



#### ABOUT

PepinNini Lithium Limited is a diversified ASX listed Exploration Company focused on exploring and developing a lithium brine resource and production project in Salta Province Argentina within the Lithium Triangle of South America. The Company also holds strategically located exploration tenements in the Musgrave Province of South Australia. The company also holds a copper-gold exploration project in Salta Province, Argentina

#### DIRECTORS

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ASX RELEASE

24 December 2018

<u>PepinNi</u>

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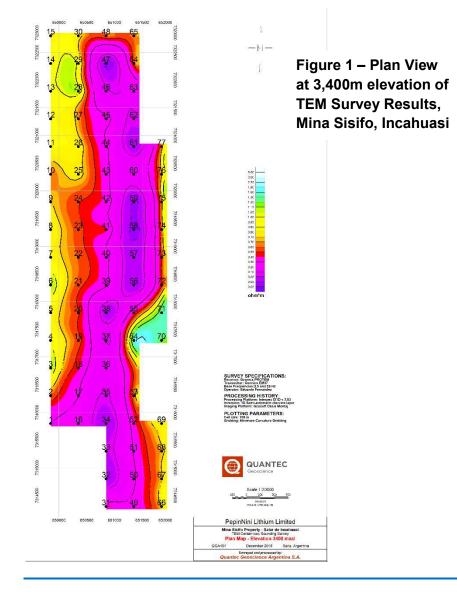
Lithium Limited

# Geophysical survey results Incahuasi Salar, Salta Lithium Project, Argentina

PepinNini Lithium Ltd (PNN, PepinNini, the Company) is pleased to report that geophysical contractor Quantec Geoscience has completed a geophysical Time Domain Electromagnetic(TEM) survey on the Company's Incahuasi Project.

The survey indicates two distinct zones; firstly a halite surface layer (*yellow to red Figure 1*) with a conductive potential brine bearing layer below and a saturated conductive zone (*crimson to purple Figure 1*) from the surface and potentially brine bearing. The survey penetrated to 200m in depth with the interpreted brine bearing zone continuing beyond 200m.

Quantec's experience in this type of exploration environments indicates that high resistivity values in the surface are due to halite materials in salar surface, and the more conductive materials below it matches brines that may be rich in lithium.(TEM Survey Report Sisifo, Incahuasi, Quantec Geoscience 19 Dec 18)



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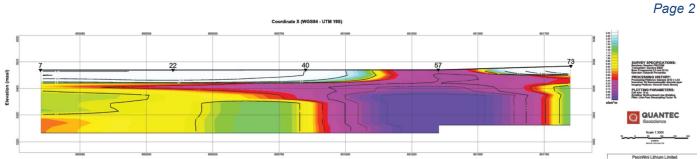


Figure 2 – Cross section from surface of TEM Survey Results Mina Sisifo, Incahuasi Salar, Salta, Argentina, Dec 2018

Data obtained from the previous holding entity; Lithea Inc indicates surface Lithium grades up to 296mg/I(Figure 3)

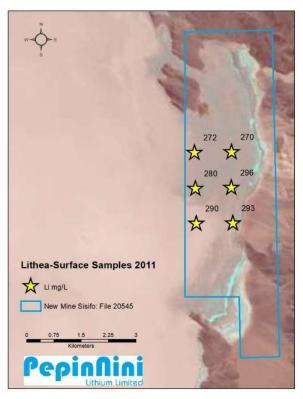


Figure 3 – 2011 Surface Sample Results Lithium - Sisifo Mina, Incahuasi Salar



Figure 4 – Pular, Rincon and Incahuasi Projects

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The next step in evaluating this project will be drilling to determine brine quality and aquifer thickness. The salar is located midway between the Company's Rincon and Pular Projects, shown on Figure 4.

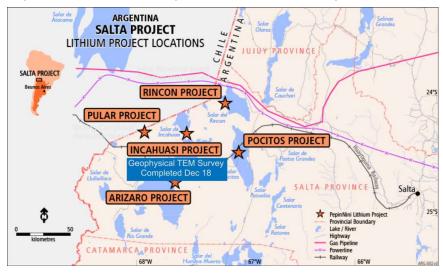


Figure 4 – Salta Lithium Project, Argentina

This announcement on the Salta Lithium project has been prepared with information compiled by Marcela Casini, MAusIMM. Marcela Casini is the Exploration Manager-Argentina of PepinNini Lithium Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Marcela Casini consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

**JORC Table 1** 



### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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 representability and</li> </ul>	77 data collection points were designed and 75 actually taken
		<ul> <li>Data collected with a moving loop method with receiver coil located at the centre of a square, single-turn moving loop.</li> </ul>
		Loop dimensions were fixed at 200x200m
<ul> <li>the appropriate calibration of any measu</li> <li>Aspects of the determination of mineralis Report.</li> </ul>	<ul> <li>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</li> </ul>	• Frequency of 25Hz throughout the survey to allow for secondary magnetic field decay measurements over 20 time channels, transmitter set at 110V output to produce an average current of 18amp and turn off time between 90-120 us
	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.	<ul> <li>A lower frequency was also collected at 2.5Hz to allow for more accurate modelling of discrete-layer inversions</li> </ul>
		<ul> <li>Receiver configured to automatically record 3 samples with integration period of 30secs</li> </ul>
Drilling techniques	<ul> <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>	No drilling is being reported
Drill sample	Method of recording and assessing core and chip sample recoveries and     require assessed	No drilling is being reported
recovery	<ul> <li>results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	
	<ul> <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>	
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.	No drilling is being reported
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	
	The total length and percentage of the relevant intersections logged.	

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <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> <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 representativity 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>	No drilling being reported
Quality of assay data and laboratory tests	<ul> <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 (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Data was downloaded from the receiver using PROTEM W package</li> <li>Quality control was performed; the Z component averaged and results exported to US1 format using PROTEM</li> <li>US1 file was transformed to USF format using USFXLT, USF files are the input for the IX1D inversion program</li> <li>Interpex IX1Dv3.53 was used to invert the Vertical(Z) component of the TEM data, it si a 1-D Direct current(DC) resistivity, Induced Polarisation(IP), Magnetotelluric (MT)and electromagnetic sounding inversion program,</li> <li>USF files are imported and x,y,z coordinates are assigned to each sounding</li> <li>Data points out of the general trend are deleted</li> <li>Each sounding is inverted with a number of layers equal to the number of data points</li> <li>Thicknesses are generated from the spacing or frequency data and the initial model is homogenous earth</li> <li>The inverse modelling allows the operator to obtain a 1-D discrete layer, resistivity to depth model for each sounding position</li> </ul>
Verification of sampling and assaying	<ul> <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>	<ul> <li>To evaluate the coherence of the data sampled a comparison graphically displayed decay of the Z-component resistivity vs time was performed for the three recorded measurements, if noise was observed a repeat set of three measurements was recorded and compared</li> <li>The Z component was measured with the positive field direction vertically upward. X &amp; Y were also measured, with the X coordinate being positive in the profile direction(ie towards increasing station number) and the Y</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>coordinate being orthogonal to the X.</li> <li>The discrete layers models created from the processing are reviewed and revised by:         <ul> <li>Fit of model to data(%)</li> <li>Resolution of resistivity and depth</li> <li>Analysis of the equivalence of data</li> </ul> </li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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>	<ul> <li>The grid system used is Argentina Gauss_Kruger POSGAR (WGS-84) UTM 19S.</li> <li>A square grid of 77 sounding stations was agreed before the survey at 500m spacing, 75 sounding stations were collected.</li> </ul>
Data spacing and distribution	<ul> <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>	<ul> <li>500m between geophysical sounding stations</li> <li>Geographic positioning control appropriate for exploration survey lines</li> </ul>
Orientation of data in relation to geological structure	<ul> <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 introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The deepest layer does not have a thickness associated it is assumed to extend to infinity</li> <li>As data is collected on a square grid format, data distribution allows for generation of plan view maps which are presented as different elevations(masl) form 3,300masl to 3,450 masl ie every 50m</li> </ul>
Sample security	• The measures taken to ensure sample security.	Survey data collected, collated and interpreted by Quantec and PepinNini     personnel
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Data collection and processing protocols aligned with industry best practice.

### 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>	<ul> <li>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 partings</li> </ul>	<ul> <li>Mina Sisifo File Number 20545, Held 100% by PepinNini SA an Argentina entity wholly owned by PepinNini Minerals Ltd.</li> </ul>
	<ul> <li>settings.</li> <li>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.</li> </ul>	<ul> <li>Held under grant from Mining Court of Salta Province, Argentina Tenure (Mina) held in perpetuity and appropriately maintained.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>Surface sampling program done 2011 by previous tenement holder Lithea Corporation</li> <li>Technical Report Salar de Incahuasi, Salta, Argentina by Dr Richardo N Alonso and Walter R Rojas, August 2011(unpublished)</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>PepinNini is primarily exploring for brine aquifers in salars (dried salt lakes) and the geological setting is suitable lithium bearing brines in commercial quantities.</li> <li>Brine aquifers are indicated by high conductivity/low resistivity responses considered prospective for lithium brine</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	No drilling is being reported
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high</li> </ul>	• To evaluate the coherence of the data sampled a comparison graphically displayed decay of the Z-component resistivity vs time was performed for

Criteria	JORC Code explanation	Commentary
	<ul> <li>grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>the three recorded measurements, if noise was observed a repeat set of three measurements was recorded and compared</li> <li>The Z component was measured with the positive field direction vertically upward. X &amp; Y were also measured, with the X coordinate being positive in the profile direction(ie towards increasing station number) and the Y coordinate being orthogonal to the X.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	No drilling undertaken
Diagrams	<ul> <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>	<ul> <li>As data is collected on a square grid format, data distribution allows for generation of plan view maps which are presented as different elevations(masl) form 3,300masl to 3,450 masl ie every 50m.</li> <li>Profiles of stitched 3D discrete layered models at scale 1:5000 for N-S profiles and 1:3,000 for E-W profiles</li> <li>3-D view of all N-S E-W profiles</li> </ul>
Balanced reporting	<ul> <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>	• Private company brine surface sampling carried out in 2011 by previous tenement holder Lithea Corporation. <i>Technical Report Salar de Incahuasi, Salta, Argentina by Dr Richardo N Alonso and Walter R Rojas, August 2011(unpublished)</i>
Other substantive exploration data	<ul> <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>	• Technical Report Salar de Incahuasi, Salta, Argentina by Dr Richardo N Alonso and Walter R Rojas, August 2011(unpublished)
Further work	<ul> <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>	The next phase of exploration will be drilling and sampling for resource definition