



ASX RELEASE

4 January 2019

ASX:PNN

JORC Resource Restatement Sulfa Mina on Salar de Pular, Salta Lithium Project, Argentina

PepinNini Lithium Ltd (PNN, PepinNini, the Company) wishes to announce a JORC 2012 Resource restatement following the announcement (ASX:9 Nov 18) of the discontinuation of the exploration purchase option covering Patilla Mina on Salar de Pular. The resource restatement covers brine within the Company's 100% owned Sulfa 1 Mina (mining concession) including exploration activities carried out by PNN during 2018. The JORC 2012 Resource tabulated in Table 1 below is of low grade Lithium Carbonate (LCE) Measured 91,000 tonnes and Inferred 82,000 tonnes and includes a potash (KCL) resource. The Company is currently evaluating the potential to blend this brine with brine from the Company's other projects (Figure 1) to produce a feasible higher grade product.

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

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Figure 1 – Pular, Rincon and Incahuasi Projects

Table 1 Updated Resource Estimate, Pular Project

Resource Category	Brine Volume (m ³)	Avg. Li (mg/L)	In situ Li (tonnes)	Li ₂ CO ₃ Equivalent (tonnes) LCE	Avg. K (mg/L)	In situ K (tonnes)	KCl Equivalent (tonnes)
Measured	2.0 x 10 ⁸	87	17,100	91,000	4,510	888,700	1,695,000
Inferred	2.0 x 10 ⁸	77	15,400	82,000	4,280	853,400	1,627,000

No cut-off grade was applied; The reader is cautioned that mineral resources are not mineral reserves and do not have demonstrated economic viability.



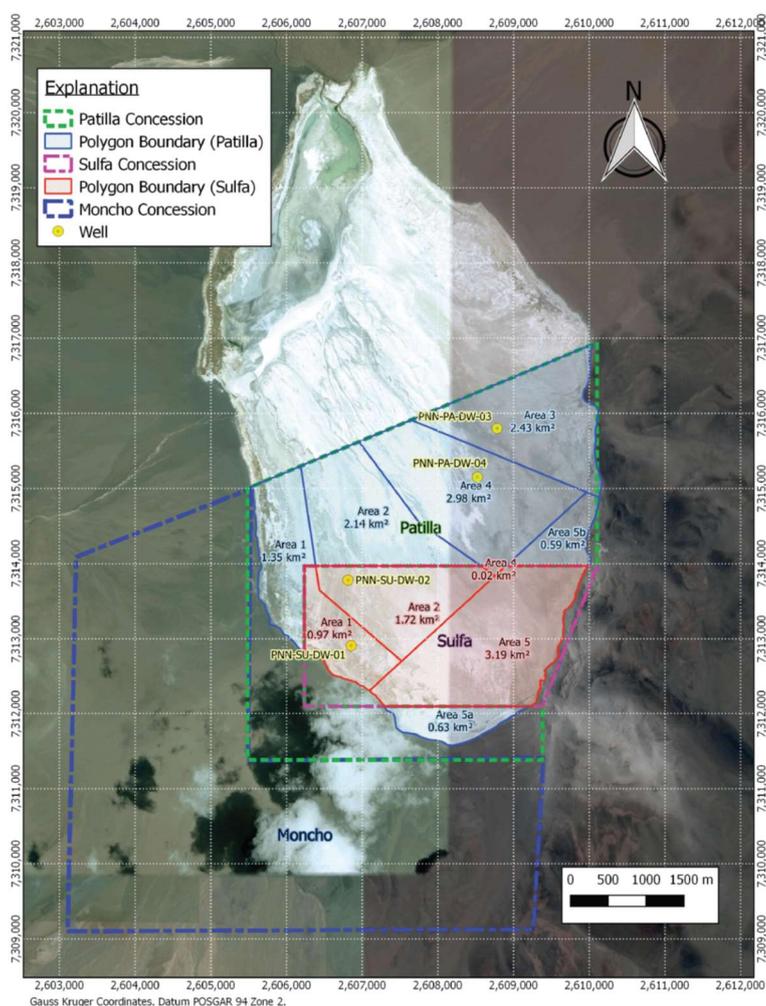
The resource estimate was prepared in accordance with The JORC Code 2012 and uses best practice methods specific to brine resources, including a reliance on core drilling and sampling methods that yield depth-specific chemistry and effective (drainable) porosity measurements. The resource estimation was completed by independent competent person Mr. Michael Rosko, M.Sc., C.P.G. of the international hydrogeology firm E.L. Montgomery & Associates (M&A).

Definition of Polygon Blocks and Thicknesses used for Resource Restatement

The total area of the polygonal blocks used in the updated resource calculation was 5.906 square kilometres (km²). The polygons used for the calculation are shown in red on **Figure 2**.

To recalculate the resource for only the Sulfa Mina, the initial polygons were not redrawn around the exploration boreholes, as was done for the first resource estimate in July 2018 (PNN ASX:27 July 2018). Because of the confidence of the competent person (Mr Michael Rosko) in the initial resource estimate, Mr Rosko only eliminated that part of the resource that was not calculated from Sulfa Mina and did not redraw the polygons. All other aspects of the initial resource estimate were maintained, including assumptions on basin boundaries, unit thicknesses and properties, brine grades, and non-inclusion of fresh or brackish water zones in the upper part of the system. Polygons 1, 2 and 4 are still considered a Measured Resource, and Polygon 5 is still considered an Inferred Resource; Polygon 3 was located completely in the Patilla Mina (discontinued exploration option mina) and is not considered in the resource calculations (**Figure 2**).

Figure 2 – Updated Polygon Blocks Sulfa Mina, Salar de Pular



This announcement on the Salta Lithium project has been prepared with information compiled by Mr. Michael Rosko, M.Sc., C.P.G. of the international hydrogeology firm E.L. Montgomery & Associates, Mr Rosko is a Registered Member of the Society for Mining, Metallurgy and Exploration which is a Recognised Professional Organisation under JORC. Mr. Michael Rosko 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". Mr. Michael Rosko is a Principal Hydrogeologist with E.L. Montgomery & Associates and as such is an independent consultant to PepinNini Lithium Limited. Mr. Rosko 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

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<p><i>Sampling techniques</i></p>	<ul style="list-style-type: none"> <i>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.</i> <i>Include reference to measures taken to ensure sample representability 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 (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.</i> 	<ul style="list-style-type: none"> Brine samples were collected using borehole packers over 2.4 metres thickness at 6 metre intervals in much of the first borehole. Due to the homogeneity of the brine, subsequent sampling was done at 20 metre or larger intervals. Borehole fluid density, temperature, electrical conductivity, and pH were recorded at time of sampling. <div style="display: flex; flex-wrap: wrap;">     </div>

Criteria	JORC Code explanation	Commentary
		<p>Packer Sampling</p> <ul style="list-style-type: none"> • During packer sampling, drilling fluids were removed prior to sample collection to ensure that representative samples were obtained • HQ3 diameter core samples were collected and submitted to Geosystems Analysis Inc., Tucson, Arizona, USA for RBRC (Relative Brine Release Capacity) testing to estimate porosity and specific yield. The samples were generally collected every 20 metre intervals, or when a substantial lithological change was observed. In uniform lithologic material, fewer samples were obtained and submitted for testing. <p>Core sampling for porosity testing</p>   
<p>Drilling techniques</p>	<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • Diamond core drilling – HQ3 diameter drilled vertically, triple tube

Criteria	JORC Code explanation	Commentary
		 <p data-bbox="1240 598 1713 624">Recovering cores borehole PNN-PA-DW-03</p> <ul data-bbox="1240 639 2085 738" style="list-style-type: none"> • PVC casing was installed in borehole PNN-SU-DW-2 to allow for future monitoring of water level and chemistry. • Boreholes DW-1, -3, and -4 were abandoned following drilling and sampling  <p data-bbox="1240 1070 1865 1096">Slotted PVC used for piezometer borehole PNN-SU-DW-02</p>
<p data-bbox="147 1126 291 1187"><i>Drill sample recovery</i></p>	<ul data-bbox="344 1126 1167 1326" style="list-style-type: none"> • <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> • <i>Measures were taken to maximise sample recovery and ensure the representative nature of the samples.</i> • <i>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.</i> 	<ul data-bbox="1240 1126 2085 1399" style="list-style-type: none"> • The boreholes were drilled and partially cored • PNN-SU-DW-01 – Total Depth 308.5m; 214.5m cored • PNN-SU-DW-02 – Total Depth 341.0m; 119.5m cored • PNN-PA-DW-03 – Total Depth 350.5m; 350.5m cored • PNN-PA-DW-04 – Total Depth 350m; not cored • Drill core recoveries were recorded at the time of drilling and recorded with lithological interpretation and sample intervals. Core recoveries ranged from

Criteria	JORC Code explanation	Commentary
		<p>0-100% depending in lithology; sand and gravel lithologies generally had lower recovery percentages than the halite and clay lithologies. Unconsolidated or weakly-consolidated sand intervals with lower percentage recovery were typically associated with higher brine yield during brine sampling.</p>  <p>Core sampling Borehole PNN-SU-DW-02</p>
<p><i>Logging</i></p>	<ul style="list-style-type: none"> • <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> 	<ul style="list-style-type: none"> • Drill core was geologically described; each core box was photographed. Percent recovery was noted. • Drill cuttings obtained during rotary drilling were also geologically described and photographed.

Criteria	JORC Code explanation	Commentary
		<p>Representative samples from borehole PNN-SU-DW-01</p>

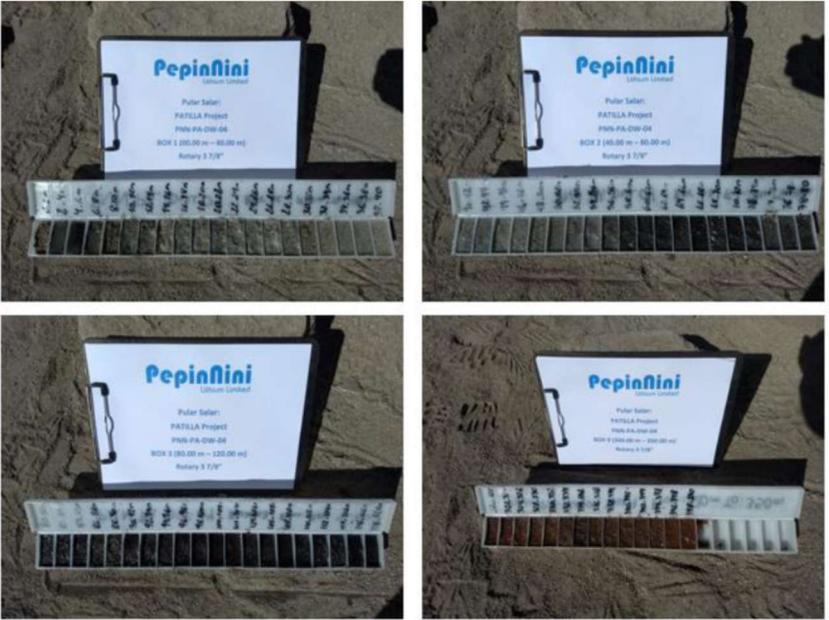
Criteria	JORC Code explanation	Commentary
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Representative samples borehole PNN-SU-DW-02

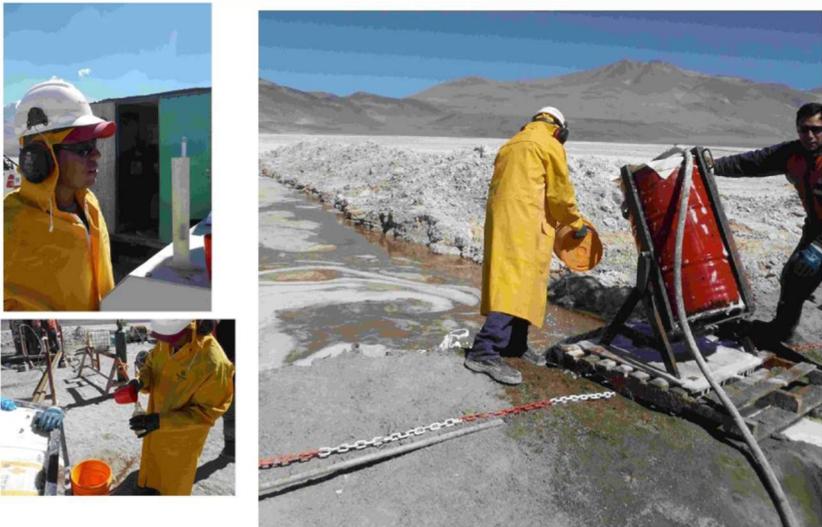
Criteria	JORC Code explanation	Commentary
		 <p data-bbox="1240 730 1794 756">Representative cores from borehole PNN-PA-DW-03</p>

Criteria	JORC Code explanation	Commentary
		 <p data-bbox="1249 927 2085 954">Chip samples of representative lithologies non-cored borehole PNN-PA-DW-04</p> <ul data-bbox="1249 986 2085 1158" style="list-style-type: none"> <li data-bbox="1249 986 2085 1013">• Borehole PNN-SU-DW-02 was geophysically logged for natural gamma. <li data-bbox="1249 1031 2085 1090">• The boreholes were cleaned of drilling mud prior to extracting depth-specific brine samples. <li data-bbox="1249 1107 2085 1158">• Brine samples were collected using a double packer to ensure that the samples are representative of a specific depth.
<p data-bbox="147 1023 344 1150"><i>Sub-sampling techniques and sample preparation</i></p>	<ul data-bbox="344 1023 1249 1374" style="list-style-type: none"> <li data-bbox="344 1023 1249 1054">• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <li data-bbox="344 1054 1249 1114">• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <li data-bbox="344 1114 1249 1173">• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <li data-bbox="344 1173 1249 1232">• <i>Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples.</i> <li data-bbox="344 1232 1249 1315">• <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> <li data-bbox="344 1315 1249 1374">• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	

Criteria

JORC Code explanation

Commentary



Packer sampling borehole PNN-PA-DW-03

- Sample bottles are partly filled and rinsed with the brine to be sampled, emptied, and then re-filled before the bottle is capped and securely taped.



- In accordance with the quality assurance and quality control (QAQC) program approved by the Competent Person (CP), 30% of the samples provided to the laboratory were duplicates, blanks, and known standards. These samples

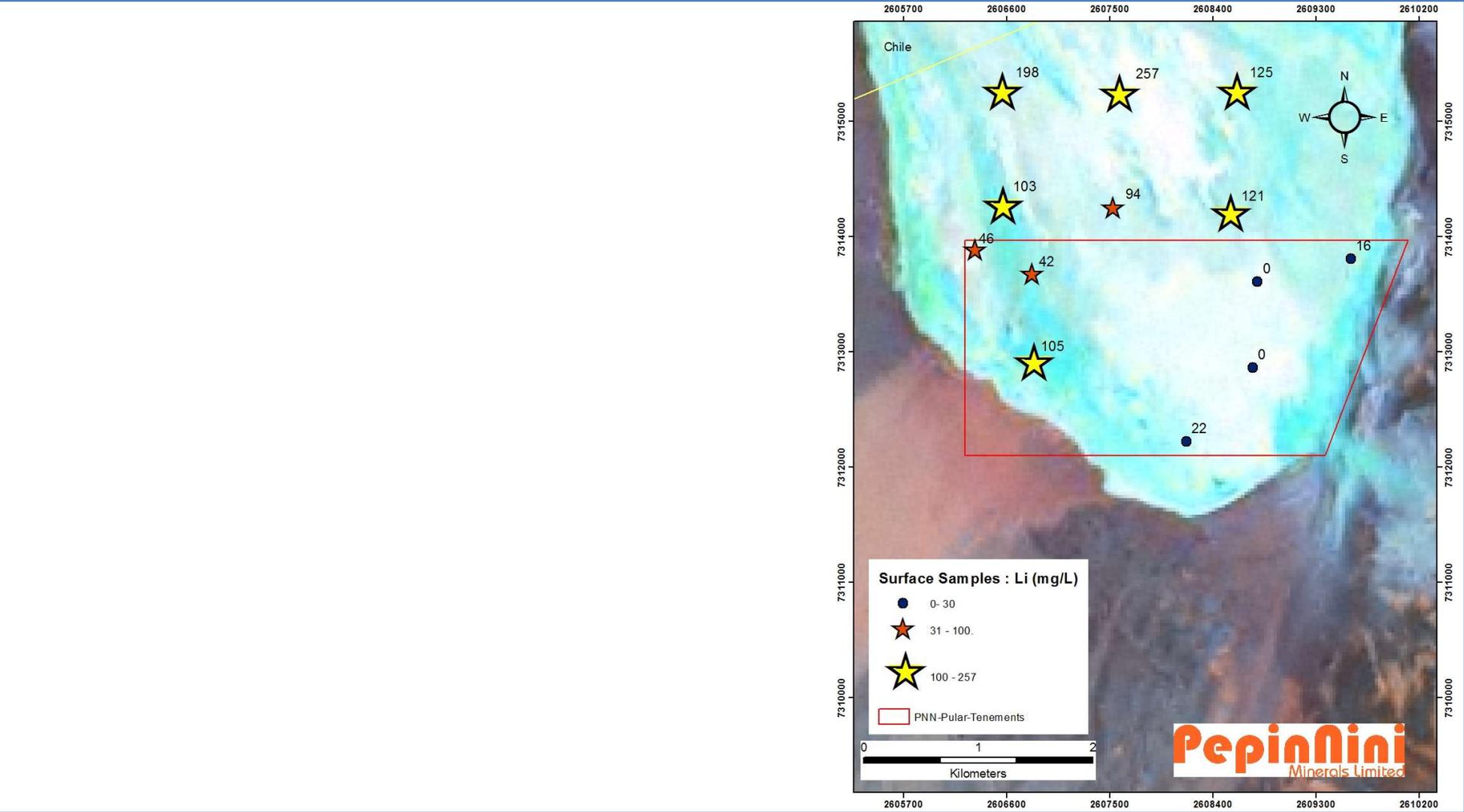
Criteria	JORC Code explanation	Commentary
		were included to verify laboratory accuracy and analysis repeatability.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique 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 (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> A chain of custody was maintained for samples from drilling location to laboratory receipt.
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Marcela Casini the exploration manager provided CP oversight for verification of sampling techniques, laboratory verification and reporting review A total of 103 brine samples were submitted for laboratory analyses, of which 32 were QAQC samples as per CP requirements
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Geographic positioning control for borehole locations was measured using Gauss Kruger POSGAR (WGS-84) Zone 2 datum
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Well spacing for a salar-hosted brine deposit is acceptable according to generally agreed upon distances between exploration boreholes. Samples were taken at intervals determined to be appropriate based on characterization of both the brine quality and the lithologic units encountered within the boreholes. Interval details are provided in previous sections of this table.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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 introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> Boreholes drilled vertically to intersect salar horizontal layering
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> A chain of custody was established for samples from field to laboratory with each stage signed off and handed over to final receipt by laboratory.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Data collection, processing and analysis 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 style="list-style-type: none"> • <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> 	<ul style="list-style-type: none"> • Mina Sulfa 1 File Number 19188, Held 100% by PepinNini SA, an Argentina entity wholly owned by PepinNini Lithium Ltd. Mina Patilla File Number 20414 held by Lithea Corporation and during time of drilling held under an exploration option agreement dated 21 February 2018 with Lithea Corporation, a wholly owned subsidiary of Lithium S, TSX:LSC based in Toronto, Canada. • Held under grant from Mining Court of Salta Province, Argentina Tenure (Mina) held in perpetuity and appropriately maintained.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> • <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> • Surface sample exploration carried out by Lithea Corporation – 2010 – mapped as yellow stars in plan below.

Criteria	JORC Code explanation	Commentary
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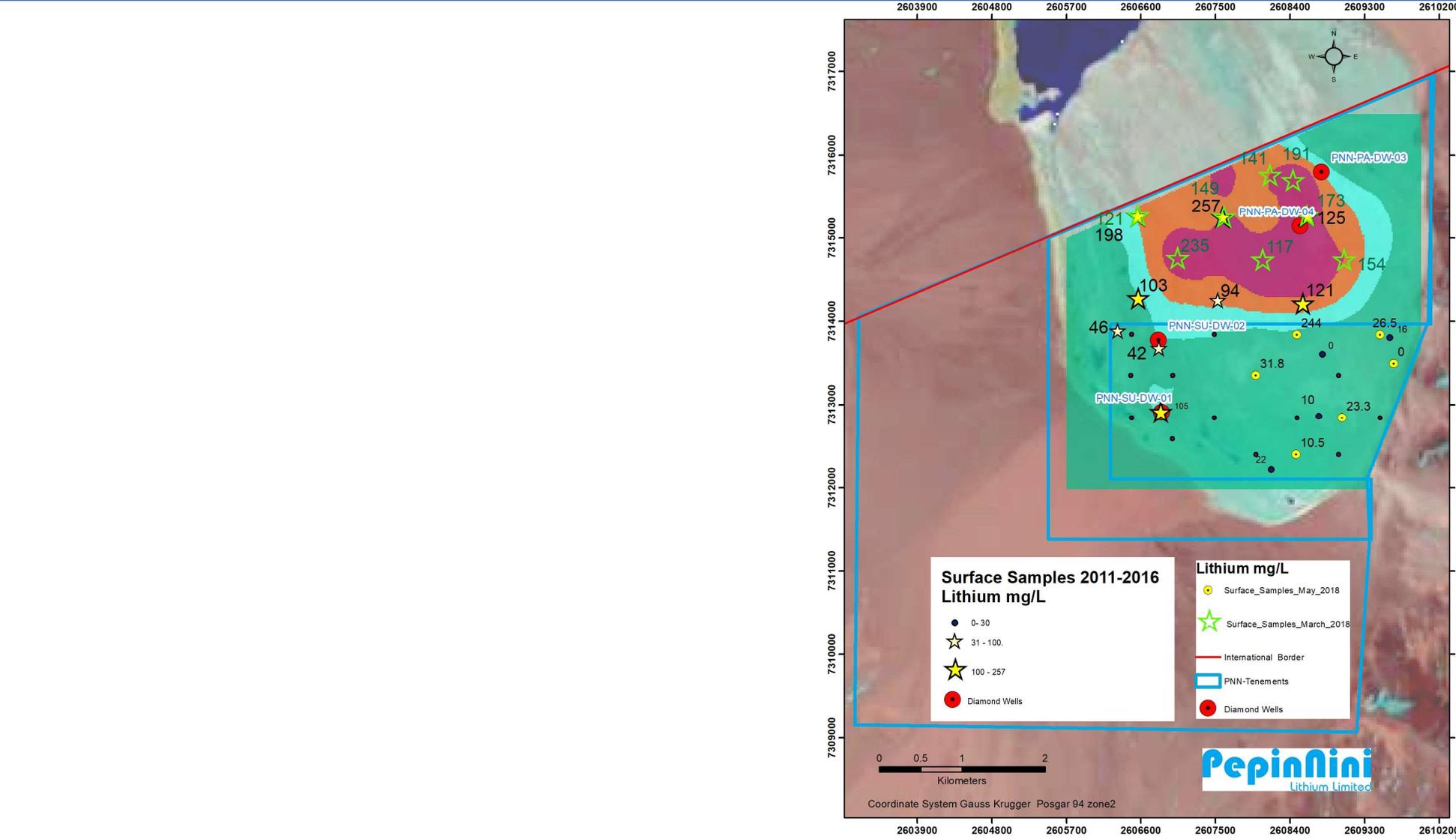


Geology	<ul style="list-style-type: none"> • Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> • PepinNini is primarily exploring for brine aquifers in salars (dried salt lakes) and the geological setting is suitable for lithium bearing brines in
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Criteria	JORC Code explanation	Commentary
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • <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"> ○ <i>easting and northing of the drill hole collar</i> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> • <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> 	<p>commercial quantities.</p> <ul style="list-style-type: none"> • Brine aquifers are indicated by high conductivity/low resistivity responses considered prospective for lithium brine <p>Borehole PNN-SU-DW-01</p> <ul style="list-style-type: none"> • Borehole coordinates: GK Posgar Zone 2: 2606831.3 East - 7312929.3 North Elevation: 3,579 masl • Start drilling date: 19 Jan 2018 • Finish drilling date: 21 Feb 2018 • Total Depth: 308.5 meters • Drilling Methodology: Diamond Drilling • Drilling Company: Hidrotec SRL • Rig: Sandvick DE710 <p>Borehole PNN-SU-DW-02</p> <ul style="list-style-type: none"> • Borehole coordinates: GK Posgar 94 Zone 2: North 7313779.4, East 2606812.4 Elevation: 3,579 masl • Start drilling date: 28 Feb 2018 • Finish drilling date: 19 Mar 2018 • Total Depth: 341 meters • Drilling Methodology: Diamond Drilling • Drilling Company: Hidrotec SRL • Rig: Sandvick DE710 <p>Borehole PNN-PA-DW-03</p> <ul style="list-style-type: none"> • Borehole coordinates: GK Posgar 94 Zone 2: North 7315799.0, East 2608781.3 Elevation: 3,580 masl • Start drilling date: 30 Mar 2018 • Finish drilling date: 13 Apr 2018 • Total Depth: 350.5 meters • Drilling Methodology: Diamond Drilling • Drilling Company: Hidrotec SRL

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> • Rig: Sandvick DE710 <p>Borehole PNN-PA-DW-04</p> <ul style="list-style-type: none"> • Borehole coordinates: GK Posgar 94 Zone 2: North 7315149.4, East 2608519.77 Elevation: 3,579 masl • Start drilling date: 19 Apr 2018 • Finish drilling date: 26 Apr 2018 • Total Depth: 350 meters • Drilling Methodology: Rotary Drilling • Drilling Company: Hidrotec SRL • Rig: Sandvick DE710
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • <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> • <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> 	<ul style="list-style-type: none"> • No data aggregation used.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> • <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 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 (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • Boreholes drilled vertically and core reported as true depths and intersection lengths; salar units are basinfill and lacustrine deposits, and are generally horizontal in nature
<i>Diagrams</i>	<ul style="list-style-type: none"> • <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> 	<ul style="list-style-type: none"> • Borehole location and surface sampling data points are shown below.

Criteria JORC Code explanation Commentary



Criteria	JORC Code explanation	Commentary
<i>Balanced reporting</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Results from boreholes PNN-SU-DW-01, PNN-SU-DW-02, PNN-PA-DW-03 and PNN-PA-DW-04 are fully reported.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All data are reported in relevant sections; no additional data to be reported.
<i>Further work</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The next step would be construction of a production well to obtain aquifer parameters for the sand and breccia units, and to estimate potential future production rates from a wellfield. Borehole (PNN-SU-DW-02) has been converted to a piezometer well for measuring water level during future aquifer testing of the proposed production well.