Loyal Lithium

ASX LLI

ASX Announcement | 19 August 2024

Industry First: Pioneering Geophysical Survey Reveals Extensive Lithium Trends at the Trieste Lithium Project, James Bay, Quebec

Highlights

- **Loyal Lithium is excited to announce the successful completion of its innovative high-resolution geophysical survey over a 77km² area of the Trieste Lithium Project in James Bay, Quebec - marking an industry milestone in hard rock lithium exploration.**
- **This groundbreaking survey utilised natural electromagnetic fields to discern between highly resistive rock types, such as pegmatites and metamorphic rocks, a capability not achievable with previous technologies.**
- **From the initial geophysical analysis, five distinct resistivity trends have been delineated. These trends correspond with all known spodumene-bearing pegmatite outcrops and suggest an extensive 22 km stretch of high lithium prospectivity.**
- **These highly prospective resistivity trends, which align with lineaments that connect known spodumene-bearing outcrops, will be investigated in the 2024 field program with extensive field mapping and till sampling, building off the successful 2023 field program.**
- **The geophysical survey has also redefined the Trieste Greenstone Belt, with the southern contact of the belt now proximal and aligning parallel with the known spodumene bearing outcrop of Dyke #02 - further enhancing the discovery potential within the greenstone.**
- **Loyal Lithium will continue to analyse and interpret the geophysical data along with the 41 completed drillholes, to validate a 3D resistivity inversion model and generate systematic future drilling programs to unlock the full potential of the Trieste Lithium Project.**
- **With $6.3M in funding and extensive lithium prospects revealed, Loyal Lithium is well positioned to strategically advance the Trieste Greenstone Belt into a premier lithium hub.**

Loyal Lithium Limited (ASX:LLI) (**Loyal Lithium**, **LLI**, or the **Company**) is excited to announce the completion of a groundbreaking high-resolution geophysical survey over a 77km² area of the Trieste Lithium Project in James Bay, Quebec. Conducted by Expert Geophysics Limited, this survey covered 2,231 km of flight lines and is a first in the industry for hard rock lithium exploration within metasediments. Utilising advanced sensors that harness natural electromagnetic fields, the survey successfully distinguished between highly resistive rock types such as pegmatites and metamorphic rocks, marking a significant leap in exploration technology.

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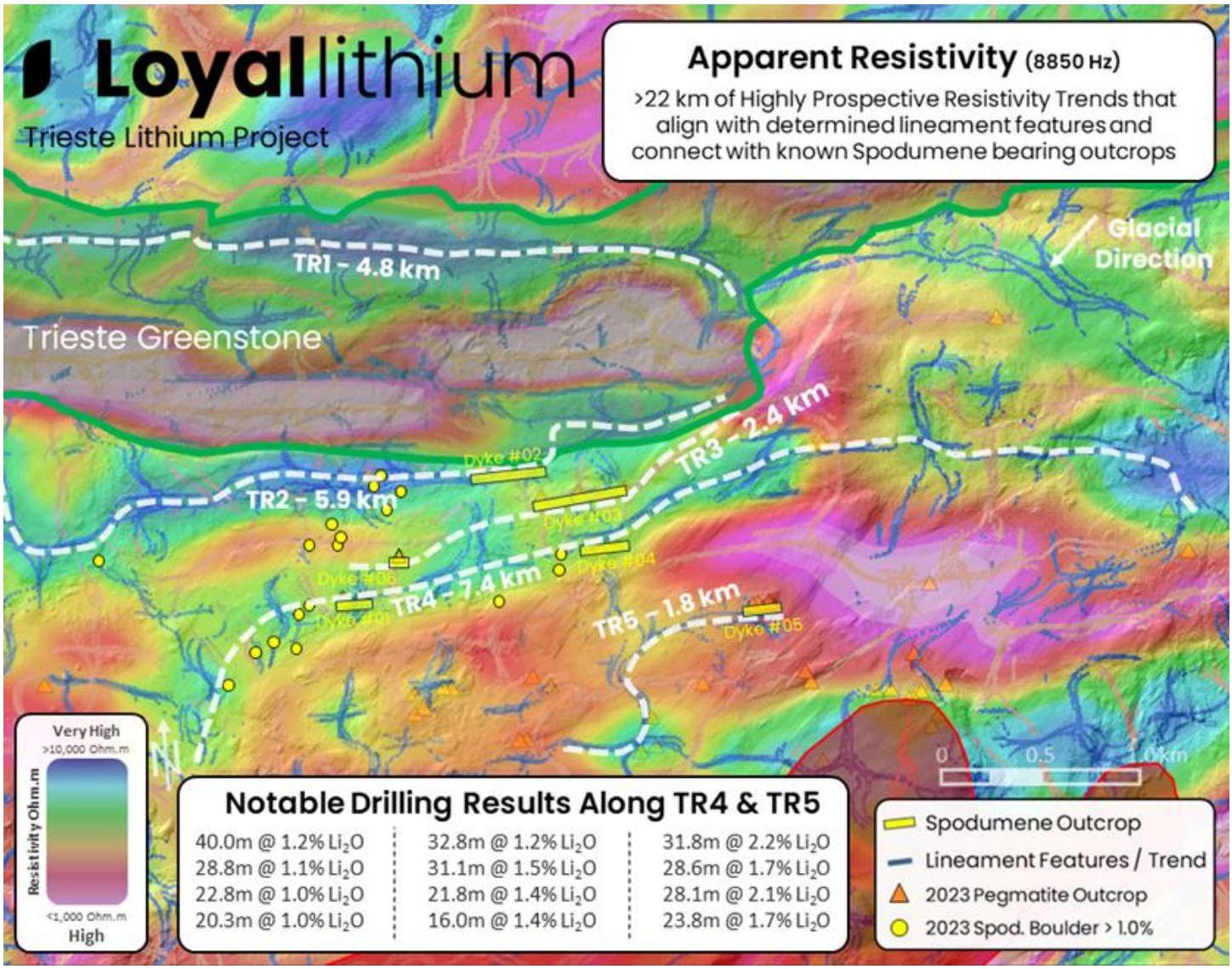

Figure 1: Trieste Lithium Project: Apparent Resistivity survey (8550 Hz) with redefined greenstone belt depicting five prominent east-west lithium trends and associated lineament features.

The initial geophysical analysis has identified five distinct resistivity trends that align with known spodumene-bearing pegmatites, spanning over 22 km. These trends are consistent with the dominant east-west geologic fabric previously interpreted within the metasediment and greenstone domains, enhancing the precision of drill target orientations. The results not only confirm the prospective nature of these trends but also redefine the Trieste Greenstone Belt's southern contact, which now sits closer and parallel to the known spodumene-bearing outcrop of Dyke #02, amplifying the project's exploration potential.

Loyal Lithium's Managing Director, Mr. Adam Ritchie, commented:

> *"The advanced high-resolution geophysical survey is a potential game-changer for Loyal Lithium and the wider hard rock lithium industry. The ability to distinguish between two highly resistive rock types at depth was previously unachievable. The results clearly correlate with the six known spodumene-bearing outcrops and expose new highly anomalous trends within the greenstone."*
>
> *"The 2023 field program was impacted by regional bushfires, so we are excited to commence detailed fieldwork guided by these initial geophysics results. The team will also continue to advance our geological model with the validation of the geophysics at depth. The 41 completed drill holes will be invaluable in this process."*

The geophysical survey incorporated a suite of innovative sensors alongside the resistivity-focused MobileMTm System. The apparent resistivity and axes of resistive trends (lineament features), derived from a lineament analysis of high-frequency electromagnetic data using adaptive energy filtering, are illustrated in Figure 1. These are just two initial outputs from the processing and analysis conducted by Expert Geophysics. The initial results indicate that the six known spodumene-bearing dykes, discovered in August 2023, have the potential for significant increases in strike length along exposed east-west resistivity trend lines. Additionally, resistive features have identified highly prospective new trends within the greenstone, providing a deeper understanding of the geological setting.

TR1 Resistivity Trend: 4.8 km

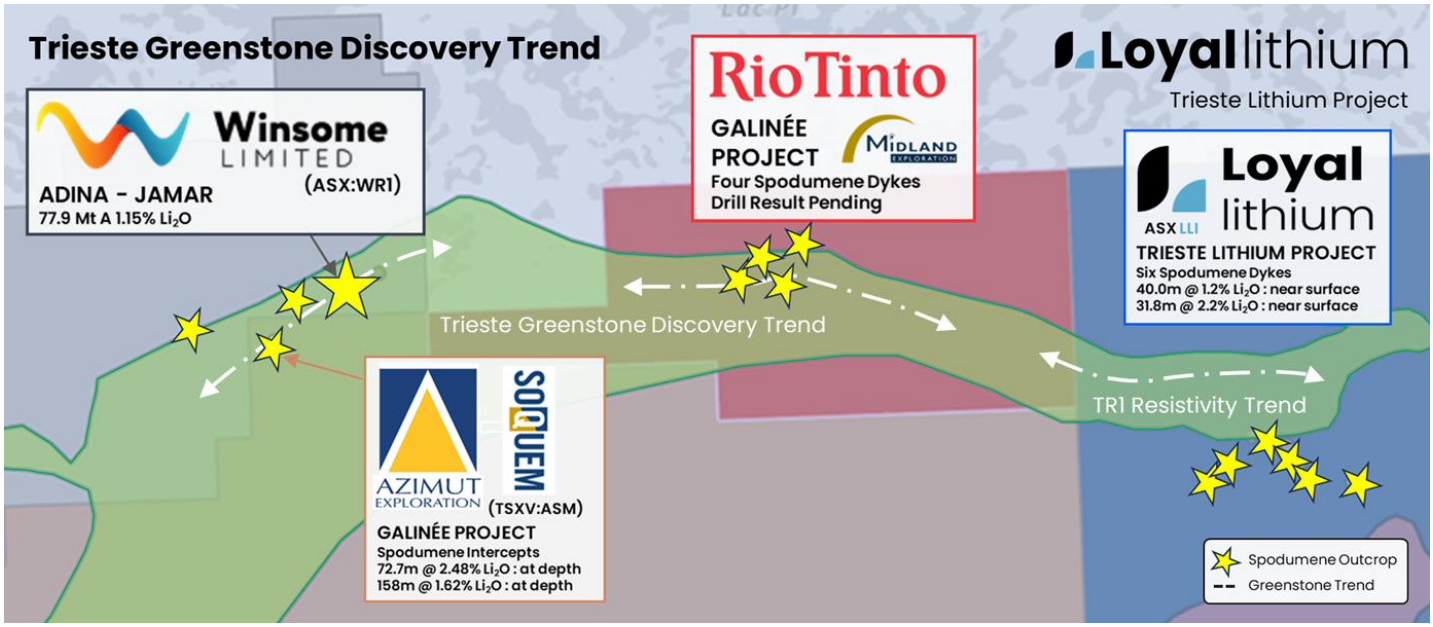

Figure 2: Trieste Greenstone Discovery Trend: Spodumene discoveries across the Trieste Greenstone in relation to Loyal lithium's TR1 Resistivity Trend at the Trieste Lithium Project.

The TR1 resistivity trend is firmly within the Trieste Greenstone Belt, less than 5 km east, along trend, from Rio Tinto/Midland Exploration's (TSXV:MD) Galinée Project, where four spodumene-bearing outcrops were discovered in 20235. Drilling activities at the Galinée Project have been ongoing since March 2024, with results yet to be released to the market. The metavolcanic rocks of the Trieste Greenstone that contain the TR1 Resistivity Trend also host Winsome Resources' (ASX:WR1) Adina spodumene pegmatite resource of 78Mt at 1.15% Li_2O just 10kms west of Loyal Lithium's Trieste Lithium Project[3].

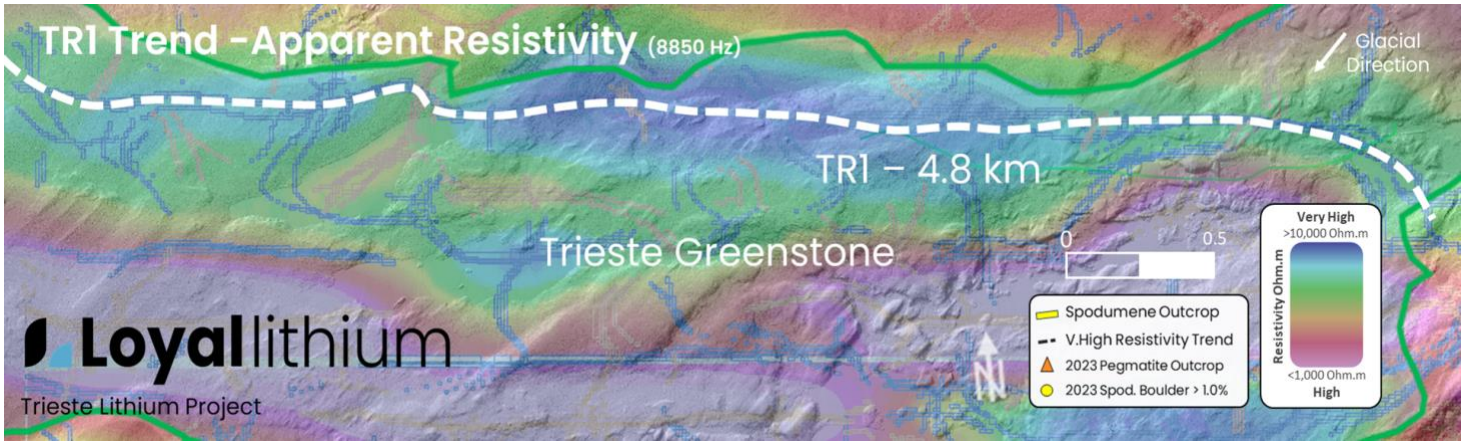

Figure 3: Trieste Lithium Project: TR1 Resistivity Trend - Apparent Resistivity survey (8550 Hz).

Dense vegetation covers the majority of TR1, and therefore no pegmatite outcrops have been noted in satellite imagery. A systematic glacial till sampling program is targeted over this area, as part of the 2024 comprehensive field work program, to further understand the prospectivity of this trend. Exploration efforts within the greenstone belt were minimal during the 2023 summer field program due to the regional bushfires and numerous discoveries found to the south in the metasediments.

TR2 Resistivity Trend: 5.9 km

Dyke #02 was discovered during the 2023 field campaign and contains notable spodumene enrichment, with many large visual spodumene mega-crystals documented at surface, confirmed in rock chip assay results of up to 1.43% Li_2O [2, 4].

A combination of geophysical results were used to redefine the extents of the Trieste greenstone belt in the north and the Tilly intrusive to the south. The southern greenstone contact now aligns closer to the known spodumene-bearing outcrops of Dyke #02, further enhancing the discovery potential within the greenstone. Dyke #02 appears to connect to a large, highly prospective east-west resistive lineament feature extending parallel and proximal to the greenstone-metasediment contact, an area interpreted with a high competency contrast, having the potential to host larger continuous zones of pegmatite.

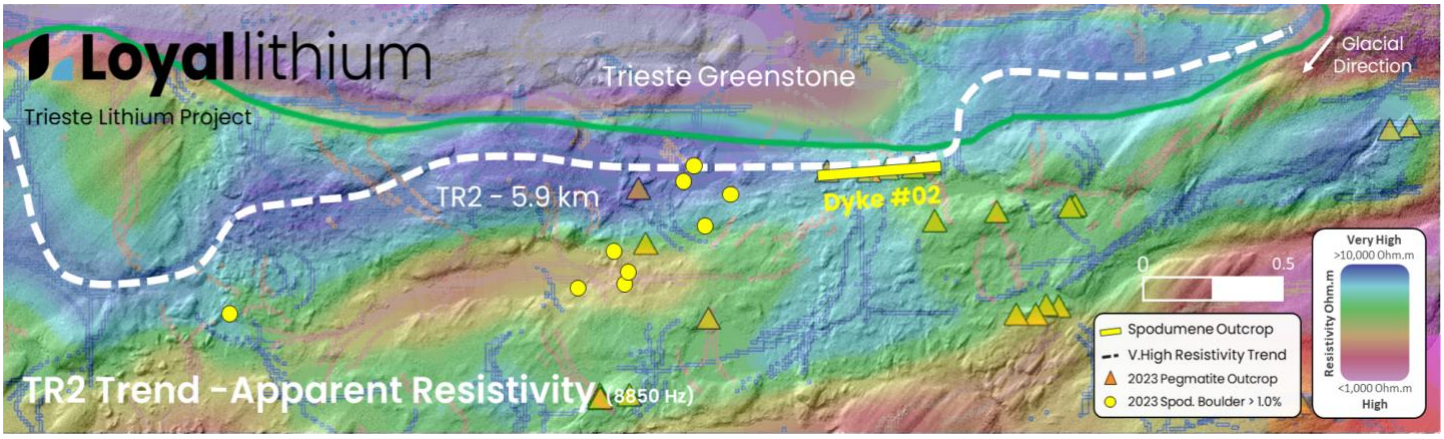

Figure 4: Trieste Lithium Project: TR2 Resistivity Trend - Apparent Resistivity survey (8550 Hz) with associated lineament features against known Spodumene outcrop (Dyke #02) and boulders >1% Li_2O discovered in 2023.

In 2023, a spodumene pegmatite boulder was discovered approximately 1.5 km to the southwest of Dyke #02. The boulder appears to be down glacial ice transport of TR2 and in line with a strong anomalous resistivity high. Additionally, about 500m west of Dyke #02, pegmatitic outcrops with fertile geochemistry were discovered. Although no spodumene was observed, numerous spodumene boulders were discovered on trend and down ice (glacial transport direction) of these outcrops near TR2.

TR3 Resistivity Trend: 2.4 km

The 2023 field mapping discovered both Dyke #03 and Dyke #06 now known to lie within TR3.

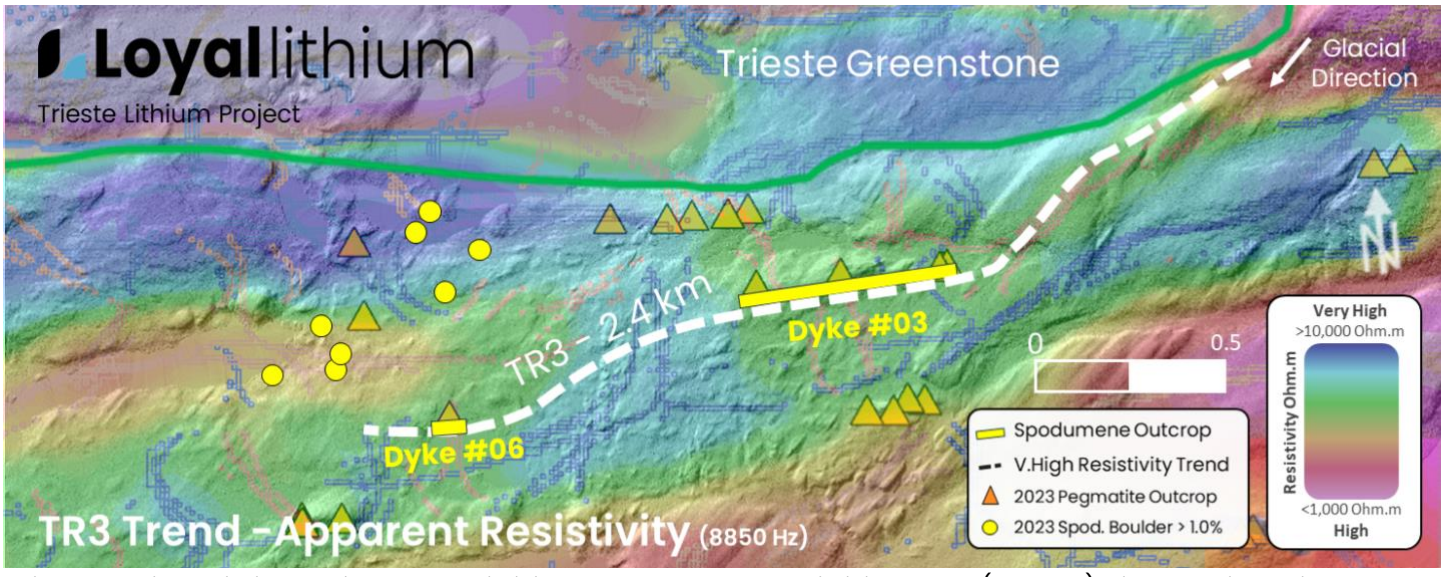

Figure 5: Trieste Lithium Project: TR3 Resistivity Trend - Apparent Resistivity survey (8550 Hz) with associated lineament features against known Spodumene outcrops (Dyke #03 & #06) and boulders >1% Li_2O discovered in 2023.

Dyke #03 is interpreted to be partially concealed under vegetation, with exposed outcrop containing notable spodumene enrichment confirmed by rock chip assays up to 7.44% Li_2O [4].

Dyke #06 was found concealed under heavy vegetation, and the outcrop was exposed to confirm the discovery. Rock chip assays have recorded up to 1.47% Li_2O [4], however further fieldwork is required to understand the full extent as it is approximately 400m to the northeast of Dyke #01 and 800m to the southwest of Dyke #03.

TR4 Resistivity Trend: 7.4 km

The 2023 field mapping discovered both Dyke #01 and Dyke #04, now known to lie within TR4.

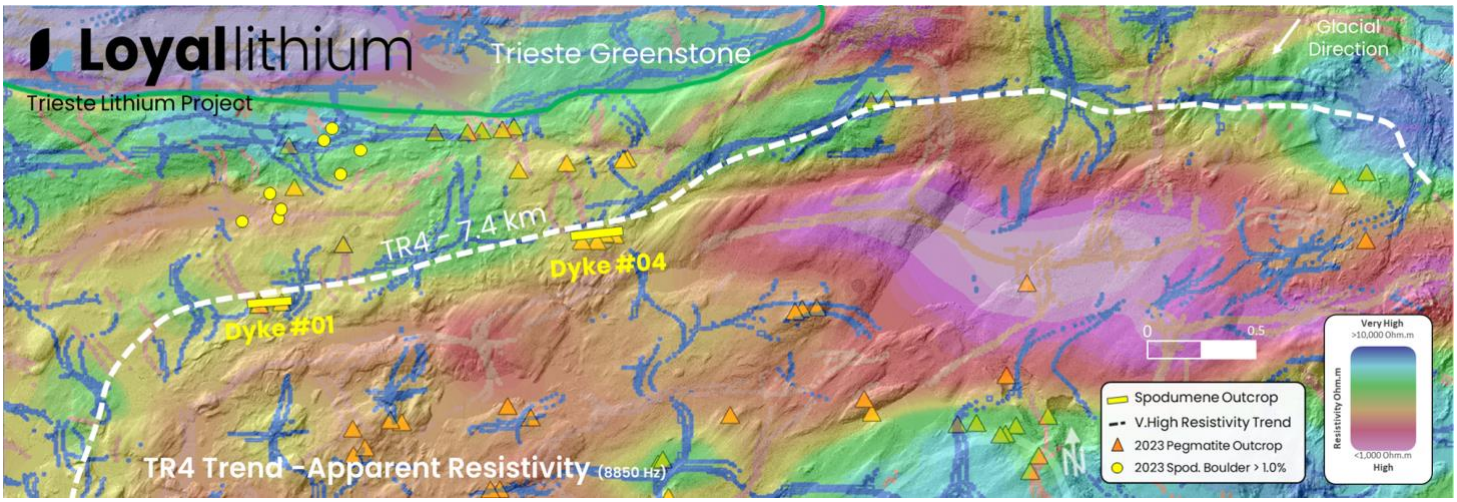

Figure 6: Trieste Lithium Project: TR4 Resistivity Trend - Apparent Resistivity survey (8550 Hz) with associated lineament features against known Spodumene outcrops (Dyke #01 & #04) and boulders >1% Li_2O discovered in 2023.

Dyke #01 contains notable spodumene enrichment with many large visual spodumene crystals documented at the surface [2, 4]. Drilling was conducted in late 2023 and remains open to the east and west in drill holes along TR4.

Dyke #04 contains spectacular spodumene mineral enrichment at surface with many large spodumene mega crystals documented (up to 2.8m in length) [2, 4]. Drilling was conducted in early 2024 with notable intercepts reported [2, 4]. The dyke remains open to the east and west in drill holes and outcrop along TR4.

TR5 Resistivity Trend: 1.8 km

The 2023 field mapping discovered Dyke #05, a prominent spodumene-bearing outcrop now known to lie within TR5.

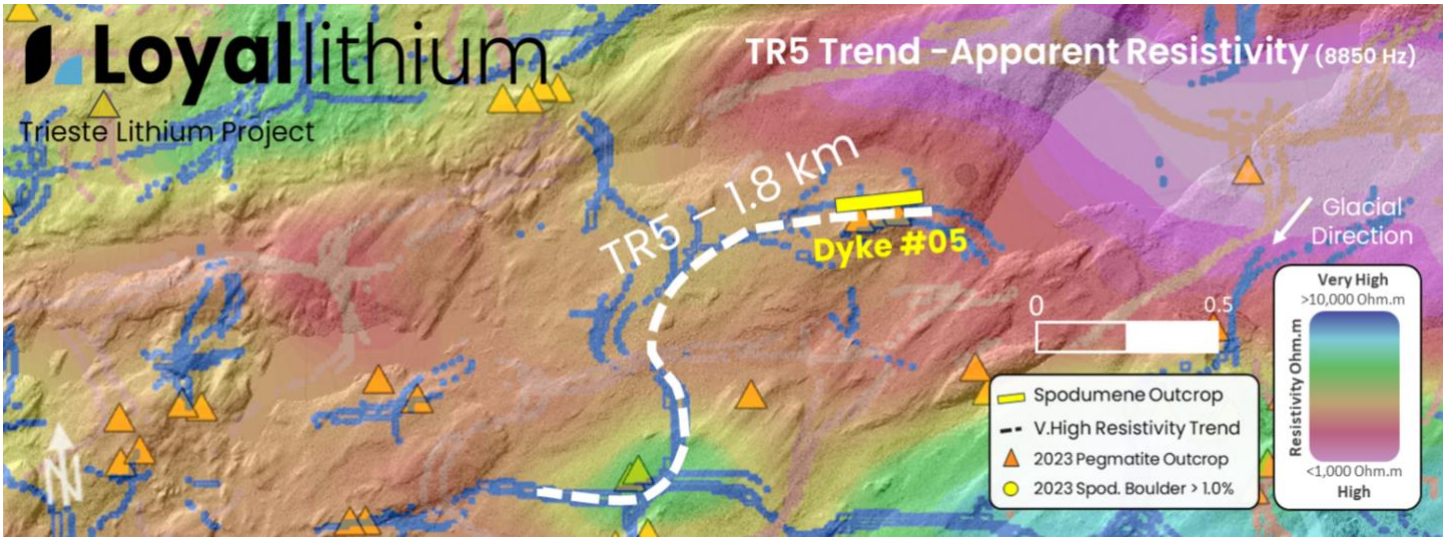

Figure 7: Trieste Lithium Project: TR5 Resistivity Trend - Apparent Resistivity survey (8550 Hz) with associated lineament features against known Spodumene outcrops (Dyke #05) and boulders >1% Li_2O discovered in 2023.

Dyke #05 contains spectacular spodumene enrichment at surface, with many large spodumene mega crystals documented (more than 1.0m in length) [2, 4]. Drilling was conducted in early 2024 and remains open to the west along TR5 [2].

The 2024 Summer Field Program & 3D Inversion modelling

The 2024 summer field program will include a team of 10 geologists for 4 weeks. During this time, the team plans to further investigate and extend known spodumene-bearing dykes, conduct targeted prospecting within geophysical anomalous areas, and undertake a widespread glacial till sampling program across spodumene rich metasediment fault flow zone and the highly prospective Trieste greenstone belt.

Pegmatitic and metamorphic rocks are resistive in nature, with resistivity values greater than 1,000 ohm-metres. Pegmatites are highly resistive rock types, with values exceeding 10,000 ohm-metres. Existing geophysical EM technologies, such as Time Domain and Frequency Domain, are unable to discriminate between these commonly adjacent rock types. However, the deployed MobileMTm technology is not only capable of deeply probing pegmatitic rock types that could contain spodumene, but it is also able to effectively discriminate against the unique metasediment host rock at the Trieste Lithium Project. Additionally, the MobileMTm technology has identified lineament features that could relate to structural features hosting the spodumene pegmatite dykes. This greatly assists in discovering connections between known pegmatite dykes and pinpointing potential 3D drilling targets both near the surface and at depths of up to 600+ meters.

Loyal Lithium will continue to analyse and interpret the survey data, using the completed 41 drillholes to validate a 3D inversion model and generate systematic future drilling programs to unlock the full potential of the Trieste Lithium Project.

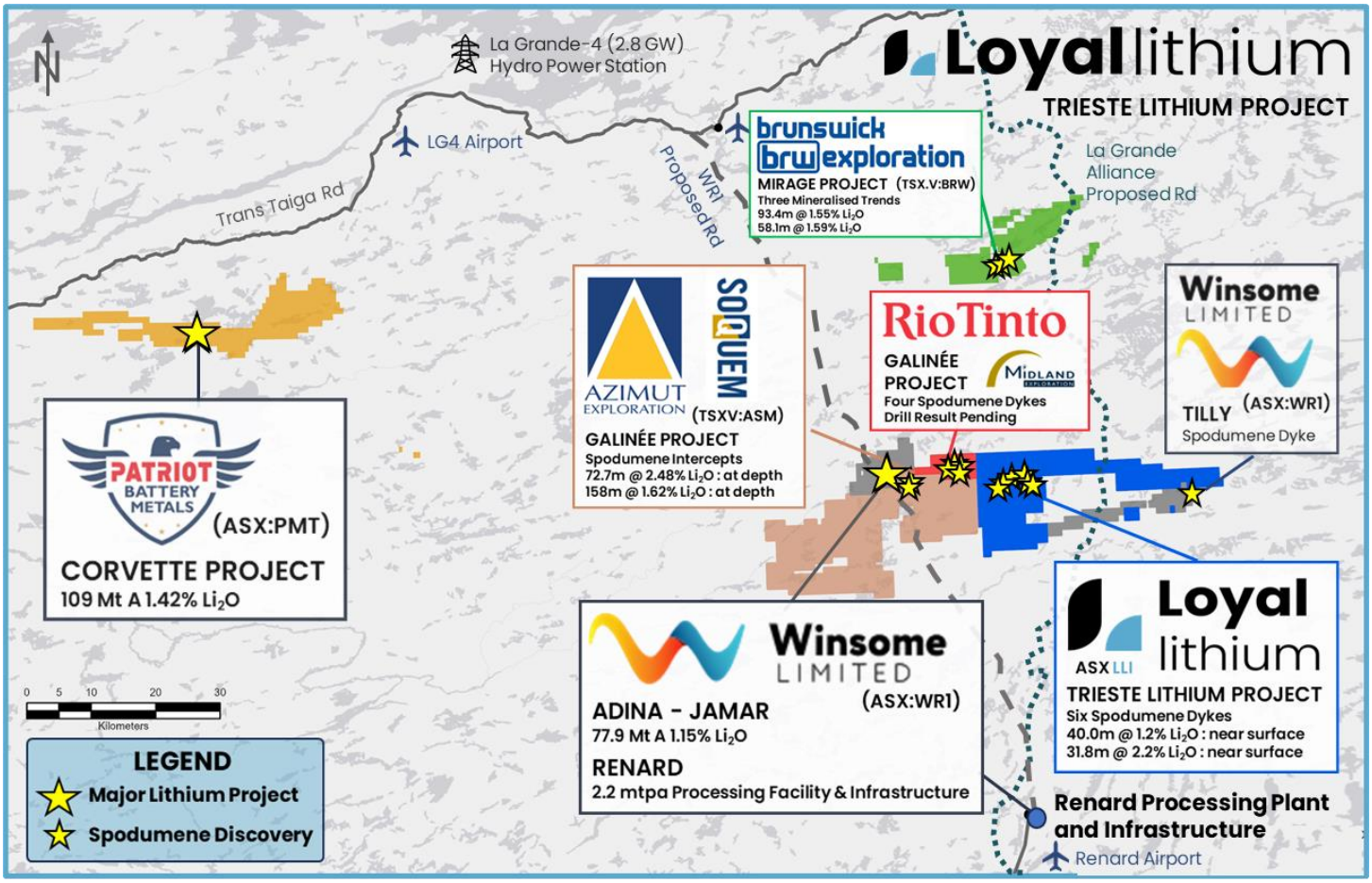

Figure 8: Location of the Trieste Lithium Project, and other nearby projects, located In Quebec, Canada.

With $6.3M in funding, Loyal Lithium is strategically positioned to collaboratively advance the Trieste Greenstone Belt into a premier lithium hub, setting a new standard in the industry and paving the way for future exploration endeavours.

Corporate Costs

Due to current market conditions, the Company is mindful of ensuring that the approximately $6.3M in funding as of June 30, 2024, is spent prudently and frugally. As such, the Company has made various cuts and reductions to its corporate expenses across the business.

Considering the above, the Company's Executive Chairman, Peretz Schapiro, will transition to the role of Non-Executive Chairman, with Chairman fees reduced to $60,000 per annum.

Loyal Lithium

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This announcement has been authorised for release by Loyal Lithium's Board of Directors

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About Loyal Lithium

Loyal Lithium Limited (ASX: LLI) is a well-structured listed resource exploration company with projects in Tier 1 North American mining jurisdictions in the Northwest Territories, Canada, James Bay Lithium District in Quebec, Canada and Nevada, USA. Through the systematic exploration of its projects, the Company aims to delineate JORC compliant resources, creating value for its shareholders.

Future Performance

This announcement may contain certain forward-looking statements and opinion Forward-looking statements, including projections, forecasts and estimates, are provided as a general guide only and should not be relied on as an indication or guarantee of future performance and involve known and unknown risks, uncertainties, assumptions, contingencies and other important factors, many of which are outside the control of the Company and which are subject to change without notice and could cause the actual results, performance or achievements of the Company to be materially different from the future results, performance or achievements expressed or implied by such statements. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Nothing contained in this announcement, nor any information made available to you is, or and shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Loyal Lithium Limited.

Competent Person's Statement

The information in this announcement that relates to Geophysical Survey Exploration Results, is based, and fairly reflects, information reviewed by Mr Darren Allingham, who is the Company's geologist. Mr Allingham is a Fellow of the Australian Institute of Geoscientists. Mr Allingham has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity he is undertaking to qualify as a Competent Person (CP) as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results and Mineral Resources (JORC Code). Mr Allingham consents to the inclusion in the announcement of the matters based on the information in the form and context in which it appears.

The Company confirms that it is not aware of any other new information or data that materially affects the information included in the original market announcements referred to above regarding both rock chip outcrop and boulder samples and diamond core drilling results. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

References

[1] ASX Announcement LLI: 18 April 2024: Innovative Geophysical Survey to Reveal the Potential Scale of the Trieste Lithium Project, James Bay, Quebec, Canada
[2] ASX Announcement LLI: 30 April 2024: Quarterly Activities Report – For the Quarter Ending 31 March 2024.
[3] ASX Announcement WR1: 28 May 2024: Adina Mineral Resource increases 33% to 78Mt at 1.15% Li_2O with 79% Indicated.
[4] ASX Announcement LLI: 4 December 2023: New Discovery of 6th Spodumene Bearing Pegmatite Dyke at the Trieste Lithium Project, James Bay, Quebec, Canada
[5] Midland Confirms High-Grade Lithium Up to 3.6% Li_2O on Additional Spodumene-Bearing Pegmatites on Galinée Project. https://midlandexploration.com/en/2024/01/16/midland-confirms-high-grade-lithium-up-to-3-6-li2o-on-additional-spodumene-bearing-pegmatites-on-galinee-project/

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Expert Geophysics Limited (EGL) conducted a helicopter-borne MobileMTm electromagnetic and magnetic survey at the Trieste Lithium Project located in the Eeyou Istchee Baie-James, Québec area for Loyal Lithium. Electromagnetic (EM) and horizontal magnetic gradient geophysical data were acquired using EGL's airborne MobileMTm. The primary geophysical survey instrument deployed onto the project was EGL's MobileMTm (Mobile MagnetoTellurics) System, with two Geometrics G822A Cesium Magnetometers. • The purpose of the survey was mapping bedrock structure and lithology, including possible alteration and mineralization zones, observing apparent conductivity corresponding to different frequencies, inverting EM data to obtain the distribution of resistivity with depth, and using VLF EM and magnetic data to study properties of the bedrock units. A total of 11 production flights were flown to complete 2231 line-kilometers of the survey over a 77 sq.km area. • The objective of the survey was to image the subsurface resistivity to a depth of approximately 1 km. • Complementary VLF data, which provided near surface EM information, was provided. • The survey area comprised approximately 77km^2. • Final data processing, colour imaging and mapping was performed at EGL's offices in Toronto, Canada. The final products, with interim draft products delivered, were ready within 8 weeks after the completion of the survey. • The nominal flight altitude of the helicopter was 80 - 90 m above the terrain. The nominal terrain clearance of the MobileMTm bird was 30 - 40 m. The terrain clearance varied in the areas with rough topography. • The survey was flown at an air speed of 80 - 100 km/hour. The airspeed varied in the rugged terrain. • Navigation was accomplished by GPS with an absolute positional accuracy of 2.5 metres or better. • Electromagnetic data was digitized and recorded at 73,728 Hz and processed / delivered at 2 Hz, resulting in electromagnetic data sampled at approximately every 11 meters along each flight line, dependent on wind conditions. • Airborne magnetic and GPS navigation data was recorded at 10 Hz, resulting in measurements at approximately every 2.2 meters along each flight line, dependent on wind conditions. • Airborne magnetics were collected simultaneously with the airborne electromagnetic data. • EGL provided the services of a Systems Engineer to install and test the survey system in the helicopter at the start of the survey.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of*	• No drilling reported in this announcement.

	diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• No drilling reported in this announcement.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• No drilling reported in this announcement.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in*	• No drilling reported in this announcement.

	situ material collected, including for instance results for field duplicate/second-half sampling. • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Daily quality control of acquired airborne data was undertaken in the field by EGL's technologist and was transmitted daily via the internet and an ftp-site to EGL's data processing facility in Canada. Quality control information was then confirmed by EGL and relayed back to the field crew on a regular basis. Daily reports were sent daily to Loyal within 24 hours of data acquisition. EGL did quality control of the data, as well as preliminary data processing, in the field, producing selected preliminary maps on completion of the flying operations. • Geophysical procedures are considered Standard Industry Practice.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Geophysical data is stored on a secure server by EGL
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	UTM Z 18N and the WGS84 spheroid.

Table 2 – Coordinates of the Trieste Lithium block boundary (WGS 84,UTM Zone 18N)

Block Boundary			
X	Y	X	Y
680922	5911041	691572	5909009
691034	5911397	691766	5903859
691034	5911397	686209	5904122
691153	5909022	682584	5903966
691572	5909009	681322	5901709

Table 3 – Flight lines specifications for Trieste Lithium

Line spacing, m	Lines direction	Line numbers	# of lines	Line kms
25m and 50m (traverse)	0°	1000-11500	297	1991
250m and 500m (tie)	90°	80000-80900	30	240
		Total	327	2231

Data spacing and distribution

- *Data spacing for reporting of Exploration Results.*
- *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*
- *Whether sample compositing has been applied.*

- The amount of survey flying was 2,231 line-kms, acquired along 25m spaced survey lines and 250m spaced tie-lines over a high priority area, and along 50m spaced survey lines and 500m spaced tie-lines over the remainder of the survey area.
-

Table 1 – Summary Project Information

Client:	**Loyal Lithium**
Client contact:	Darren Allingham email: dallingham@loyallithium.com
EGL Job Number	#23007
Survey area location:	Eeyou Istchee Baie-James, Québec
Crew and aircraft location:	Mirage Adventure Camp, km 358 Route Transtaiga, QC
Mag Base station location:	WGS 84 UTM Zone 18N 641157m E; 5962792m N
EM Ref station location:	WGS 84 UTM Zone 18N 685751m E; 5907449m N
Block:	Trieste Lithium
Total line kms:	2231 line-km
Total Survey Area:	77 sq.km
Traverse line direction/spacing:	0°; 25m and 50m
Tie lines direction/spacing:	90°; 250m and 500m
Dates flown:	May 22, 2024 - May 29, 2024
Helicopter:	AS350 D2, C-FJXX, HELI-BOREAL
Average survey speed:	26.5 m/sec
Average Helicopter terr. clearance:	91 m
Average magnetometer clearance:	43 m
Average EM sensor clearance:	43 m
Coordinates Datum:	WGS 84
Coordinates Projection:	UTM Zone 18N, Central Meridian 75° W (Zone 18N)
MobileMTm extracted frequencies Hz:	71, 84, 106, 133, 165, 214, 263, 341, 425, 534, 4272, 5382, 6783, 8550, 10773, 13572
VLF extracted frequencies, kHz:	19.60, 20.90, 22.10, 23.40, 24.00, 25.20

Orientation of data in relation to geological structure

- *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*
- *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have*

- Flight lines were angled approximately perpendicular to the prevalent strike of amphibolite and metasediment geological contacts and the approximate interpreted known spodumene rich pegmatite east-west strike directions.

	introduced a sampling bias, this should be assessed and reported if material.	
Sample security	• *The measures taken to ensure sample security.*	• Geophysical data was transferred and backed up onto a secure cloud source.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external audits or reviews of geophysical sampling techniques or data have been completed. Registered Geophysicists and Qualified Persons for the purposes of NI43-101 completed the geophysical survey. Interpretations of geophysical and geological datasets were completed in house by the Loyal Lithium General Manager (geologist) and verified by the CP Company Geologist in Canada. The MobileMTm data were categorised into ranges and presented as plan images in this announcement, with cool (blue-green) colours representing areas of low resistivity and hot (red-purple) colours representing areas of high resistivity. Resistivity lows were interpreted as both lithologies and alteration of lithologies that are to be ground-truthed in 2024 field mapping. Linear trends of low resistivity and "axes of resistive trends" resulting from a lineament analysis of high-frequencies EM data executed with adaptive energy filtering were found to coincide with known pegmatites mapped and sampled in the field survey of 2023, with three dykes drilled in 2023 and 2024.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Prospectus on 5th June 2023 describes all LLI mineral tenure: https://announcements.asx.com.au/asxpdf/20230605/pdf/05qc58xt74d9nm.pdf. • The Trieste Lithium Project is in the James Bay Region, Quebec, Canada and is centered on 53°18'00"N, 72°02'00"W, within NTS sheets 33H08, 33H01, 23E05 and 23E04. • The Project comprises 466 mining claims with Trieste 238 claims for 12,269ha (LLI 100%) and the Osisko/Trieste JV - 228 claims (LLI 75%, Osisko 25%) - 11,765ha totaling 24,034 ha and is divided into three (3) continuous claim blocks extending over 38 km east-west direction width and 15.7km north-south. The Trieste Lithium Project was originally acquired by Loyal Lithium Ltd (previously Monger Gold) in October 2022 through both online map staking and agreements: ○ 228 claims in the west from the mid north to the south, 75% owned by Loyal Lithium (fully owned subsidiary Trieste Lithium Ltd) and 25% with Osisko Development Corporation. ○ 12 claims were acquired from Noranda Royalties ○ 238 claims were acquired through online map staking and an NSR agreement for 12 claims in October 2022. • The claims are currently registered under Trieste Lithium Ltd, a 100% subsidiary of Loyal Lithium Ltd. • All 466 claims that comprise the Project are in good standing as of the Effective Date of this announcement. A consultant Quebec Claims Manager is employed by Loyal Lithium to ensure regulatory compliance.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The first known acquisition of mineral claims within the area of the current Trieste Lithium Project was in 1998 with a joint venture between Virginia Gold Mines and Cambior called the Caniapiscau Property. The Caniapiscau Property consisted of three different areas; the Bloc Est and Bloc Ouest areas fall within the current Project boundary and the Noella area is north of the current Project. Numerous field programs were executed from 1998 to 2001 including prospecting, mapping, geophysical surveys and channel sampling targeting precious metals (GM 57170, GM 58442, GM 59201). No drilling on the Project area was recorded during that time. • Virginia Mines Inc. increased their land holding in the area in 2007 and signed a joint venture agreement with Breakwater Resources on the Trieste Property, which encompassed the historical Caniapiscau Property and makes up the western portion of the current Trieste Lithium Project. An intensive prospecting and mapping program was executed in the summer of 2007 resulting in the discovery of several Au mineralized outcrops and boulders. A total of 326

		outcrops were described from which 94 outcrop samples and 95 boulder samples were collected from within the current Trieste Lithium Project boundary (GM63378). • In 2009, Virginia Mines followed up anomalous values the 2007 exploration work with prospecting and till sampling that resulted in the collection of 235 rock samples and 155 till samples from the Trieste Property (GM65024). In 2011, additional prospecting and mapping took place on the Trieste Property with 169 outcrops and 114 boulders described and 203 rock samples collected (GM 66254). Another significant ground exploration program was completed in 2012, with 155 outcrops and 52 boulders described with 104 rock samples collected. An additional 25 trenches were excavated using a Heli-portable excavator to test various geophysical and geochemical anomalies (GM67952). All samples collected from 2009 to 2012 fall within the current Trieste Project area. • Numerous geophysical surveys were completed by Virginia Mines from 2008 to 2012 including a 2009 IP survey (40 line-km) (GM64304), 2009 EMH Survey (49.5 line-km) (GM64304), 2011 Heliborne HD magnetic survey (3,320 line-km) (GM65712), and a 2012 IP survey and line cutting (108.25 line-km) (GM66977). • In 2015, Virginia Mines changed its name to Exploration Osisko Baie James Inc. and continued to advance the historical Trieste Property with minimal prospecting work (5 outcrop and 3 boulder samples) and a ninety-one (91) sample till survey. Additionally, 10 NQ diamond drillholes totaling 1,559 m were completed on the southern portion of historical Trieste Property. The drillholes were designed to test Au-As anomalies in till and corresponding IP anomalies and resulted in 231 samples sent for analysis (GM 69682). All 2015 drillholes fall within the current Trieste Lithium Project boundary. • In 2017, Abitibi Geophysics on behalf of Osisko Mining Inc. (formerly Osisko Baie James), executed an 11.25 km OreVisionTM survey along 200 m spaced lines which resulted in several anomalies (GM70438). Osisko Mining followed up the geophysical survey with three (3) NQ diamond drillholes, totaling 636 m, to test out the identified anomalies (GM70437). A total of 226 drill core samples were sent for analysis. • In 2018 the Government of Quebec continued with regional mapping in the Lac Dalmas region (33H08, 33H09, 23E05 and 23E12) at scale of 1:85,000 (RG-2018-02). This area convers the northern portion of the Property. Another mapping project, covering the southern portion of the claims, was completed in the Lac Joubert area (33H08, 33H09, 23E05 and 23E12) at a scale of 1:130,000 (RG-2018-04).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Trieste Project is situated in the Archean Superior Province of the Canadian Shield in the James Bay area of northern Quebec. The James Bay region consists of alternating east-west trending metavolcanic-rich and metasediment-rich domains. These domains comprise the La Grande volcano-plutonic sub-province and the Opatica, Nemiscau River, and Opinaca metasedimentary sub-provinces (Card & Ciesielski, 1986). The Trieste claims are located within the La Grande Sub-province just north of the contact with the Opinaca Sub-province. • The La Grande Sub-province in the Project area is characterized by Archean domes and basins with the remains of volcanic sequences and sedimentary basins wrapping around large syntectonic to post-tectonic felsic to intermediate intrusions. Volcanic sequences consist of altered mafic-dominant rocks and silicate- and oxide-facies iron formation. The abundance of strongly altered volcanic rocks sets this region of the La Grande Sub-province apart from other sectors of the Sub-province (Burniaux, Guemache, & Goutier, 2018 - RG 2018-02; Hammouche & Burniaux, 2018 - RG 2018-04). • The Tilly Pegmatite appears to be post tectonic and post-metamorphic and cuts the regional fabric in the area. This unit is characterized by small intrusions in the scale of hundreds of meters to kms in length and decametric thicknesses that form whiteish "whaleback" ridges. The unit consists of pegmatitic granite with medium-grained biotite, coarse to very coarse muscovite and accessory tourmaline, garnet, beryl, magnetite, and/or apatite. Titanite and epidote have also been observed locally. Micrographic and perthitic textures are common. It often contains mafic enclaves of deformed metasediments (Burniaux, Guemache, & Goutier, 2018 - RG 2018-02; Hammouche & Burniaux, 2018 - RG 2018-04). • There were multiple recorded occurrences of both I1A and I1G rock types available from public online data sources (SIGEOM) that related to the Tilly Pegmatite unit but were also potential hosts for spodumene. In total, 37

		occurrences of rock-type I1A and 86 occurrences of I1G were reported in the Project area. • The La Grande Sub-province is prospective for various commodities including gold, silver, base metals, platinum group elements, and lithium over several different deposit styles including orogenic gold (Au), volcanogenic massive sulphide (Cu, Au, Ag), komatiite-ultramafic (Au, Ag, PGE, Ni, Cu, Co), and lithium pegmatite (Li, Ta, Cs). The focus of the Company is on the potential for lithium pegmatite occurrences in the Project area (Burniaux, Guemache, & Goutier, 2018 - RG 2018-02; Hammouche & Burniaux, 2018 - RG 2018-04).
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• Geophysical data was reported in the coordinates system NAD83 UTM z18N WGS84.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the*	• Geophysical data was presented as various ranges of conductivity, resistivity and magnetics. Data was re-scaled in selected locations to determine relative resistivity lows and highs, within the select areas of interest.

	procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• No drill results reported.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Colour coded resistivity and conductivity MobileMTm data ranges as plans were presented with schematic representations of interpreted resistivity high trends. The geophysical survey results were presented in the form of digital databases, maps, grids, sections, elevation slices and 3D voxels.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.*	• All MobileMTm data is reported as summary representations of ranges of data in this announcement.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment;*	• In August 2023 an intensive Loyal Lithium mapping and sampling program discovered a group of five spodumene bearing pegmatites on surface. Assay results, outcrop photos and LiDAR survey confirmed the presence of a 6th spodumene dyke. • In January 2023, Loyal Lithium purchased archived high resolution satellite imagery of priority target areas of the Trieste Project. The object was to utilise the imagery as a trial to correlate mapped pegmatites to the imagery. Loyal Lithium engaged Geospatial Intelligence Ltd. to conduct more complex derivations of the satellite imagery (multispectral) to help in refining targets for the inaugural exploration campaign. Terra Resources then completed reprocessing of Sentinel 2 and Aster image data and found in the Lithium Band Combination, large anomalies on and to the south of the amphibolite

	metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	(greenstone belt), subsequently found to be spodumene bearing pegmatites. The spectral imagery interpretations appeared to correlate with the general area of the mapped spodumene pegmatite dykes. • In October/November/December 2023 a Stage I diamond core drill program tested Dyke #01 using NQ sized core. In January/February 2024 a Stage II core drill program (BTW sized core) tested Dykes #04 and #05, Three known spodumene bearing Dykes remain untested, Dykes #02, #03 and #06. These dykes are interpreted from a series of proximal and aligned outcrops.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Based on a favourable geologic setting in metasedimentary host rocks, the group of relatively closed-spaced lithium pegmatite dyke occurrences, the Trieste Lithium Project is considered to have sufficient geological merit to warrant intensive exploration, both more surface mapping/sampling in summer 2024, geophysical surveys (as reported in this announcement), and drilling. The Project measures approximately 38 km in the east-west direction and had never been subject to systematic exploration for lithium-bearing pegmatites until Loyal Lithium's exploration programs started in 2023. • Initial work focused on detailed data compilation to ensure that all historical work completed on the Property was digitized and incorporated into the current database. Airborne geophysical aeromagnetic and LIDAR surveys, with high resolution orthophotos were flown in late 2023 to aid in target delineation across the Project. • In 2023, with pegmatite outcrops identified in mapping and sampling, containing significant lithium-bearing spodumene and tantalum oxide minerals in outcrop, a maiden drilling program targeted Dyke #01 and then targeted Dykes #04 and #05. Active geological modelling has been supplemented by MobileMTm and aeromagnetic survey results reported in this announcement. Due to the nature of pegmatite emplacement, and rheology of the metasedimentary host rocks, dykes commonly form irregular expanding and contracting bodies. • Research work is required to understand the hydrothermal alteration of pegmatites, the mineral assemblages to understand the source and sink. Analysis of tourmalines may assist in characterising pegmatites. Loyal Lithium is planning to develop partnerships with appropriate research organisations to start studies. Early metallurgical characterization of mineralisation will be helpful in understanding the spodumene concentration potential in processing.