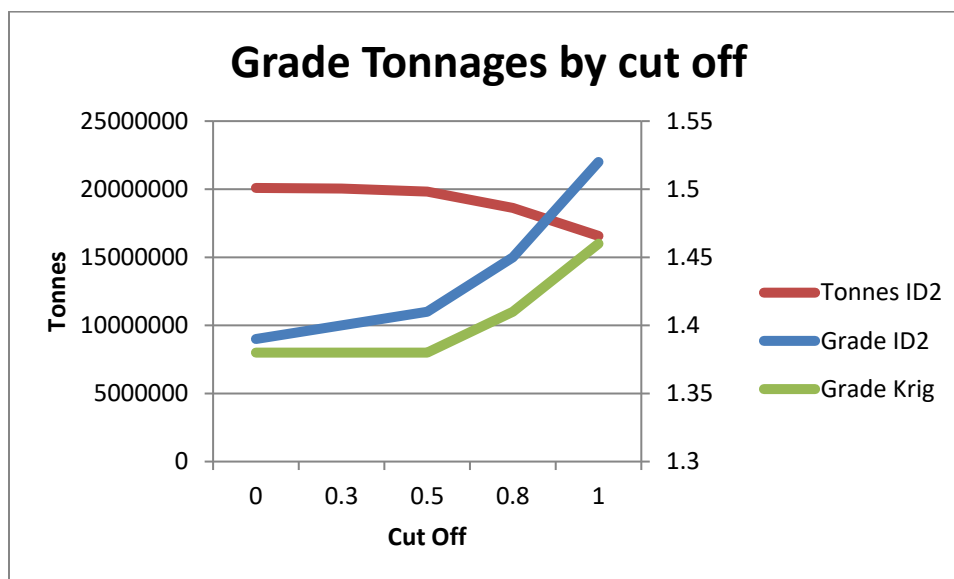
**Table 14-9 Comparison of Block Model Volume with the Total Volume of the Deposit 3D Models (before removing mined out material)**

Deposit	Total Solid Volume (m <sup>3</sup> )	Block Model Volume (m <sup>3</sup> )	Difference %
Bandeira Deposit	6,209,000	6,130,000	1.3%
Outro Lado Deposit	1,311,000	1,311,000	0.0%

**Table 14-10 Comparison of Average Composite Grades (based on assayed data) with Block Model Grades**

Solid	Variable	Li <sub>2</sub> O (%)
Bandeira	Composites	1.35
	Blocks	1.39
Outro Lado	Composites	1.43
	Blocks	1.43

**Figure 14-14 Comparison of ID2 & Kriging Models for the Bandeira and Outro Lado combined Deposits Mineral Resource (no pit, no stope applied)**



#### 14.11.1 Sensitivity to Cut-off Grade

The Bandeira and Outro Lado deposit Mineral Resources have been estimated at a range of cut-off grades presented in Table 14-11 to demonstrate the sensitivity of the resource to cut-off grades. The table below shows the mineral resource estimates at different cut-off grades regardless of the mining operations. No pit constraints were assigned to these estimates. The numbers are rounded.

**Table 14-11 Bandeira and Outro Lado Deposits Open Pit and Underground Mineral Resource Estimate at Various Li<sub>2</sub>O% Cut-off Grades, June 24, 2023**

Deposit	Classification	Cut-off Grade (Li <sub>2</sub> O (%))	(In Pit)		(Underground)	
			Tonnes	Li <sub>2</sub> O (%)	Tonnes	Li <sub>2</sub> O (%)
Bandeira	Measured	0.00	1,138,000	1.43	4,000	1.06
		0.30	1,138,000	1.43	4,000	1.06
		<b>0.50</b>	<b>1,137,000</b>	<b>1.43</b>	<b>4,000</b>	<b>1.06</b>
		0.80	1,113,000	1.44	3,000	1.10
		1.00	1,043,000	1.48	2,000	1.29
	Indicated	0.00	3,193,000	1.31	396,000	1.20
		0.30	3,166,000	1.32	396,000	1.20
		<b>0.50</b>	<b>3,105,000</b>	<b>1.33</b>	<b>388,000</b>	<b>1.21</b>
		0.80	2,816,000	1.40	353,000	1.26
	Indicated+Measured	1.00	2,367,000	1.49	261,000	1.39
		0.00	4,331,000	1.34	400,000	1.20
		0.30	4,304,000	1.35	400,000	1.20
		<b>0.50</b>	<b>4,242,000</b>	<b>1.36</b>	<b>392,000</b>	<b>1.21</b>
	Inferred	0.80	3,930,000	1.41	357,000	1.26
		1.00	3,409,000	1.49	263,000	1.39
		0.00	6,040,000	1.38	5,704,000	1.45
0.30		6,025,000	1.39	5,703,000	1.45	
<b>0.50</b>		<b>5,915,000</b>	<b>1.40</b>	<b>5,691,000</b>	<b>1.45</b>	
		1.00	4,806,000	1.55	4,949,000	1.54
			(In Pit)		(Underground)	

Deposit	Classification	Cut-off Grade (Li2O (%))	Tonnes	Li2O (%)	Tonnes	Li2O (%)
Outro Lado	Measured	0.00	2,721,000	1.42	-	-
		0.30	2,717,000	1.42	-	-
		0.50	2,692,000	1.43	-	-
		<b>0.80</b>	<b>2,578,000</b>	<b>1.47</b>	-	-
		1.00	2,341,000	1.52	-	-
	Indicated	0.00	402,000	1.42	-	-
		0.30	402,000	1.42	-	-
		0.50	402,000	1.42	-	-
		<b>0.80</b>	<b>393,000</b>	<b>1.44</b>	-	-
		1.00	365,000	1.48	-	-
	Indicated+Measured	0.00	3,123,000	1.42	-	-
		0.30	3,119,000	1.42	-	-
		0.50	3,094,000	1.43	-	-
		<b>0.80</b>	<b>2,971,000</b>	<b>1.46</b>	-	-
		1.00	2,706,000	1.51	-	-
	Inferred	0.00	418,000	1.48	-	-
		0.30	418,000	1.48	-	-
		0.50	418,000	1.48	-	-
		<b>0.80</b>	<b>416,000</b>	<b>1.48</b>	-	-
		1.00	409,000	1.49	-	-

#### 14.12 Disclosure

All relevant data and information regarding the Project are included in other sections of this Technical Report. There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading.

The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.



## **15 MINERAL RESERVE ESTIMATE**

There are no Mineral Reserve Estimates for the Property.

## **16 MINING METHODS**

This Item does not apply to the Technical Report.

## **17 RECOVERY METHODS**

This Item does not apply to the Technical Report.

## **18 PROJECT INFRASTRUCTURE**

This Item does not apply to the Technical Report.

## **19 MARKET STUDIES AND CONTRACTS**

This Item does not apply to the Technical Report.

## 20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Lithium Ionic commissioned a report in 2023 to study and to better understand the permitting process in Brazil. The report outlined, on a preliminary level, 3 separate criteria in the process of obtaining necessary permits from regulators:

- Environmental Permitting – An Overview of Applicable Requirements For Mining Projects
- General Environmental Impacts Evaluation And Standard Measures For Mitigation
- Environmental And Social Impact Assessment (ESIA) In Course (Bandeira/Itinga Project)

In Brazil the mining permit, and the environmental license process, can be parsed between two governmental agencies, in either of the cases, the process is dependent on available and required project information, including temporal evaluation. A project gets its Mining Permit from the Mining Governmental Agency (ANM), for which project proponent must first present the Installation Plant License Permit (LI) from the Environmental Governmental Agency.

To better understand the needs and requirements for the process, the report titled TECHNICAL REPORT - MINING PERMIT CONSIDERATIONS, Araçuaí and Itinga, Minas Gerais, Brazil RT-001\_23611796\_01-J, June 2023 was issued for Lithium Ionic.

Some of the excerpts of the report are included here within with a primarily focus on water availability in the effected areas of the Project with preliminary data on project water requirements, calculated/based on the Metallurgical Tests Report carried out by SGS.

The Outro Lado and Bandeira targets are situated in the Middle and Lower Jequitinhonha Hydrographic Basin (UPGRH-JQ3), in accordance with the Water Resources Planning and Management Unit (UPGRH) - Minas Gerais' Government. The JQ3 basin population corresponds to about 2% of the Minas Gerais state.

In 2013, the Water Resources Diagnosis from the Middle and Lower Jequitinhonha Watershed (PDRH-JQ3) published the JQ3 region had an urbanization rate of 66%, while Minas Gerais in 2010 had 85% of its population leaving in urban areas. In general, the PDRH-JQ3 diagnosis presents some relevant considerations about UPGRH-JQ3 and is described below:

More than 99% of known lithium ore reserves in Brazil are concentrated in the Itinga and Araçuaí municipalities, in the middle Jequitinhonha region. In Geology, this region is called Itinga Pegmatite Field; The climatological water balance situation in the JQ3 basin region becomes unfavorable during the draw's months.

For the agriculture development there is a need to implement irrigation plants to overcome periods of water deficit in the dry seasons. The demand increase of water uses by different sectors of the economy, and society can create conflicts.

Surface permits granted for water use in the Middle and Lower Jequitinhonha Hydrographic Basin (PDRH-JQ3), are basically intended for public supply, human consumption, industrial consumption, animal watering, irrigation, mineral extraction, and other diverse uses including agro-industrial consumption and the transfer of water bodies. The Outro Lado project is located in the Jequitinhonha River banks, meanwhile the Bandeira exploration permit perimeter is located on the Piauí stream (also called Piauí river) banks. The Piauí stream is a tributary of Jequitinhonha River, Outro Lado is located on the perimeter, next to this stream mouth. The Piauí stream has its source in the Carai municipality, and it runs through the Araçuaí, and Itinga municipalities to its mouth.

This water body, close to the Bandeira target, is characterized by low water volume, shallow channel, with surroundings formed by hills of medium to high declivity with convex tops (Figure 20-1 and Figure 20-2).



There is also formation of grooves due to erosion processes, which also lead to the accumulation of sediments in its bed (UFMG, 2019).

**Figure 20-1 Piauí Stream inside the Bandeira Exploration Permit Perimeter. The water Pumped has been used in the Drillings**



Source: WSP, 2023

**Figure 20-2 Piauí Stream nearby Bandeira Exploration Permit Perimeter**

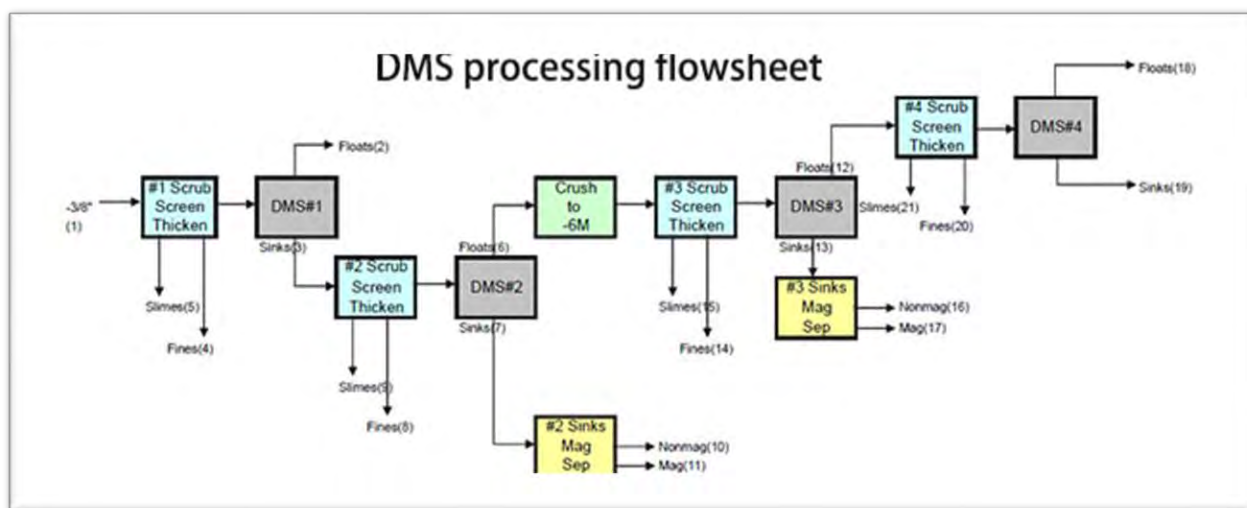


Source: WSP, 2023

## 20.1 Water consumption

Information gleaned from Metallurgical Report submitted to MGLIT in May of 2023 for the Outro Lado, and the Bandeira targets process plant options, included water recirculation inserted in the Dense Medium Separation (DMS) process. In the process, the fine fraction not separated by the DMS process will be sent to an optimization thickener, and the thickened underflow will be pumped to a filter for water recovery. The filter residue will be stored for a future processing of spodumene concentration using milling, and flotation. The process water recirculation rate is estimated to be around 90%. The water reuse in mining productive process can be considered an excellent alternative for mitigating environmental impacts and water use conservation efforts.

**Figure 20-3 Typical Dense Media Separation Flow Chart**



In Bandeira, projected water use is approximately 120.00 m<sup>3</sup>/h or 120,000.00 liter/hour (0.033 m<sup>3</sup>/s or 33.00 liter/second), and its water use will include workforce (human) consumption, mine facilities, and the processing plant. Outro Lado projected water use will amount to 40.00 m<sup>3</sup>/h or 37,000.00 liter/second (0.011 m<sup>3</sup>/s or 11.00 liter/second), with the same use/destination as described above, including work force (human consumption), mine facilities, and the processing plant.

With DMS process, the water needed during production phase will increase, so the low water challenges will have to be mitigated as the region rivers may be form an important source of water for the project, especially in the case of the Bandeira, as it may use the Piauí stream which has lower water availability during dry seasons.

At the time of publication of this report, the author is not aware of any Environmental or Mining Permit being in place or in the process of being issued. No other Environmental Study or Socio Economic Study has been completed.

## **21 CAPITAL AND OPERATING COSTS**

This Item does not apply to the Technical Report.

## **22 ECONOMIC ANALYSIS**

This Item does not apply to the Technical Report.

## **23 ADJACENT PROPERTIES**

There is no information on properties adjacent to the Property necessary to make the technical report understandable and not misleading.

## **24 OTHER RELEVANT DATA AND INFORMATION**

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. To the Authors' knowledge, there are no significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or MRE.



## 25 INTERPRETATION AND CONCLUSIONS

SGS Geological Services Inc. was contracted by Lithium Ionic to complete a MRE for the Itinga Project including the Bandeira and Outro Lado lithium Deposits, located near the town of Araçuaí, located in Minas Gerais State, Brazil, and to prepare a National Instrument 43-101 Technical Report written in support of the MRE.

The Company is engaged in lithium exploration in Brazil and related activities including property acquisition, exploration, and advancement of its projects.

The current report is co-authored by Maxime Dupéré, B.Sc., P.Geo. and Faisal Sayeed, B.Sc., P.Geo. of SGS, and the MRE presented in this report was estimated by Dupéré. Dupéré and Sayeed are independent Qualified Persons as defined by NI 43-101 and are responsible for all Items of this report.

### 25.1 Exploration and Drilling

Trench sampling program, rock chip sampling programs, structural mapping and geophysical surveys were completed on the Property. A total of 21 trenches were completed in 2022 at the Bandeira target by Lithium Ionic totaling 1,346.89 m. Field work included rock samples in the field and a preliminary field mapping of visible outcrops. Some basic field data such as outcrop attitude (strike and dip), foliation and cleavage which located several occurrences of spodumene never previously known or reported. Since this initial discovery, Lithium Ionic rapidly advanced the Project with drill testing of the target(s) and the pegmatite system.

Table 25-1 is a drill summary table showing the drilling completed by Lithium Ionic until June 15, 2023. A total of 179 diamond drill holes (27,507.53 m) were completed in 2022 and 2023.

**Table 25-1 Total Drill Holes**

<b>Pegmatite/Area</b>	<b>Number of Drill Holes</b>	<b>Meters Drilled (m)</b>
Outro Lado	58	7,108.7
Bandeira	119	20,398.83
<b>Total</b>	<b>179</b>	<b>27,507.53</b>

### 25.2 Itinga Project, Bandeira and Outro Lado Deposit Mineral Resource Estimate

Completion of the current MRE for the Property involved the assessment of a drill hole database, which included all data for surface drilling completed through the end of June 2023, as well as three-dimensional (3D) mineral resource models, 3D geological models, a 3D topographic surface model, and available written reports.

Inverse Distance Squared (“ID2”) calculation method restricted to mineralized domains was used to interpolate grades for Lithium Li (ppm) into a block model. The current MRE takes into consideration that the Bandeira deposit may be mined by open pit and underground mining methods, and that the Outro Lado deposit may be mined by underground mining methods.

In order to complete the MRE for the Bandeira and Outro Lado deposits, a database comprising a series of comma delimited spreadsheets containing surface RC and diamond drill hole information was provided by Lithium Ionic. The database included hole location information, down-hole survey data, assay data,

lithology data and density data. The data in the assay table included assays for Li (ppm) and 30 additional elements. After review of the database, the data was then imported into Genesis version 2.1.9 software (“Genesis”) for statistical analysis, block modeling and resource estimation.

The original database provided by Lithium Ionic included data for 200 surface diamond drill holes, all completed by Lithium Ionic since 2022. Thus, the database used for the current MRE comprises data for 200 surface diamond drill holes which total 29,092.59 m. The database totals 5,055 assay intervals for 4,895.28 m.

The database was checked for typographical errors in drill hole locations, down hole surveys, lithology, assay values and supporting information on source of assay values. Overlaps and gapping in survey, lithology and assay values in intervals were checked. All assays had analytical values for Li (ppm).

The Author was provided with a total of 18 3D mineralised solids for Resources for the Bandeira deposit and one 3D mineralised solid for Resources for the Outro Lado deposit; to be used for the current MRE, as well as 23 lithological 3D solids (22 Bandeira: 22, Outro Lado: 1) and a digital elevation surface models. All models were constructed by Lithium Ionic. All solids are clipped to topography.

The Author has reviewed the resource models on section and in the Author’s opinion the models provided are very well constructed and fairly accurately represents the distribution of the various mineralised solids and mineralization, i.e., high grade vs low grade mineralization; barren vs mineralised solids. Lithium Ionic has taken into account all recommendations and modeling tips provided by the Authors. Limited sporadic mineralization exists outside of these wireframes, as well as along strike and at depth. With additional drilling, some areas of scattered mineralization may get incorporated into the mineralised solids.

The Bandeira deposit generally strikes 230° and dips/plunges northwest (-40° to -45°). Additional drill holes have identified mineralisation further down to 500m down dip. The Outro Lado deposit generally strikes 295° and dips/plunges northeast (-40° to -45°).

The assay sample database available for the revised resource modelling totalled 5,055 representing 4,985.28 m of drilling. Of this, a total of 1,468 assays occur within the Bandeira and Outro Lado deposits mineralised solids. Average length of the assay sample intervals is 0.95 to 1.08. Of the total assay population approximately 90% are below 1.1 m with approximately 77% of the samples between 0.98 and 1.11m and only 2% greater than 1.1 m. To minimize the dilution and over smoothing due to compositing, a composite length of 1.00 m was chosen as an appropriate composite length for the current MRE.

Composites were constrained to the individual mineralised solids. The constrained composites were extracted to point files for statistical analysis and capping studies. The constrained composites were grouped based on the mineralised solid (Tag) of the constraining wireframe model. A total of 1,503 composite sample points occur within the resource wire frame models. No capping was done on the composite data.

### 25.2.1 Mineral Resource Statement

The MRE presented in this Technical Report was prepared and disclosed in compliance with all current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016). The classification of the current Mineral Resource Estimate into Measured, Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources “have reasonable prospects for eventual economic extraction”.

The general requirement that all Mineral Resources have “reasonable prospects for economic extraction” implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios and

processing recoveries. In order to meet this requirement, the Author considers that the Itinga Project mineralization is amenable for open pit and underground extraction.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” by an open pit, Whittle™ pit optimization software 4.7.1 and reasonable mining assumptions to evaluate the proportions of the block model (Measured, Indicated and Inferred blocks) that could be “reasonably expected” to be mined from an open pit were used. The pit optimization was completed by SGS. The pit optimization parameters used are summarized in Table 25.1. A Whittle pit shell at a revenue factor of 1.0 was selected as the ultimate pit shell for the purposes of this MRE. The optimized pit has been limited to the base of the transition mineralization.

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.

The reader is cautioned that the results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade. A selected base case cut-off grade of 0.50 % Li<sub>2</sub>O is used to determine the in-pit MRE for the Itinga Project Bandeira Deposit deposit.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” by underground mining methods, reasonable mining assumptions to evaluate the proportions of the block model (Measured, Indicated and Inferred blocks) that could be “reasonably expected” to be mined from underground are used. The Bandeira and Outro Lado mineralized zones have sufficient widths and continuity suitable for low cost bulk mining methods such as long hole stoping. The average true width of the Bandeira mineralization is 3-6 m within a range of 1.2 m and 14.2 m (more than 50 % of drill intercepts > 5 m true width). The average true width of the Outro Lado mineralization is 20 m within a range of 1.2 m and 52.2 m (61 % of drill intercepts > 10 m true width). Based on other operations in Latin America a minimum mining thickness of 0.8 m is required for low cost bulk mining methods such as long hole stoping.

The underground parameters used, based on mining using low cost bulk mining methods, are summarized in Table 25-2. Based on these parameters, underground (below-pit) Mineral Resources are reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. Underground Mineral Resources are estimated from the bottom of the pit. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade of 0.8% Li<sub>2</sub>O, below the constraining pit shell and within the 3D constraining mineralized wireframes (the mineralised solids).

Highlights of the Itinga Project, Bandeira and Outro Lado lithium deposits Mineral Resource Estimate are as follows:

- The Bandeira in-pit Mineral Resource includes, at a base case cut-off grade of 0.5 % Li<sub>2</sub>O, 1.14 Mt grading 1.43 % Li<sub>2</sub>O, in the Measured category, 3.1 Mt grading 1.33 % Li<sub>2</sub>O, in the Indicated category and 5.9 Mt grading 1.4 % Li<sub>2</sub>O, in the Inferred category.
- The Bandeira below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 3.0 Kt grading 1.1 % Li<sub>2</sub>O, in the Measured category, 0.35 Mt grading 1.26 % Li<sub>2</sub>O, in the Indicated category and 5.5 Mt grading 1.147 % Li<sub>2</sub>O, in the Inferred category.
- The Outro Lado below-pit Mineral Resource includes, at a base case cut-off grade of 0.8 % Li<sub>2</sub>O, 2.58 Mt grading 1.47 % Li<sub>2</sub>O, in the Measured category, 3.85 Mt grading 1.34 % Li<sub>2</sub>O, in the Indicated category and 11.9 Mt grading 1.44 % Li<sub>2</sub>O, in the Inferred category.

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.

**Table 25-2 Whittle™ Pit Optimization Parameters and Parameters used for In-pit and Underground Cut-off Grade Calculation**

Parameter	Value	Unit
Li <sub>2</sub> O Price (at a concentrate of 6%)	\$1,500	US\$ per tonne
In-Pit Mining Cost	\$2.50	US\$ per tonne mined
Underground Mining Cost	\$60.00	US\$ per tonne mined
Processing Cost (incl. crushing & G&A)	\$17.00	US\$ per tonne milled
General Pit Slope	60	Degrees
Process Recovery	65	Percent (%)
Mining loss / Dilution (open pit)	5/5	Percent (%) / Percent (%)
Mining loss/Dilution (underground)	10/10	Percent (%) / Percent (%)

**Table 25-3 Itinga Property; Bandeira and Outro Lado Deposits In-Pit and Underground (below-pit) Mineral Resource Estimate, June 24, 2023**

Deposit/Cut-Off Grade	Category	Resource (tonnes)	Grade (% Li <sub>2</sub> O)	Contained LCE (t)
Bandeira Open-Pit (0.5% Li <sub>2</sub> O)	<b>Measured</b>	1,137,000	1.43	40,000
	<b>Indicated</b>	3,105,000	1.33	102,000
	<b>Measured + Indicated</b>	4,242,000	1.36	142,000
	<b>Inferred</b>	5,915,000	1.4	205,000
Bandeira Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	3,000	1.1	0
	<b>Indicated</b>	353,000	1.26	11,000
	<b>Measured + Indicated</b>	357,000	1.26	11,000
	<b>Inferred</b>	5,530,000	1.47	201,000
Outro Lado (Galvani) Underground (0.8% Li <sub>2</sub> O)	<b>Measured</b>	2,578,000	1.47	94,000
	<b>Indicated</b>	393,000	1.43	14,000
	<b>Measured + Indicated</b>	2,971,000	1.46	108,000
	<b>Inferred</b>	416,000	1.48	15,000
<b>TOTAL</b>	<b>Measured</b>	3,719,000	1.46	134,000
	<b>Indicated</b>	3,852,000	1.34	127,000
	<b>Measured + Indicated</b>	7,570,000	1.4	261,000
	<b>Inferred</b>	11,861,000	1.44	422,000

- (1) The effective date of the MRE is June 24, 2023.
- (2) The classification of the current Mineral Resource Estimate into Measured, Indicated and Inferred is consistent with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves.
- (3) All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.
- (4) All Resources are constrained by continuous 3D wireframe models (constraining volumes) and are considered to have reasonable prospects for eventual economic extraction.
- (5) Mineral resources which are not mineral reserves do not have demonstrated economic viability. An Inferred

*Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*

- (6) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Project. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (7) *It is envisioned that parts of the Bandeira deposit may be mined using open pit mining methods. In-pit mineral resources are reported at a cut-off grade of 0.5% Li<sub>2</sub>O within a conceptual pit shell,*
- (8) *The results from the pit optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a Mineral Resource statement and to select an appropriate resource reporting cut-off grade.*
- (9) *It is envisioned that parts of the Bandeira deposit may be mined using underground mining methods. Underground (below-pit) Mineral Resources are estimated from the bottom of the pit (base of transition mineralization) and are reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*
- (10) *It is envisioned that the Outro Lado deposit may be mined using underground mining methods and is reported at a base case cut-off grade of 0.8% Li<sub>2</sub>O. The underground Mineral Resource grade blocks were quantified above the base case cut-off grade, below the constraining pit shell and within the constraining mineralized wireframes.*
- (11) *Based on the size, shape, location and orientation of the Bandeira and Outro Lado deposit, it is envisioned that the deposit may be mined using low cost underground bulk mining methods.*
- (12) *Bulk density values were determined based on physical test work from each deposit model and waste model.*
- (13) *The pit optimization and in-pit base case cut-off grade of 0.5% Li<sub>2</sub>O considers a mining cost of US\$2.50/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material, an overall pit slope of 60°. The below-pit base case cut-off grade of 0.8% Li<sub>2</sub>O considers a mining cost of US\$60.00/t rock and processing, treatment and refining, transportation and G&A cost of US\$17.00/t mineralized material.*
- (14) *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*

## 25.3 Risk and Opportunities

The following risks and opportunities were identified that could potentially affect the future economic outcome of the project. The following does not include external risks that apply to all exploration and development projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.).

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the MRE for the Itinga Project. To the Authors knowledge, there are no additional risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information or MRE.

### 25.3.1 Risks

#### 25.3.1.1 Mineral Resource Estimate

A portion of the contained lithium of the Deposit, at the reported cut-off grades for the current MRE, is in the Inferred Mineral Resource classification (~44%). It is reasonably expected that the majority of Inferred Mineral resources could be upgraded to Indicated Minerals Resources with continued exploration.

The mineralized structures (mineralized solids) in all zones are relatively well understood. However, due to the limited drilling in some areas, all mineralization zones might be of slightly variable shapes from what have been modeled. A different interpretation from the current mineralization models may adversely affect the current MRE. Continued drilling may help define with more precision the shapes of the zones and confirm the geological and grade continuities of the mineralized zones.

The presence of near by river passing over a portion of the Outro Lado deposit does not allow to consider open pit mining. The additional studies regarding the installment of a surfaced crown pillars yet to be determined. The additional parameters may adversely affect the current MRE.

## 25.3.2 Opportunities

### 25.3.2.1 Mineral Resource Estimate

There is an opportunity in all areas of the Deposit to extend known mineralization at depth and elsewhere on the Property and to potentially convert Inferred Mineral Resources to Indicated or Measured Mineral Resources. Lithium Ionic's intentions are to extend the current resources, better define the geological and structural controls on the mineralization, to convert Inferred resources to Indicated and Measured, and to expand on the current MRE.



## 26 RECOMMENDATIONS

The Itinga Project contains within-pit and underground Measured, Indicated and Inferred Mineral Resources that are associated with well-defined mineralized trends and models. The Bandeira deposit is open along strike and at depth on most of its mineralized zones. The Outro Lado deposit is relatively defined laterally and at depth, there is a possibility of additional mineralization next to the deposit both laterally and at depth.

Given the prospective nature of the deposits, it is the Author's opinion that the Project merits further exploration and that a proposed plan for further work by Lithium Ionic is justified. A proposed work program by Lithium Ionic will help advance the Project and will provide key inputs required to evaluate the economic viability of the Project.

The Author is recommending Lithium Ionic conduct further exploration, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

The total cost of the recommended work program by Lithium Ionic is estimated at US\$ 20 million (Table 26-1). The recommended budget should be sufficient to continue the ongoing surface drilling program. A 50,500 m surface drill program will focus on resource delineation and improve geological interpretation. An updated mineral resource estimate may need to be completed pending results.

Field exploration activities will consist of geological mapping of the additional exploration targets like Exotic, while a regional geology program will develop additional exploration targets proximal to the main deposit.

Lithium Ionic is currently evaluating various vendors and service providers to complete the program.

**Table 26-1 Recommended 2023-2024 Work Program for the Lithium Ionic Project**

<b>Drilling</b>		
	<b>(m)</b>	<b>\$US</b>
Bandeira (Infill + Expansion)	15,000	3,100,000
PQ Diameter (Metallurgy Studies)	500	305,000
Salinas Area Target	25,000	5,150,000
Regional Exploration	10,000	10,000,000
Total	50,500	18,555,000
<b>Engineering</b>		
		<b>(\$US)</b>
PEA		80,000
Geotechnics		30,000
Hydrogeology		70,000
Feasibility		450,000
Total		630,000
<b>Environmental Studies</b>		
Environmental Studies		<b>(\$US)</b>
Total		810,000
Final Total (\$US)		19,895,000

## 27 REFERENCES

Bradley D., and McCauley A., (2013): A Preliminary Deposit Model for Lithium-Cesium-Tantalum (LCT) Pegmatites: U.S. Geological Survey, Open-File Report 2013–1008 Version 1.1, December 2016.

GE21 Consultoria Mineral Ltda.: Leonardo Silva Santos Rocha, 2023. QAQC Assessment: Lithium Ionic Corp 2022 Diamond Drilling Campaign Results – Draft Technical Memo, Project 220210, January 25, 2023.

IDE SISEMA (2022) / IBGE (2022). <https://idesisema.meioambiente.mg.gov.br/webgis>

London, D., (1984): Experimental Phase Equilibria in the System LiAlSiO<sub>4</sub>- SiO<sub>2</sub>-H<sub>2</sub>O; a Petrogenetic Grid for Lithium-rich Pegmatites, *American Mineralogist*, 69(11-12), pp. 995-1004

Mining legislation classes notes of UNI-BH Geology bachelor's degree, 2015

MGLIT Empreendimentos Ltda, 2022. QAQC Protocol for Diamond Drilling, Itinga Project, April 2022.

MGLIT Empreendimentos Ltda, 2023. Relatório dos testes com Ore Sorter TOMRA Solutions – Alemanha, July 10, 2023.

Stevanato, R., Intergeo Comércio E Serviços Em Geofísica Aplicada Ltda – Me, 2022: Projeto Lítio – Araçuaí-MG (Polarização Induzida e Resistividade na Exploração Mineral), prepared for MGLIT Empreendimentos Ltda & Grupo GE21.

Pedrosa-Soares, A., Chavez, M., Scholz, R (2009): Field Trip Guide Eastern Brazilian Pegmatite Provinces, 4<sup>th</sup> International Symposium on Granitic Pegmatite, 28 p.

Pedrosa-Soares, A. C., De Campos, C. P., Noce, C., Silva, L. C., Novo, T., Roncato, J., Alkmim, F. (2011): Late Neoproterozoic-Cambrian granitic magmatism in the Araçuaí orogen (Brazil), the Eastern Brazilian Pegmatite Province and related mineral resources. *Geological Society, London, Special Publications*, 350(1), 25–51. doi:10.1144/sp350.3

Quemeneur, J., and Lagache, M., (1999): Comparative Study of Two Pegmatitic Field from Minas Gerais, Brazil, using the Rb and Cs Contents of Mica and Feldspars, *Revista Brasileira de Geociências*, No. 29, Vol. 1. pp.27-32.

Sevro Laboratories Inc.: Aaron Bazzana and Tanner Parkes, 2023. Lithium Ionic Dense Media Separation Testwork Report, July 7, 2023.

Simmons, W.B., Webber, K.L., Falster, A.U., and Nizamoff, J.W. (2003): *Pegmatology: Pegmatite Mineralogy, Petrology and Petrogenesis.*: By Published by Rubellite Press, New Orleans, Louisiana 70122, 176 pages. (ISBN 0–9740613–0–1).

SGS Geosol: Alberto Antonio de Faria, 2022. Preliminary testwork, Final Report Rev 01, Lithium Ionic/MGLIT, Lithium Project, December 22, 2022.

Viana, R.R., Manttari, I., Kunst, H., and Jordt-Evangelista, H., (2003): Age of Pegmatites from Eastern Brazil and Implication of Mica Intergrowths on Cooling Rates and Age Calculation, *Journal of South American Earth Sciences*, Vol. 16, pp.493-501.

## 28 DATE AND SIGNATURE PAGE

This report titled “Mineral Resource Estimate for Lithium Ionic, Itinga Project, near Araçuaí Village, Minas Gerais State, Brazil” dated August 10, 2023 (the “Technical Report”) for Lithium Ionic Corp. was prepared and signed by the following authors:

The effective date of the report June 24, 2023  
The date of the report is August 10, 2023.

Signed by:

Qualified Person  
Maxime Dupéré, B.Sc., géo.  
Faisal Sayeed, B.Sc,

Company  
SGS Canada Inc. (“SGS”)  
SGS Canada Inc. (“SGS”)

August 10, 2023

## **29 CERTIFICATES OF QUALIFIED PERSONS**

## QP CERTIFICATE – MAXIME DUPÉRÉ

To accompany the report entitled: “Mineral Resource Estimate for Lithium Ionic, Itinga Project, near Araçuaí Village, Minas Gerais State, Brazil”, dated August 10, 2023 and with an effective date of June 24, 2023.

I, Maxime Dupéré, P. Geo., of Blainville, Quebec, Canada do hereby certify that:

1. I am a geologist with SGS Canada Inc, SGS Geological Services, with an office at 10 Boul. de la Seigneurie Est, Suite 203, Blainville Quebec Canada, J7C 3V5.
2. I am a graduate from the Université de Montréal, Québec in 1999 with a B.Sc. in geology. I am a member in good standing of the Ordre des Géologues du Québec (#501, 2006). I am a member in good standing of the Association of Professional Engineers and Geoscientists of Manitoba and use the title of Professional Geologist (P.Geo.) (Certificate No. 43252; 2018). I have practiced my profession continuously since 2001. I have 21 years of experience in mining exploration in diamonds, gold, silver, base metals, and iron ore. I have prepared and made several mineral resource estimations for different exploration projects including lithium at different stages of exploration. I am aware of the different methods of estimation and the geostatistics applied to metallic, non-metallic and industrial mineral projects.
3. I visited the property site from March 28 to April 1, 2023.
4. I am an author of this report and responsible for the Items 11, 12, 14, 23 and co-responsible for Items 1, 3, 24, 25, 26, and 27 of the Technical Report.
5. I am independent of Lithium Ionic Corp. as defined in Section 1.5 of National Instrument 43-101.
6. I have had no prior involvement with the subject property.
7. I have read the definition of “qualified person” set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be an independent qualified person for the purposes of NI 43-101.
8. As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
9. I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.

Signed and dated this 10<sup>th</sup> day of August 2023 at Blainville, Québec.

*"Original Signed and Sealed"*

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*Maxime Dupéré, géo., SGS Canada Inc.*

## QP CERTIFICATE – FAISAL SAYEED, P.Geol.

To accompany the technical report titled “Mineral Resource Estimate for Lithium Ionic, Itinga Project, near Araçuaí Village, Minas Gerais State, Brazil” dated August 10, 2023 with an effective date of June 24, 2023.

I, Faisal Sayeed of 2136, Argyle Street, Regina, Saskatchewan, hereby certify that:

1. I am a Senior Geologist with SGS Canada Inc., 10 de la Seigneurie E blvd., Unit 203 Blainville, QC, Canada, J7C 3V5.
2. I am a graduate of University of Saskatchewan, Saskatoon, Canada having obtained the degree of Bachelor of Science - Geology in 2003.
3. I have been involved in mine geology, mineral exploration, including in producing mines, since 2004. I have participated in mineral resource estimation since 2010 in Canada and internationally.
4. I am a member of the Association of Professional Engineers, Geologists Saskatchewan (APEGS with License No. 50369) and with the Association of Professional Engineers and Geologists of Northwest Territories and Nunavut (NAPEG, License No. L4865) and use the title of Professional Geoscientist (P.Geol.).
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects – (“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 fulfill the requirements to be a "Qualified Person" for the purposes of NI 43 101.
6. I am co-author of the Technical Report and responsible for Items 2, 4 to 10, 13, 20 and co-responsible for Items 1, 3, 24, 25, 26, and 27 of the Technical Report. I have reviewed these Items and accept professional responsibility the Items indicated above of the Technical Report.
7. I did not do a site visit of the property.
8. I have had no prior involvement with the subject property or with the issuer of this report (Lithium Ionic).
9. I am independent of the Company as described in Section 1.5 of NI 43-101.
10. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
11. I have read NI 43-101 and Form 43-101F1 (the “Form”), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.

Signed and dated this 10<sup>th</sup> day of August 2023 at Regina, Saskatchewan

*"Original Signed and Sealed"*

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*Faisal Sayeed, P. Geol., SGS Canada Inc.*