

ASX Announcement | 20 March 2023

MT Traverses Implies Sedimentary Target as Drill Mobilisation Commences at 100% owned Scotty Lithium Project, Nevada, USA

Highlights:

- A 19.2km Magnetotelluric Survey (MT) completed across 5 traverses, with three traverses across Target 2 implying a 3.6km² sedimentary basin (highly conductive <3 ohm.m) on the 100% owned Scotty Lithium Project.
- The Target 2 sedimentary basin is beneath strong lithium-boron soil assay results² (maximum of 448ppm lithium and 3,360ppm boron) and just 1km west of Nevada Lithium's (CSE: NVHL) 2022 drilling that confirmed 2 layers of lithium mineralisation.^{1,6,7}
- The MT interpretation implies the Target 2 sediment basin starts at surface and extends to a depth of ~150m in the north and deepens to ~500m in the south – a substantial sedimentary target for Loyal Lithium.
- The completed MT interpretation has fine-tuned drill locations ahead of mobilisation works (commencing March 2023) with Boart Longyear sonic drill rig engaged.
- Subject to drilling results, a successful drilling program could achieve a maiden lithium resource for Loyal Lithium.
- Nevada lithium is poised to be a significant part of global lithium supply, underpinned by President Biden's Inflation Reduction Act, which supports and encourages locally sourced critical minerals. Recent regional industry catalysts include:
 - Ioneer (ASX:INR) obtaining US\$700m loan from U.S. Dept of Energy to develop their Rhyolite Ridge Project in Nevada³ (Jan 2023)
 - General Motors (GM) and Lithium Americas Corp. (NYSE: LAC) partner through US\$650m equity investment and exclusive supply agreement for the Thacker Pass Project in Nevada⁴ (Jan 2023)
 - Lithium Americas Corp's Thacker Pass Project in Nevada receives favourable federal court ruling allowing construction to commence⁵ (Feb 2023)

Loyal Lithium Limited (**ASX:LLI**) (**Loyal** or the **Company**) is pleased to announce the completion and interpretation of a 19.2km Magnetotelluric Survey (MT) across 5 traverses to identify several areas of interest at the Scotty Lithium Project in Nevada, USA. Three traverses within Target 2 are of most interest to the company as the interpretation implies a 3.6km²

sedimentary basin beneath the strong lithium-boron soils assay results recorded by Loyal in September 2022². The MT results in combination with Nevada Lithium's recent positive drilling results, just 1km the east, provides the company with confidence as drilling mobilisation commences.

Commenting on the MT results and interpretation, Loyal Lithium's Managing Director, Mr Adam Ritchie, said:

"The MT traverses are extremely encouraging as they clearly illustrate the size and potential of the Scotty Lithium Project.

The implied Target 2 sedimentary basin is a great initial target for the Company, and additionally, the MT results also indicate further potential to the south and north of the project. These are now additional secondary targets for the Loyal Lithium.

Further, the work conducted on the adjacent property gives us additional confidence, as Nevada Lithium's 2022 drilling campaign reported exceptional lithium-boron results, and their recent testwork has successfully produced battery grade lithium carbonate from core samples.

If mineralised, the Target 2 sedimentary basin would indicate a significant quantity of lithium sediments. The implied basin geometry could also support traditional mining methods and we look forward to the imminent drilling campaign at the Scotty Lithium Project."

Magnetotelluric Survey (MT)

A 19.2km Magnetotelluric Survey (MT) has been completed across 5 traverses at the Scotty Lithium Project, with the objective of identifying the presence and extent of any sedimentary basin and major geological structures. This technique was successfully used at the adjacent Bonnie Claire Project (Nevada Lithium), where the MT survey identified sedimentary layers which have subsequently been confirmed via drilling to be lithium bearing sediments.

The MT survey indicated several areas of interest, however the very low resistivity readings within Target 2 of the Scotty Lithium Project is of most interest due to the reading (<3 ohm.m), size of basin and correlation with previous geochemical works such as soil samples assays and Nevada Lithium's 2022 drill results from just 1km east.

The MT survey also identified a very large deep (>500 m) horizontal very low resistivity layer (VLRL) in the southern portion of the claims (target area 4). This deep layer has never been sampled for lithium in brines or sediments and is now a secondary drill target for Loyal.

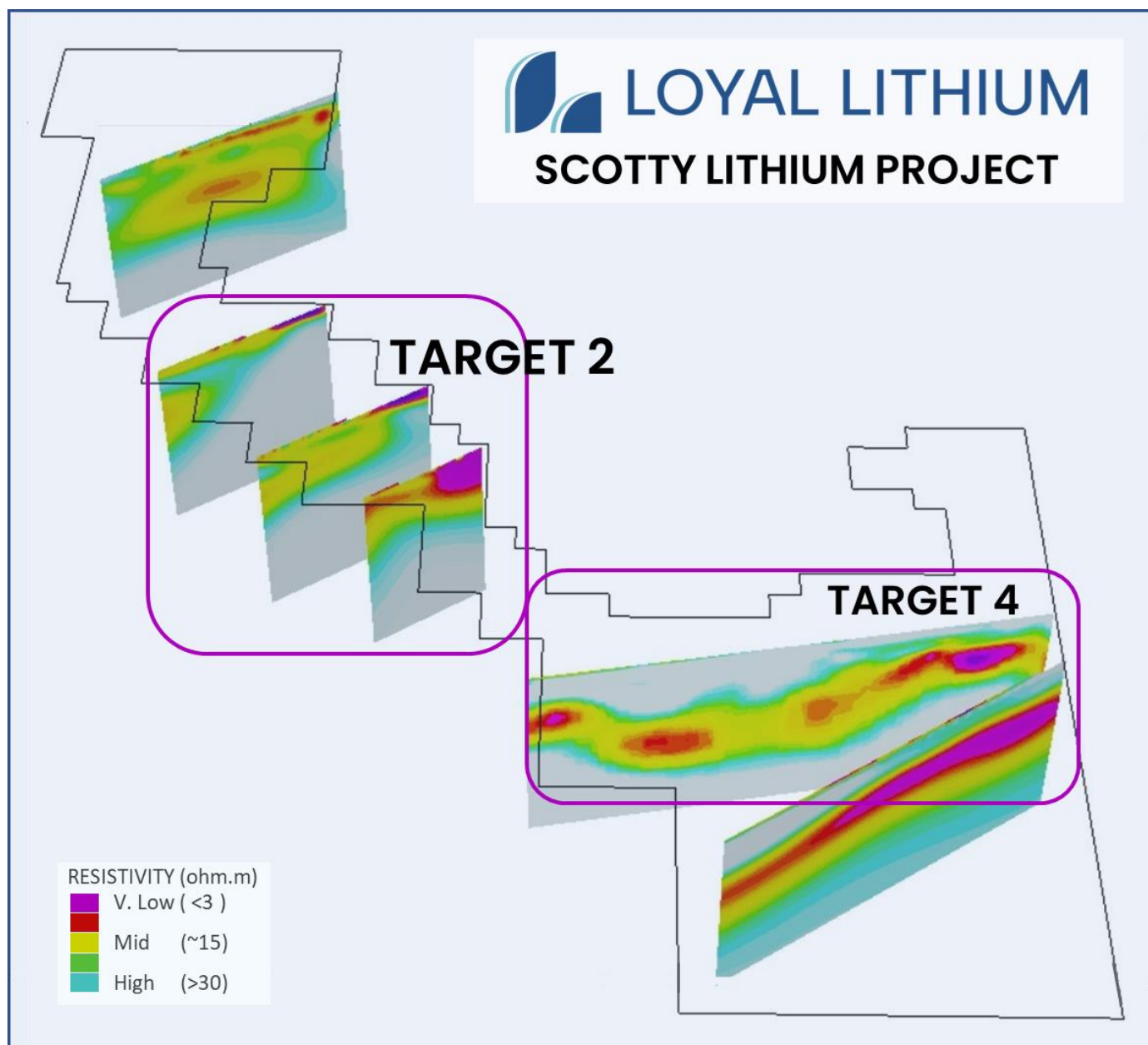


Figure 1 - MT Survey – Scotty Lithium Project (includes historical MT traverse)

Target 2 MT Results and Interpretation

The three MT traverses across Target 2 run perpendicular to the western basin margin across the entire width of LLI's claims. MT traverses indicate a very low resistivity layer (VLRL) which has been interpreted to be a potential lithium bearing sedimentary basin of 3.6km². The sedimentary basin appears to start at surface and extends to a depth of ~150m in the north and deepening to ~500m in the south. The basin is interpreted to be at least 4km long with a width greater than 1km. The MT also suggests that the basin is open to the north and south.

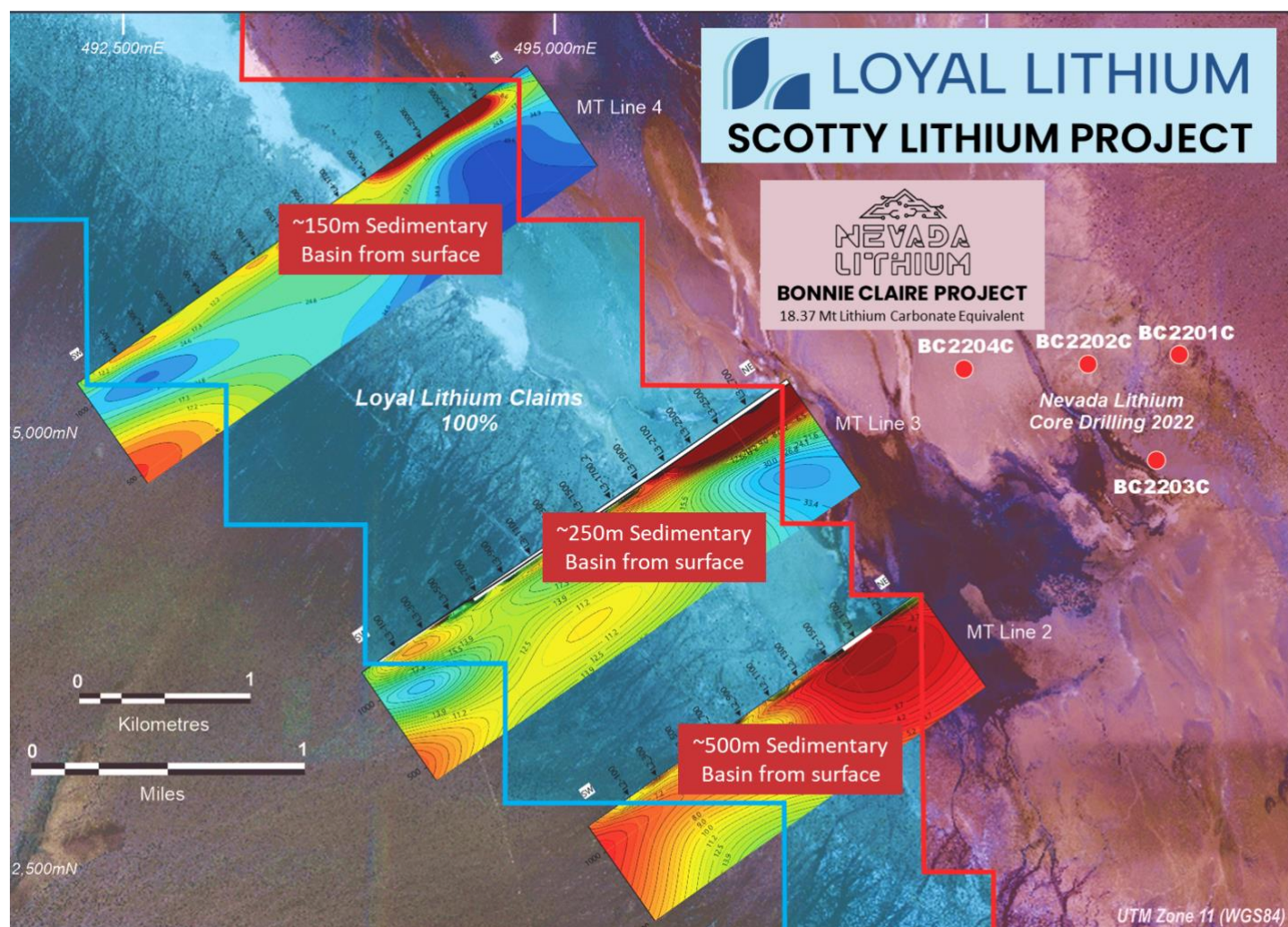
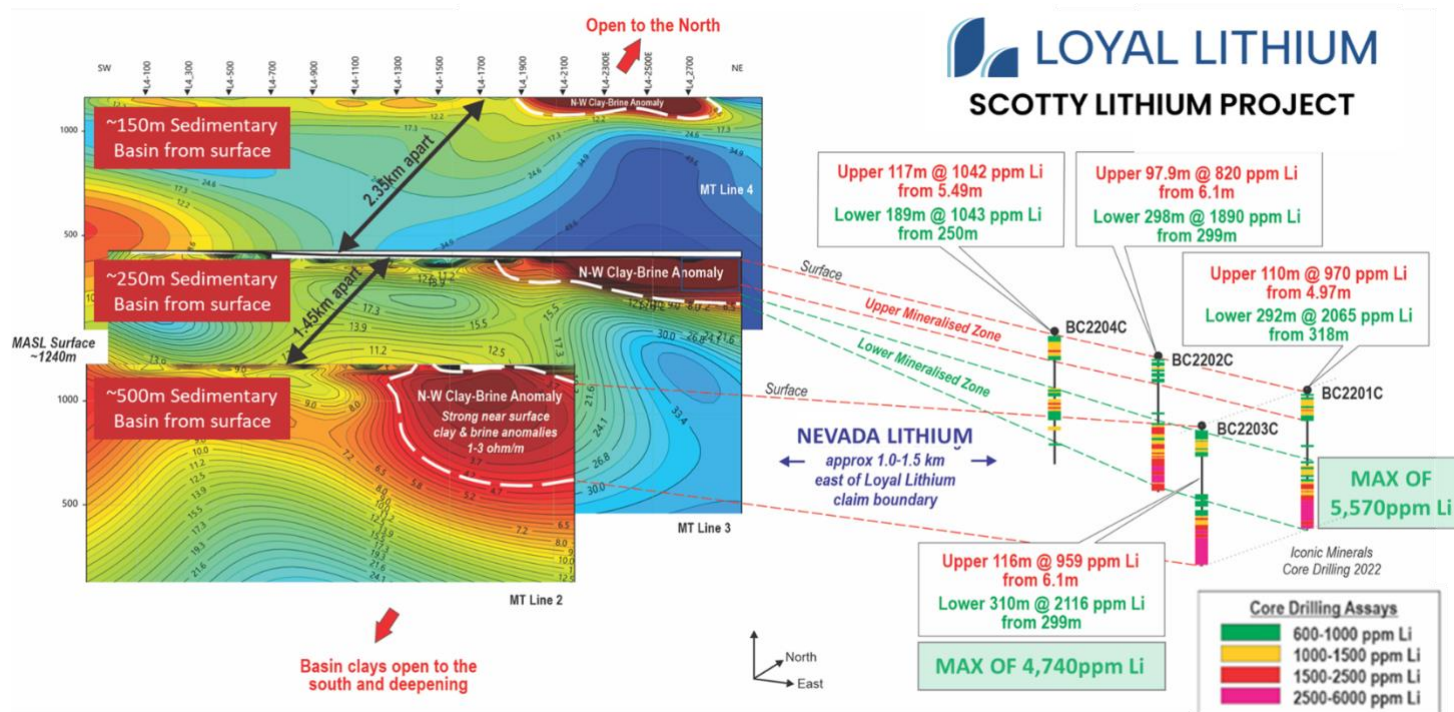


Figure 2 – Scotty Lithium Target 2 – MT traverses projected to the horizontal

Nevada Lithium’s 2022 drilling program clearly identified two layers of lithium on the adjacent claims (1-4km to the east of LLI’s claims)^{1,6,7}. The shallow layer starts near surface and extends to ~116m (6-116m), whereas the deeper layer appears to be reducing in width and depth as it approaches LLI’s target 2 claims – 299-610m layer (310m) in the southwestern to a 250-439 m layer (189m) just 1km from LLI’s target 2 claims.

The drill holes suggest that the lower layer is thinning and reducing in grade to the west (1,043ppm), but higher grade and thicker towards the south-southwest (2,116ppm). The upper layer is also suggested to be increasing in vertical thickness and increasing in lithium grade to the SSW. Loyal has claims both to the northwest, west and southwest of these recent drill holes. Therefore, the implied sedimentary basin has the potential to contain a significant tonnage (sedimentary sg=1.5) in the north, but particularly in the south. BLM drilling permits have been received and the MT traverses will now fine-tune the drill hole locations.



Please refer to documented references for Nevada Lithium's' (Iconic Minerals) reported results.

Figure 3 - Stacked MT geophysics sections illustrating implying sedimentary basin, deepening in the north

Boron generally precipitates very late in the evaporitic sequence and therefore correlates with being present in the shallowest portion of a basin, or at least near surface. In September 2022, LLI recorded strong lithium-boron values (maximum of 448ppm lithium and 3,360ppm boron) via soil assays, with the strongest readings being in the very north of Target 2 (MT line 4), which is the shallow portion of the implied sedimentary basin.

The high boron values of >10,000ppm recorded by Nevada Lithium in their 2022 drilling program, were not in the shallower regions of the basin, but recorded at depth (lower layer). This reflects the progressive infill of the eastern basin (Nevada Lithium's claims) and implies that the target 2 sedimentary basin (western topographic low) may have been present during the formation of the upper lithium layer and therefore has the potential to concentrate higher grades of lithium.

Mobilisation of Drilling Contractor

Drilling permits were approved in January 2023 by the BLM in Tonopah, Nevada, and DGC-USA have been commissioned to manage the drill program. The MT traverses have fine tuned the drilling location and mobilisation will commence by the end of March 2023, subject to weather conditions. Boart Longyear have been engaged for the Sonic Drilling program.

The following exploration milestones have been completed to confirm extensions of lithium (and boron) into the substrata on LLI's claims:

- ✓ **Extensive Soils Program Complete:** Strong soil assay results of up to 540ppm Li defined five targets, Target 2 has standalone exploration potential.
- ✓ **Local Geological Partner Engaged:** LLI's in-country geological partner DGC-USA is now actively assisting with site preparations and the drill program.
- ✓ **Targeted Environmental Survey Complete:** In early December 2022, an environmental survey was completed via consultants Knight and Levitt. Findings were submitted to the BLM to support the drilling notice.
- ✓ **Regulatory Approval Received:** A notice to conduct exploration was received from the Bureau of Land Management (BLM), in January 2023
- ✓ **Magnetotelluric (MT) geophysics survey and Interpretation completed:** The MT survey and interpretation were completed in March with an implied 3.6km² sedimentary basin target identified. A Drill program has been fine-tuned and the basin boundary has been defined to assist with potential maiden resource estimates.
- ✓ **Drill and Drill Site Preparation Contractors Mobilising:** Mobilisation to commence by the end of March with Boart Longyear sonic drill rig engaged.

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

For more information:

Adam Ritchie

Managing Director
aritchie@loyallithium.com
+61 (0) 403 462 383

Jane Morgan

Investor & Media Relations
jm@janemorganmanagement.com.au
+ 61 (0) 405 555 618

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 Nevada, USA and the James Bay Lithium District in Quebec, Canada. Through the efficient exploration of its projects, the Company aims to delineate JORC compliant resources.

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 shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Loyal Lithium Ltd.

Competent Person Statement

The information in this announcement that relates to Exploration Results and Targets, is based, and fairly reflects, information compiled 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 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.

References

- ¹ Iconic Finds Strong Correlation Between Drill Holes at Bonnie Claire Lithium Project Vancouver, British Columbia–(Newsfile Corp. – December 07, 2022) – Iconic Minerals Ltd. (TSXV: ICM) (OTCQB: BVTEF)
- ² ASX Announcement MMG (LLI): Strong Soil Assay Results Define Targets at the Scotty Lithium Project, Nevada USA 21st September 2022
- ³ ASX Announcement Ioneer (INR): US Dept of Energy Loan Offer of US\$700m for Rhyolite Ridge 16th January 2023
- ⁴ NYSE Announcement Lithium Americas Corp. (NYSE:LAC): GM AND LITHIUM AMERICAS TO DEVELOP U.S.- SOURCED LITHIUM PRODUCTION THROUGH \$650 MILLION EQUITY INVESTMENT AND SUPPLY AGREEMENT 31st January 2023
- ⁵ NYSE Announcement Lithium Americas Corp. (NYSE:LAC): LITHIUM AMERICAS RECEIVES FAVORABLE RULING ON RECORD OF DECISION FOR THACKER PASS 7th February 2023
- ⁶ Iconic Intercepts Lithium Grades up to 5570ppm at Bonnie Claire Project Vancouver, British Columbia– (Newsfile Corp. – September 29, 2022) – Iconic Minerals Ltd. (TSXV: ICM) (OTCQB: BVTEF)
- ⁷ Iconic Minerals Receives Additional Drilling Assays for Bonnie Claire Lithium Project Vancouver, British Columbia–(Newsfile Corp. – December 20, 2022) – Iconic Minerals Ltd. (TSXV: ICM) (OTCQB: BVTEF)

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this table apply to all preceding sections.)

Criteria	JORC Code explanation	Commentary	
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc).	Specifications	Scotty Lithium MT Survey Parameters
		Grid Azimuth	55°
		Domain Type	Frequency Domain .001hz - 10,000hz
		Array Type	Tensor (X,Y)
		Dipole Size	200m

Criteria	JORC Code explanation	Commentary																
	<i>These examples should not be taken as limiting the broad meaning of sampling.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i>	<table><tr><td>Line Spacing</td><td>Line 1-2 = 7.2km: Line 2-3 = 1.4km: Line 3-4 = 2.3km: Line 4-5 = 4.5km</td></tr><tr><td>Line Length</td><td>2800m, 3200m, 3200m, 4800m, 5200m</td></tr><tr><td>Number of Lines</td><td>5</td></tr><tr><td>Total Line km per Grid</td><td>19.2km</td></tr><tr><td>Total MT Sites</td><td>84</td></tr><tr><td>Receivers</td><td>Phoenix MTU-SC</td></tr><tr><td>Magnetic Coils</td><td>Phoenix MTC-155 (X,Y)</td></tr><tr><td>Personnel</td><td>5 man survey crew</td></tr></table> KLM Geoscience completed the MT geophysics survey.	Line Spacing	Line 1-2 = 7.2km: Line 2-3 = 1.4km: Line 3-4 = 2.3km: Line 4-5 = 4.5km	Line Length	2800m, 3200m, 3200m, 4800m, 5200m	Number of Lines	5	Total Line km per Grid	19.2km	Total MT Sites	84	Receivers	Phoenix MTU-SC	Magnetic Coils	Phoenix MTC-155 (X,Y)	Personnel	5 man survey crew
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Magnetic Coils	Phoenix MTC-155 (X,Y)																	
Personnel	5 man survey crew																	
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> <i>The total length and percentage of the relevant intersections logged.</i>	Geophysical data sent daily for QC and processing to licensed geophysicist Sean Walker (CW Geophysics). Preliminary results of the raw data were typically available to the client within 2 days of data acquisition. Inversions provided within 7 days. All data processing and inversions were completed. - Processed data provided in ascii and Geosoft .gdb format - Pseudo section plots, Geosoft map and pdf provided 1D and 2D Inversions (Inversion output ascii format) provided - Resistivity and Phase section grids and maps in Geosoft and pdf format provided 2D inversion models in Geosoft 3d view and leapfrog compatible omf format - Logistical Summary was provided																
Sub-sampling techniques	<i>If core, whether cut or sawn and whether quarter, half or all cores taken.</i> <i>If non-core, whether riffled,</i>	No sub-sampling occurred for MT																

Criteria	JORC Code explanation	Commentary
<i>and sample preparation</i>	<i>tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	geophysical data.
<i>Quality of assay data and laboratory tests</i>	• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>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.</i> • <i>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</i>	• MT Geophysics has been used extensively in the surrounding areas used to define sedimentary basins and brines. QA/QC data examined and approved by interdependent Geophysicist Barry Bourne Terra Geophysics
<i>Verification of sampling and assaying</i>	• <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic)</i>	• No verification of anomalies was undertaken as this is geophysical data. • An independent contractor was used who had a Geophysicist analyse QC data and a consultant Geophysicist was contracted by LLI to analyse the MT contractor's data. Data was stored digitally on hard drives, uploaded to the cloud and analysed by the contractor and consultant.

Criteria	JORC Code explanation	Commentary
	<i>protocols.</i> • <i>Discuss any adjustment to assay data.</i>	
<i>Location of data points</i>	• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i>	Location of data points by Differential GPS accuracy appropriate at 0.05m.
<i>Data spacing and distribution</i>	• <i>Data spacing for reporting of Exploration Results.</i> • <i>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> • <i>Whether sample compositing has been applied.</i>	• Data spacing was selective, along five Lines (traverses) with 200m stations in Lines, where drill holes were planned and regulatory approval received on LLI claims. • Data spacing is sufficient to imply continuity of lake sediments.
<i>Orientation of data in relation to geological structure</i>	• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	• Appropriate for this style of sub-horizontal stratigraphy and lithium mineralisation, MT lines were parallel to the basin margin designed by a CP with minor revisions by consultant Geophysicist, to ensure parallel traverses. • Vertical Nevada Lithium core drilling was perpendicular to the horizontal layers.
<i>Sample security</i>	• <i>The measures taken to ensure sample security.</i>	• Data was sent daily to a cloud database and downloaded by Geophysicists in main office.
<i>Audits or reviews</i>	• <i>The results of any audits or reviews of sampling techniques and data.</i>	• No audit or reviews completed. Historical MT partially crossing the same areas as near LLI's MT traverses found similar inversion features.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	Loyal Lithium Ltd 100% owned through subsidiary Nevliith LLC and Playa Minerals Company: unpatented mining claims located in Sections 19 & 32, Township 8 south, Range 44 East; Section 04, 10 & 24, Township 9 South, Range 44 East; and Sections 06, 20, 29, 30, 31 & 32, Township 9 South, Range 45 East, Mount Diablo Meridian, Nye County, Nevada.
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	2022 drilling by Iconic Minerals/Nevada Minerals. - Historical MT data partially across LLI's claims by Iconic Minerals/ Nevada Lithium was used to confirm new MT data inversion interpretations
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	Miocene aged sub-horizontal playa lake clay and sandstones deposited into basin and range troughs with lithium compounds concentrated within horizontal stratigraphy, strata bound
<i>Data aggregation methods</i>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</i> <i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	Lithium grades in LLI's soils program used arithmetic averages of individual sample points within continuous areas above a cut-off-grade.
<i>Relationship between mineralisation widths and</i>	<i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is</i>	MT geophysics defines resistivity of sub-horizontal strata with low resistive brine aquifers following strata and lithium in clays with implied continuity within individual

Criteria	JORC Code explanation	Commentary
<i>intercept lengths</i>	<i>known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i>	clay sedimentary strata and along strike within clay beds, so are ideal to define host layers this orientation
<i>Diagrams</i>	<i>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.</i>	Appropriate plan and location maps on regional and prospect scales are included in this ASX announcement.
<i>Balanced reporting</i>	<i>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.</i>	All exploration results are reported.
<i>Other substantive exploration data</i>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	Announced surface auger soils sample assays across LLI's claims. Historical MT geophysics traverses partially crossed LLI's claims, with inversion images examined. Core drilling to the east of LLI claims completed by Iconic Minerals and Nevada Lithium with weighted average Lithium intercepts and single sample boron intercepts announced
<i>Further work</i>	<i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Given the encouraging results from this geophysics program and drilling within 1km east of LLI's claims a total of nine drill holes have been approved via BLM. Three drill holes are planned for the first phase of drilling within LLI's target 2.