



## SALTA LITHIUM PROJECT - EXPLORATION UPDATE

### PROJECTS - ARGENTINA



### ABOUT

PepinNini Minerals 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 and the Amadeus Basin of Western Australia. The company also holds a copper-gold exploration project in Salta Province, Argentina

### DIRECTORS

**Rebecca Holland-Kennedy**

Managing Director

**Philip Clifford**

Technical Director

**Robert WeiSun**

Non-Executive Director

**Sarah Clifton-Brown**

Finance Director

**Justin Nelson**

Company Secretary

### CONTACT

PepinNini Minerals Limited  
ABN 55 101 714 989

Level 6, 108 King William Street,  
Adelaide SA 5000  
TEL: +61 (0)8 8218 5000  
FAX: +61 (0)8 8212 5717  
EMAIL: admin@pnn-adelaide.com.au

### FURTHER INFORMATION

**Ms Rebecca Holland-Kennedy**

Managing Director

TEL: +61 (0)2 9417 6212

www.pepinnini.com.au



The Directors of PepinNini Minerals Ltd(PNN, the Company) report that geophysical surveys have been completed at the Rincon and Centenario projects to assess potential for lithium brine bearing aquifers.

Results from the Rincon Project indicate potential for lithium brine bearing aquifers within 30metres of the surface.



*Geophysical Electrical Survey - Rincon Salar*

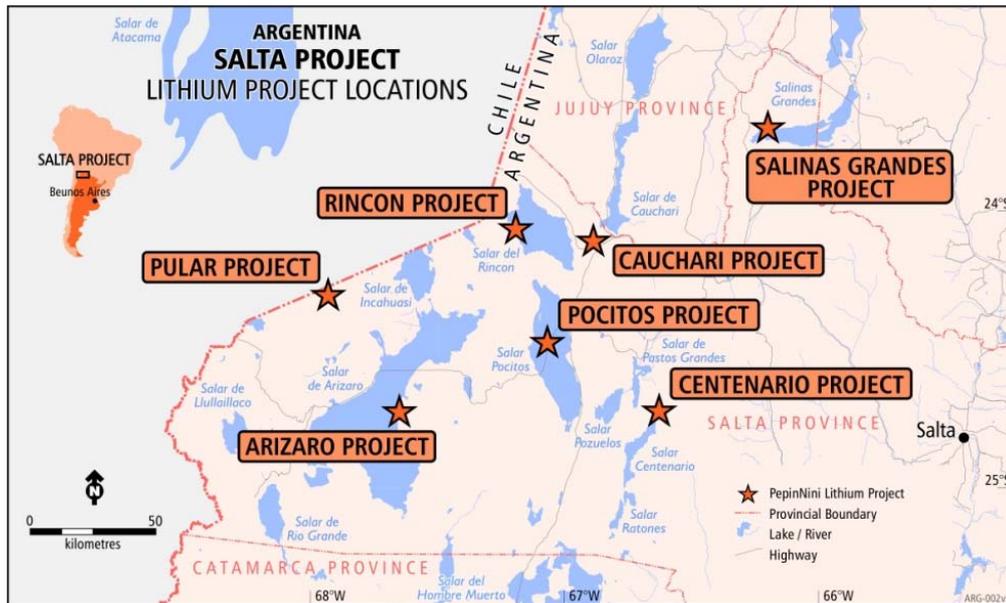
Drilling permit applications were lodged 18 September and planning is underway for the drilling of up to three shallow holes on the salar. It is anticipated that drilling permits would be received October and drilling to commence in November.

Geophysical survey results from the Centenario Project did not indicate potential for lithium brine bearing aquifers.

Logistic planning underway for drilling(ASX:25 August 2017) on the Company's Pular Project has indicated access improvements are required. The Company is seeking the most cost effective route and consequently it is anticipated that drilling on this salar would commence in October.



*Salar de Pular - Drilling Planned for October*



PepinNini Salta Lithium Projects



*This announcement on the Salta Lithium project has been reviewed by Mark King Ph.D., P.Geo., F.G.C., Groundwater Insight, Inc, Halifax, Nova Scotia, Canada, who 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 and Qualified Person for the Canadian National Instrument 43-101". Mark King consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*



## **JORC TABLE 1 in Appendix 1**

## **Salta Lithium Project Argentina**

## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<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 representability 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>	<ul style="list-style-type: none"> <li>No samples being reported.</li> </ul>
Drilling techniques	<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>	<ul style="list-style-type: none"> <li>No drilling is being reported</li> </ul>
Drill sample recovery	<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>	<ul style="list-style-type: none"> <li>No drilling is being reported</li> </ul>
Logging	<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>	<ul style="list-style-type: none"> <li>No drilling is being reported</li> </ul>

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<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> <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>	<ul style="list-style-type: none"> <li>• No Drilling being reported</li> </ul>
Quality of assay data and laboratory tests	<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 (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• No Samples being reported</li> </ul>
Verification of sampling and assaying	<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>	<ul style="list-style-type: none"> <li>• No Samples being reported</li> </ul>
Location of data points	<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>	<ul style="list-style-type: none"> <li>• Vertical Electrical Sounding(VES) using quadrupole configuration, Schlumberger with wing extensions up to 1000 meters</li> <li>• Handheld GPS device for traverse and point locations</li> <li>• The grid system used is Argentina Gauss_Kruger POSGAR (WGS-84) zone 2 &amp; zone 3, depending the location of each salar.</li> <li>• Digital Elevation Model(DEM) from Google Earth appropriate for geophysical survey lines</li> </ul>
Data spacing and distribution	<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>	<ul style="list-style-type: none"> <li>• Up to 2km between geophysical stations</li> <li>• Geographic positioning control appropriate for exploration survey lines</li> </ul>
Orientation of	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible</li> </ul>	<ul style="list-style-type: none"> <li>• Vertical soundings appropriate for salar horizontal layering</li> </ul>

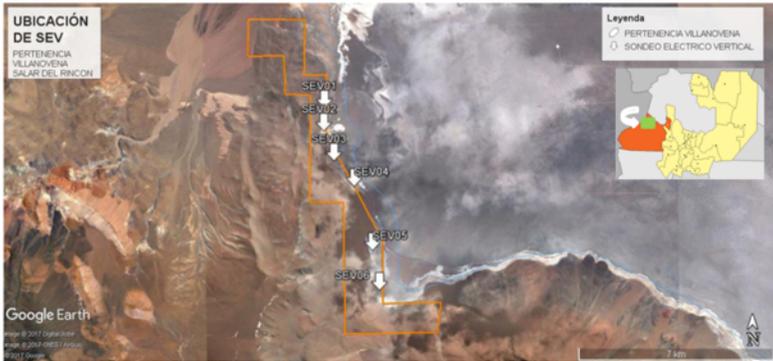
Criteria	JORC Code explanation	Commentary
<i>data in relation to geological structure</i>	<p><i>structures and the extent to which this is known, considering the deposit type.</i></p> <ul style="list-style-type: none"> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>Positioning of survey lines appropriate for first-pass surveying</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Survey data collected, collated and interpreted by Mercoaguas - Servicios Hidrogeologicos Y Ambientales and securely distributed via electronic communications to Competent Person(CP) for confirmation and review.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Data collection, processing and analysis protocols aligned with industry best practice.</li> </ul>

## Section 2 Reporting of Exploration Results

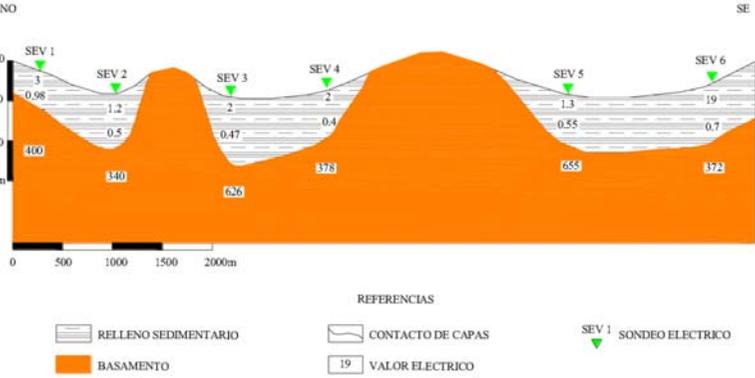
(Criteria listed in the preceding section also apply to this section.)

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>	<ul style="list-style-type: none"> <li>Mina Villanovena 1 File Number 19565, and mina La Filomena File Number 19733.. Held 100% by PepinNini SA an Argentina entity wholly owned by PepinNini Minerals Ltd.</li> <li>Held under grant from Mining Court of Salta Province, Argentina Tenure (Mina) held in perpetuity and appropriately maintained.</li> </ul>
<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>	<ul style="list-style-type: none"> <li>VES is used extensively by other explorers in the region as the first stage in confirmation of brine aquifers</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <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</li> </ul>

Criteria	JORC Code explanation	Commentary
		considered prospective for lithium brine
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• No drilling is being reported</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• 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.</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 style="list-style-type: none"> <li>• No data aggregation used, data presented in range of single sample values</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• No drilling undertaken</li> </ul>
<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>	<ul style="list-style-type: none"> <li>• Regional location map of PNN tenure are provided in Figure 1</li> </ul>



Villanovena Mina Survey Points and Location Plan



- North South Profile Villanovena VES Survey
- No substantial exploration work has been undertaken on the tenements and prospects covered by the VES survey.
- The grid system used is Argentina Gauss\_Kruger POSGAR (WGS-84) zone 2 & zone 3 depending the location of each salar.

**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 to avoid misleading reporting of Exploration Results.

**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; metallurgical test results;

Criteria	JORC Code explanation	Commentary
<b>Further work</b>	<p><i>bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p> <ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>The next phase of exploration will be drilling, sampling and pumping tests to provide information on the hydrogeologic properties of the aquifers and potential extractability of brines.</li> </ul>