

**27 June 2024**

# Updated Interpretation for Fish Lake Valley

**Recent helicopter magnetic survey better defines Fish Lake Valley basin structures**

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**Step-out 2D seismic reflection survey line planned for focussing Li brine drilling target**

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**Significant Li brine drill target to be tested following seismic survey results**

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## Overview

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Morella Corporation Limited (ASX: 1MC, “Morella” or “the Company”) is pleased to announce that it has completed a study using recently released, helicopter borne high resolution magnetic and radiometric survey data (“GeoDAWN”) from the US Geological Survey (USGS) and US Department of Energy (DOE). Coordinated with this effort was the collection of airborne light detection and ranging (LIDAR) data (conducted through the USGS 3DEP Program) that yielded detailed surface topographic models of the terrain over a similar extent spanned by the geophysical surveys.

This data complements the Company’s interpretation of the 2D seismic reflection survey results in the southern area of the Fish Lake Valley (“FLV”) lithium brine project in Nevada, USA<sup>1</sup>.

The processed, imaged, modelled and interpreted magnetic results plus the LiDAR data has defined fault structures and volcanic lava flows at depth. These results have been added to the Company’s seismic reflection interpretation of deep rift basin geology. The combined data set indicates the FLV project area has strong similarities to the rift basin and structures hosting lithium brines at Albemarle’s Silver Peak lithium brine mine in Clayton Valley (“CVBO”), located 35 kilometres to the east.

### Morella Managing Director James Brown said:

*“The USGS and DOE GeoDAWN program survey data has significantly boosted Morella’s understanding of key fault structures which control basin development and formation of potential lithium brine reservoirs at FLV.*

*This new information complements our recent 2D seismic reflection survey results and bodes well for future lithium brine development. The GeoDAWN program was funded by the US government and the immediate utilisation of this survey data package is proving to be extremely valuable for Morella in understanding the FLV project.”*

*The GeoDAWN data was commissioned by the USGS and DOE to promote exploration and development of critical minerals and is released free of charge to users.”*

### GeoDAWN Survey Study

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The GeoDAWN survey provides geological support and geophysical mapping as well as modelling to assist geothermal and critical mineral exploration studies over northern and western Nevada and eastern California. The survey data was released to the public on 4th March 2024. The USGS also

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<sup>1</sup> See ASX Release “Magnetotelluric Survey Completed at Fish Lake Valley dated 8 February 2023

released very high-resolution LIDAR digital elevation models for parts of Nevada, including for the area hosting Morella’s FLV Li-brine project.

Helicopter magnetic and radiometric surveying for the GeoDAWN project was carried out by EDCON-PRJ Inc. using 200 m line spacing covering both Morella’s FLV Li-brine project claims and Albemarle’s nearby CVBO (Figure 1).

This helimagetic survey data was subsequently processed and interpreted by Perth based geophysical consultants Resource Potentials Pty Ltd, who filtered, imaged and 3D inversion modelled the data to update Morella’s existing interpretation of basin-bounding faults, sedimentary troughs, rift-related structures and volcanic features beneath the playa valley floor which may control the formation of Li-bearing brine deposits similar to the CVBO located only 35 km to the east.

Figure 1 shows the FLV Project Area and Albemarle’s CVBO over a magnetic anomaly image generated from GeoDAWN data. This interpretation, being the first vertical derivative grid of an airborne-derived Total Magnetic Intensity (TMI) Reduced to the Pole (RTP) grid, highlights key geological features extending below salt lake playas that assist with targeting of Li brines.

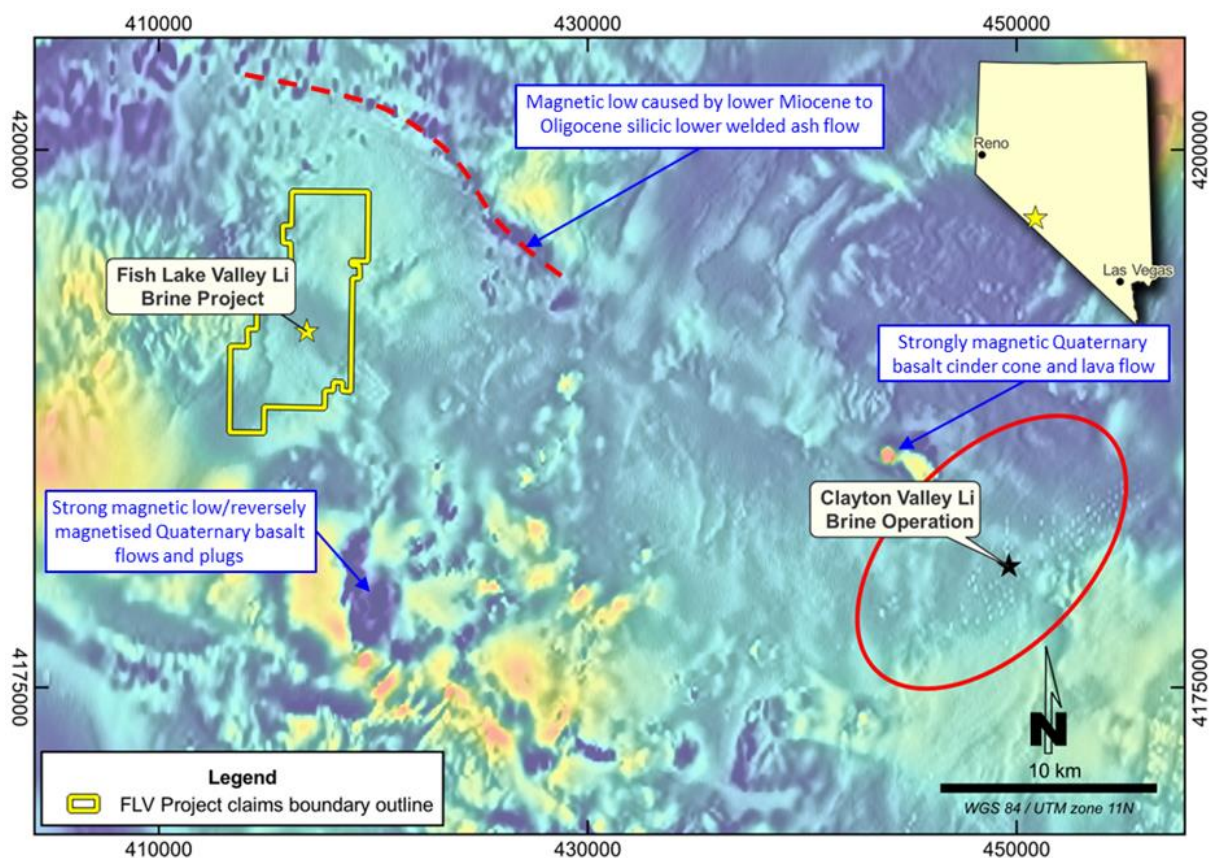


Figure 1. Helimagetic image covering FLV and Clayton Valley Brine Operations.

The updated basin interpretation combines the GeoDAWN results with Morella’s high-resolution 2D seismic reflection survey results and additional geophysical survey data acquired by Morella such as magnetotelluric (MT) and passive seismic survey lines crossing the basin. As shown in Figure 2, this results in the interpreted rift basin fault and transfer structures. Note the location of 2D seismic line 3 shown in Figure 3 and the location of planned seismic line 5 to be acquired for Morella

A key outcome from the new magnetic survey results was tracking the western rift border fault to the north of the FLV project area, extending from the 2D seismic reflection survey lines (see Figures 2 and 3). This basin controlling rift border fault is hidden below the playa valley floor and forms the footwall to an interpreted hanging-wall conglomerate deposit and multi-layered sediment-ash porous reservoir target zone which can be interpreted from high-resolution 2D seismic reflection line 3 (Figure 3). The magnetic anomaly patterns caused by the shallow fault trace were used to map the fault location

extending away from the 2D seismic lines and has assisted Morella in planning a deep drillhole closer to existing access tracks, minimising land clearing and speeding up the drilling approvals process.

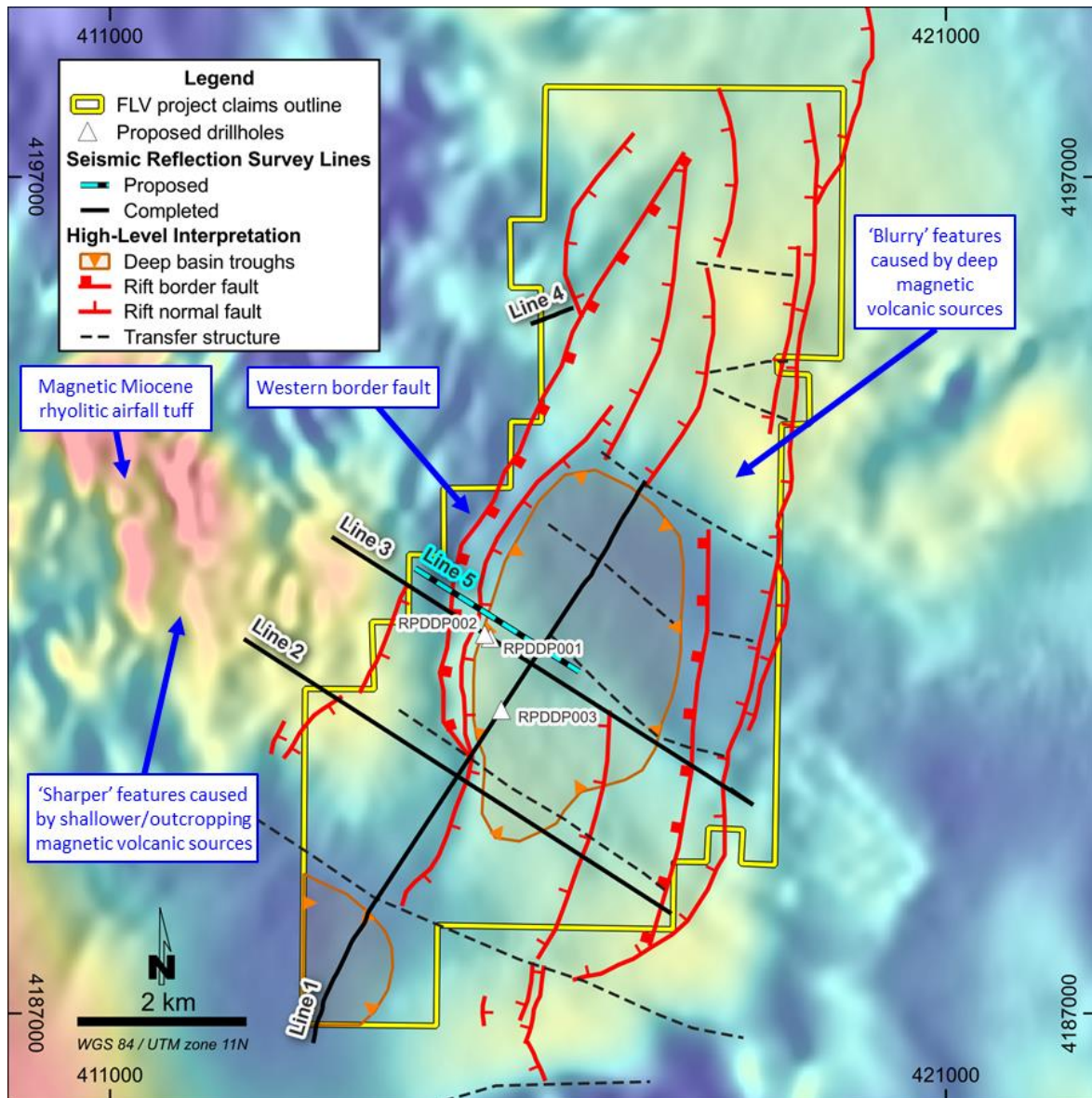


Figure 2. FLV helimagnetic survey results tracking the western rift border fault

Figure 3 shows the Interpreted depth-converted 2D seismic reflection survey line 3 showing Li brine target zones in the hanging wall of a major listric normal fault that controls the rifted half-graben basin. The flattening of this fault into the shallow crust 2.5 kilometres below the basin indicates high temperature ductile deformation, where high temperatures over geological time bode well for the natural extraction of Li from minerals in volcanic ash and clay deposits into brines like at Clayton Valley.

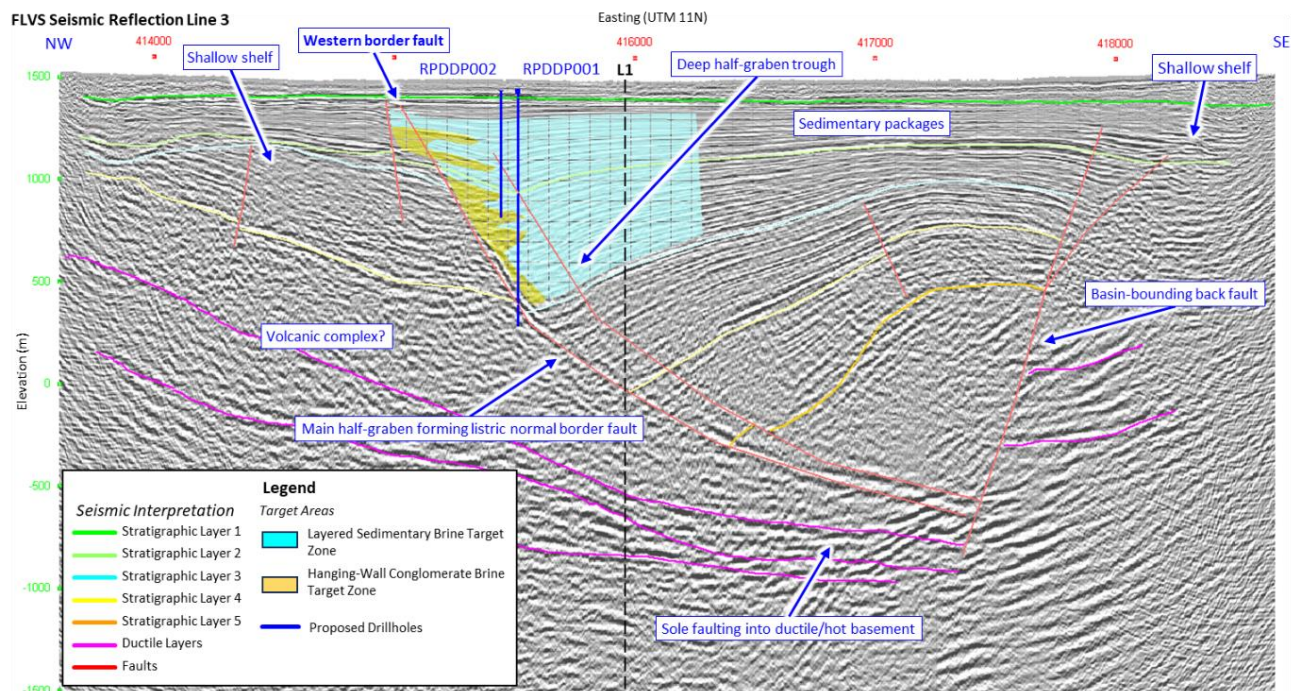


Figure 3. Depth converted 2D seismic reflection survey Line 3

## Next Steps

The next steps for advancing the Fish Lake Valley project include:

- Acquire 2D seismic reflection survey line 5 in Q3 to accurately plan a drilling pad for targeting Li brine just to the north of seismic line 3.
- Possible infill MT survey lines located in between existing MT survey lines to provide closer spacing around the seismic reflection survey lines to highlight the most electrically conductive lithium brine target zones for drill testing and potential future brine extraction.
- Drilling of a single deep hole to a depth of approximately 1.2 kilometres in the Southern Project area based on results from above.

## Contact for further information

[Investors](#) | [Shareholders](#)

**James Brown**

Managing Director

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**This announcement has been authorised for release by the Board of Morella Corporation Limited.**

**About Morella Corporation Limited** Morella (ASX:1MC) is an exploration and resource development company focused on lithium and battery minerals. Morella is currently engaged in exploration activities on multiple lithium project opportunities, strategically located, in Tier 1 mining jurisdictions in both Australia and the United States of America. Morella will secure and develop raw materials to support the surging demand for battery minerals, critical in enabling the global transition to green energy.

## Competent Person's Statements

The information in this report that relates to Exploration Results is based on information compiled by Mr Henry Thomas, who is a Member of the Australasian Institute of Mining and Metallurgy and is the Exploration Manager employed by Morella Corporation. Mr Henry Thomas has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a

Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources'. Mr Henry Thomas consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to geophysical results complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Dr Jayson Meyers, a consultant to Morella Corporation and a Director of Resource Potentials Pty Ltd. Dr Meyers is a Fellow of the Australasian Institute of Geoscientists. He has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Dr Meyers consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Dr Meyers does not hold securities in the Company.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<p>Helicopter magnetic and radiometric survey data acquisition was undertaken by EDCON-PRJ Inc from November 2021 to November 2022 and was flown using 200 m line spacing and nominal terrain clearance of 100m in flow topography and 150m in mountainous topography. EDCON-PRJ Inc followed strict data QA/QC protocols for positional accuracy, noise tolerances, data reduction and processing to final deliverable stage.</p> <p>Seismic reflection data were acquired by Bird Seismic Services LLC using a 450 lb accelerated weight drop system source with source locations every 20 feet along 2D seismic reflection survey lines and a wireless nodal receiver system receiver system with nodes every 20 feet along the survey lines located in between source locations (i.e. with 10 ft offset along the survey lines).</p> <p>A minimum channel count of 300 active channels was maintained throughout the survey.</p> <p>The raw seismic reflection data were processed by Columbia Geophysical LLC to produce depth-converted seismic sections with input from Resource Potentials Pty Ltd. Depth processed seismic data sections were interpreted by Resource Potentials Pty Ltd and Morella Corporation staff. The interpreted seismic horizons represent geology which is unknown until tested by drillholes.</p>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>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 diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	Not applicable.
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	Not applicable.
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Not applicable.
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	Not applicable.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	Not applicable.
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Not applicable.
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<p>Helicopter magnetic data were located using DPC to within 2m accuracy, which is sufficient for this type of widely spaced survey line data.</p> <p>Seismic source and receiver locations were measured using Leica RTK GPS equipment having sub 1 metre accuracy.</p> <p>The WGS 84 datum and UTM Zone 11S projection grid system has been used.</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Not applicable.
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have</li> </ul>	<p>The east-west survey line orientation of the helimagnetic survey was optimal for detecting N-S trending rift related magnetic structures and volcanic lava conduits and flows and volcanic air fall despoths.</p> <p>Two reflection seismic survey lines were orientated east-west as dip-lines running perpendicular to the strike of the basin</p>

Criteria	JORC Code explanation	Commentary
	<i>introduced a sampling bias, this should be assessed and reported if material.</i>	axis. A third line was oriented in a more north-south direction following the axis of the basin as a strike line.
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	Not applicable.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	The raw seismic reflection data were processed by Columbia Geophysical LLC to produce depth-converted seismic sections with input from Resource Potentials Pty Ltd. Depth processed seismic data sections were interpreted by Resource Potentials Pty Ltd and Morella Corporation staff. The interpreted seismic horizons represent geology which is unknown until tested by drillholes.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary																								
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><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></li> <li><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></li> </ul>	<p>The Fish Lake Valley Project is located in Nevada, USA and comprises 297 claims over an area of ~44.4km<sup>2</sup></p> <p>The tenements are held by Lithium Corporation, Morella entered into an earn-in agreement with Lithium Corporation in October 2021, whereby Morella has the right to earn a 60% interest in the project, with options to acquire 100% interest.</p> <p>The claims are in good standing, with payments up to date with the US Bureau of Land Management.</p> <p>There are no known impediments to maintain the claims and operate in the area.</p> <table border="1"> <thead> <tr> <th colspan="2">Tenement ID</th> <th colspan="2">Location</th> </tr> </thead> <tbody> <tr> <td>NV101621690</td> <td>-</td> <td>NV101621695</td> <td>Nevada USA</td> </tr> <tr> <td>NV101622134</td> <td>-</td> <td>NV101622141</td> <td>Nevada USA</td> </tr> <tr> <td>NV101340597</td> <td>-</td> <td>NV101340600</td> <td>Nevada USA</td> </tr> <tr> <td>NV 105231487</td> <td>-</td> <td>NV 105231518</td> <td>Nevada USA</td> </tr> <tr> <td>NV105243416</td> <td>-</td> <td>NV105243451</td> <td>Nevada USA</td> </tr> </tbody> </table>	Tenement ID		Location		NV101621690	-	NV101621695	Nevada USA	NV101622134	-	NV101622141	Nevada USA	NV101340597	-	NV101340600	Nevada USA	NV 105231487	-	NV 105231518	Nevada USA	NV105243416	-	NV105243451	Nevada USA
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<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>The property was developed as a borate producer sometime in the late 1860's, with the earliest record of production in 1873. Production by 1875 was in the order of 1.814 tonnes (2 tons) of concentrated borax daily. Operations ceased sometime prior to the 1900's and there is no record of any further activity or exploration until the 1970's.</p> <p>During the 1970's the USGS conducted some lithium focused exploration in the general area and drilled several holes on the periphery of the playa.</p> <p>A deep oil exploration well was also drilled 1970 by the Nevada Oil and Minerals Inc. The well, VRS1, reached a depth of 2.797m. A lithology and wireline resistivity log are available through the USGS well database.</p> <p>American Lithium Corporation carried out work in 2016-19.</p>																								
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>Fish Lake Valley is located on the western margin of the Basin and Range province, within the "Walker Lane" which is a zone of Miocene (to recent) structural deformation which trends northwest to southeast paralleling the trend of the Sierra Madre Mountains in Eastern California. The area occurs at the northern extremity of the Death Valley-Furnace Creek-Fish Lake Valley fault zone and comprises a highly complex array of active faults.</p> <p>Fish Lake Valley represents a deep structural depression formed by extensional activity within the complex fault zone.</p>																								



Criteria	JORC Code explanation	Commentary
		<p>The depression is infilled with up to 1,800m of post-Oligocene sediments, comprising volcanics, volcanoclastic and detrital sediments (the latter being the Fish Lake Valley Formation and comprising interbedded sandstone, conglomerate, clay and playa sediments with interbedded volcanic tuff).</p> <p>Deep faulting provides a conduit for geothermal brine enriched with lithium (and other minerals), to migrate into the basin-fill sediments. These fluids may be further enriched through evapo-concentration where they reach the near surface and groundwater is subject to evaporation from the playa surfaces.</p> <p>Potentially economic brine deposits maybe hosted within the basin-fill sediments that have sufficient transmissivity to support commercial brine extraction. Brine abstraction occurs at Silver Peak from aquifer units that are thought to be lateral equivalents to the upper Fish Lake Valley Formation.</p>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>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.</i></li> </ul>	Not applicable.
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <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></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	Not applicable.
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	Not applicable.

Criteria	JORC Code explanation	Commentary
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	Plans and cross sections are presented in the release.
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	All data has been presented and balanced reporting completed.
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	Non-invasive investigations are progressing and there are no other substantive exploration activities.
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further MT and reflective seismic work in the southern area, followed by a deep drill hole