ASX Announcement
20 January 2022

5.2% lithium content achieved from brine-blending program at Salta Lithium-Brine Project

Highlights

- **Very high 5.2% lithium (Li) content achieved from evaporation tests of blended brine from the Incahuasi and Rincon salares at the Salta Lithium-Brine Project**
- **Brine blending program continues to deliver high lithium recoveries and low contaminants in concentrated Li brine**
- **Lithium brine-blending test results indicate potential for:**
  - ✓ **Reduced use and cost of process chemical reagents**
  - ✓ **Quicker process time and reduced evaporation pond area**
  - ✓ **Low-cost Li production in a potential future lithium operation at Salta**
- **Final results due Q1 CY'22 will form basis for technical, economic and preliminary commercial project evaluation**
- **Salta Project is located in the 'Lithium Triangle' in Argentina immediately adjacent to lithium majors Ganfeng Lithium and Rincon Mining**

Diversified minerals company PepinNini Minerals Limited (ASX: PNN) (**PepinNini** or **the Company**) is pleased to report significant high-grade results from its lithium brine-blending program at the Salta Lithium-Brine Project, in Salta province in north-west Argentina.

Results from the program continue to deliver exceptional results, with the latest test producing a brine mix concentrate of 5.2% lithium (Li) with low levels of contaminants (Table 1). **This result is exponentially higher than other lithium companies in the region that typically report in a range between 0.02% Li and 0.1% Li in their salares.**

PepinNini's brine blending program is designed to assess if by blending the different chemical properties of the lithium brines from the Incahuasi salar (salt lake) and Rincon salar, within the Salta Project (Figure 1), it can deliver:

(i) a higher lithium concentration with minimal deleterious elements; and
(ii) higher lithium recoveries in the concentrated brine, relative to the lithium concentrate values of the individual salares.

Significance of results to date include:

- Very high 5.2% lithium concentration achieved from evaporation of blended brine
- Very low loss of lithium to sulphate contaminant residue precipitates i.e. high Li recovery
- Low contaminants (Ca, Mg, SO_4) in concentrated Li

The Salta Project is located in the Salta province in north-west Argentina and is part of the Lithium Triangle, the World's leading lithium brine region. The Incahuasi salar is located immediately adjacent to Ganfeng Lithium Co. Ltd and the Rincon salar is immediately adjacent to Rincon Mining Ltd, which is to be acquired by Rio Tinto Ltd for US$825 million.

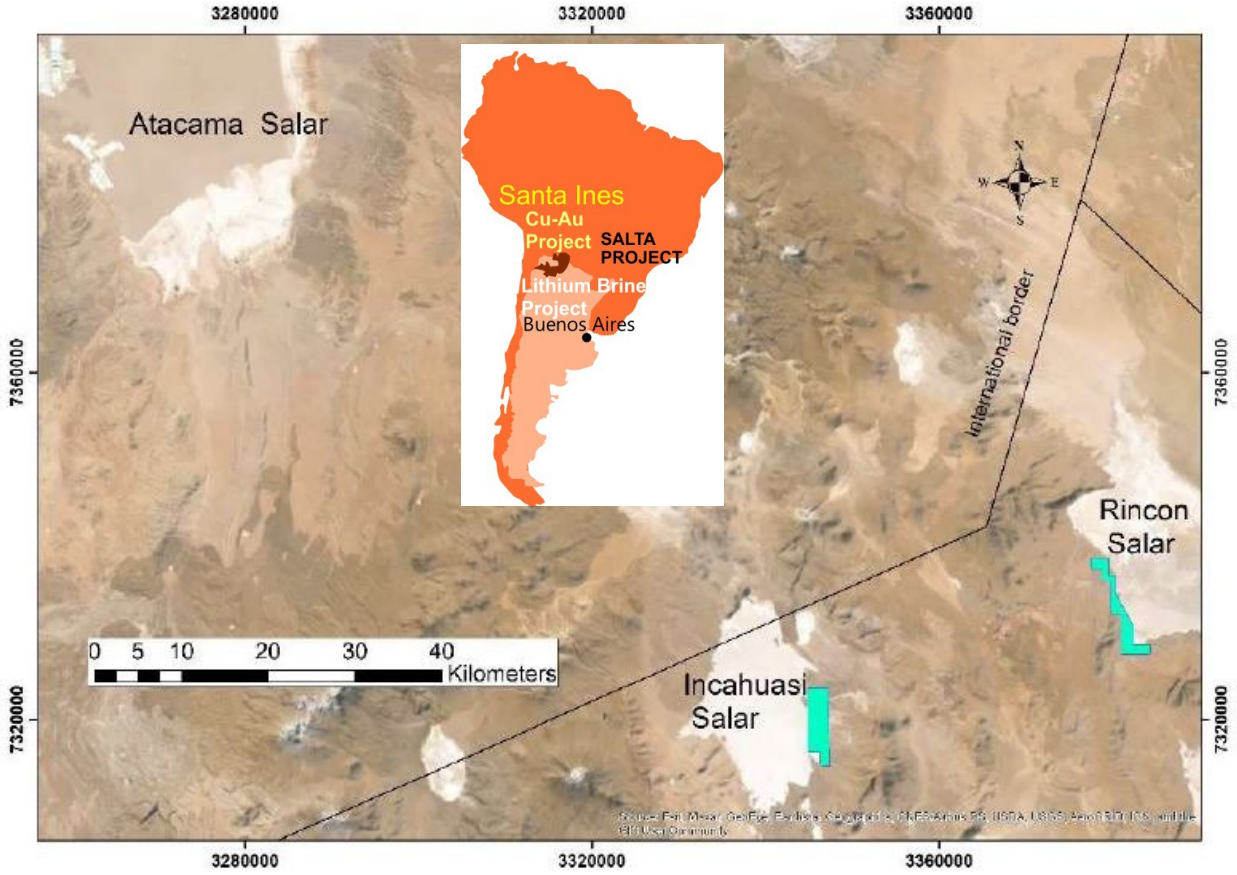

Figure 1: Location Plan - Salta Lithium Brine Project, NW. Argentina (PNN licenses in blue)

Element & Parameter	Symbol	Unit	Blended Brine 17 December 2021
Lithium	**Li**	**%**	**5.22**
Sodium	Na	%	0.096
Potassium	K	%	0.324
Magnesium	Mg	%	1.52
Calcium	Ca	%	0.198
Sulphate	SO_4	%	0.023
Chloride	Cl	%	31.29
Boron	B	%	0.463
Density		gram / cc	1.275

Table 1: Laboratory Analysis: Concentrated Blended Brine, 17 December 2021

About the Brine Blending Program

The brine blending program commenced in May 2021 and has progressively assessed the level of lithium concentration from the blended brines as they evaporate over time. The brines have been blended at a ratio of ~3:1 from the Incahuasi salar and Rincon salar respectively. The brine-blending evaporation process flowsheet is shown in Figure 2 below.

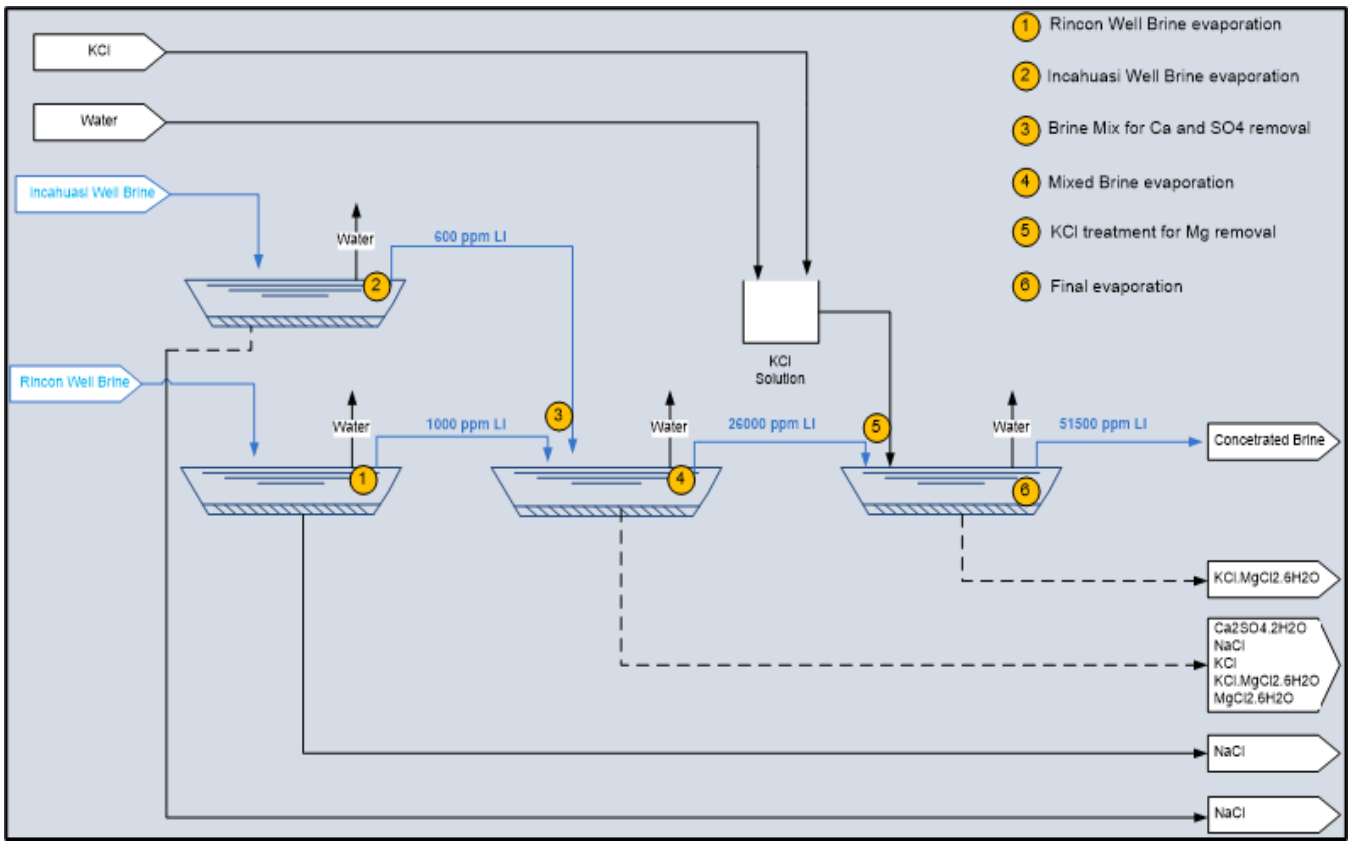

Figure 2: Brine-Blending Evaporation Process Flowsheet, December 2021

The program is designed to assess that by blending the different attributes of the lithium-bearing brines from the two salares, it is possible to deliver a very high lithium concentration with minimal deleterious elements in the combined brines, and at a lower cost. If so, this may reflect in lower production cost structures in the evaporation ponds and lithium carbonate processing plant in any possible future lithium operation at the Salta Project.

Significance of brine-blending process:

- Blending acts to pre-condition the brine in order to quickly reduce contaminants (Ca, $S0_4$)
- Reduces use of reagents including sodium sulphate (Na_2SO_4), calcium chloride ($CaCl_2$) and potassium chloride (KCl)
- Potential to reduce operating costs and evaporation time

Testing is ongoing to determine the different concentration paths and process reagent inputs for individual Rincon and Incahuasi lithium brines compared to the 3:1 blended lithium brine. Further, to compare PepinNini's brine-blending results with production processes of industry peer Li chemical companies.

The final comparative results will be used by the Company as basis for technical and economic analysis and commercial evaluation studies, alongside additional exploration and expansion of the lithium brine resource base of the Salta Project.

Results of the brine-blending program to date have been encouraging and clearly warrant ongoing test work to study Li production processes. These progress results and study methodology are detailed in previous ASX announcements, 22 September 2021 and 25 November 2021.

Next Steps include:

- Lithium consultants, Ad-Infinitum Spa (Chile) to complete brine-blending test work and report on conclusions, implications and recommendations during Q1 CY'22
- Conduct techno-economic analysis on the cost / benefits of brine-blending and determine the scope of bulk brine sampling for bench-scale production of lithium carbonate (LIC)
- Drilling and sampling to define JORC lithium brine resource at the Incahuasi salar
- Conduct independent Preliminary Evaluation Assessment (PEA) or Scoping Study to determine viability of pilot-scale and full-scale LIC production
- Assess M&A and other potential corporate opportunities for the Project

Authorised for release by the Board of PepinNini Minerals Limited.

-ENDS-

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About PepinNini Minerals

PepinNini Minerals Limited is a diversified ASX-listed mineral resources exploration company with a portfolio of projects in demand driven commodities. It is focused on the systematic exploration and development of its projects. These include the Salta Lithium Brine Project in the prolific lithium triangle in the Salta Province in Argentina, the Eyre Peninsula Kaolin-Halloysite Project, strategically located on the Eyre Peninsula in South Australia, and the Musgrave Nickel-Copper-Cobalt-PGE Project in the Musgrave Province in northern South Australia. The Company also holds the Santa Ines Copper-Gold Project in Argentina, located in the same geological setting as BHP's world-class, nearby Escondida Copper-Gold Mine in Chile.

Competent Persons Statements

The information contained herein that relates to the lithium brine laboratory test work and study development related activities have been directed by Mr. Marcelo Bravo. Mr. Bravo is Chemical Engineer and managing partner of Ad-Infinitum Spa. with over 25 years of working experience and he is a Member of the Chilean Mining Commission (register 0412) and has sufficient experience which is relevant to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Bravo consents to the inclusion of his name in the matters based on the information in the form and context in which it appears.

Forward Looking Statements

This announcement contains 'forward-looking information' that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.