



ASX RELEASE

21 January 2021

ASX:PNN

Project Portfolio Update

The Directors of PepinNini Minerals Limited (PepinNini, the Company) are pleased to provide the following update on activities and upcoming works programs across its project portfolio.

PepinNini has a diverse portfolio of active projects in key commodities, and is focused on advancing all projects and delivering value for shareholders.

Update on Hillside Minerals Acquisition

As announced last month, PepinNini has entered into a conditional Term Sheet to negotiate the acquisition of Hillside Minerals Pty Ltd (Hillside) (ASX announcement, 22 December 2020). Hillside holds two exploration licence applications (ELA 2020/210 and ELA 2020/175) covering 1,129km² on the Eyre Peninsula in South Australia (Figure 1).

Under the Term Sheet PepinNini has an exclusive period in which to undertake and complete due diligence on the potential acquisition, which expires on 7 February 2021. PepinNini advises that its due diligence is progressing.

Should PepinNini elect to proceed with the proposed acquisition, it will finalise negotiations with Hillside, and the parties will enter into a binding agreement to complete the acquisition.

PepinNini will advise the market of the outcome of its due diligence once it has been completed.

The Hillside tenements have recorded occurrences⁽¹⁾ of kaolin clay, and both tenements are directly adjacent to Andromeda Metals' (ASX: ADR) kaolin and halloysite projects. Andromeda has reported JORC 2012 kaolin and halloysite Resources (Andromeda ASX announcements 26 November 2020, 29 September 2020 and 11 August 2020).

Kaolin is used in a variety of applications including ceramics, paint and paper, coatings, medical and cosmetics.

Halloysite is used in ceramics – porcelain, as a catalyst in nanotechnology, batteries and super capacitors, CO₂ capture and storage, fuel conversion, hydrogen storage and transport, polymers as well as coatings and various medical applications.

ABOUT

PepinNini Minerals Limited is a diversified ASX listed Australian Exploration Company focused on exploring, discovering and developing a significant mineral resource. PepinNini has exploration tenements prospective for nickel-copper-cobalt-PGE in the Musgrave Province of South Australia and hold a lithium brine resource in Salta Province, Argentina. The company also holds a copper-gold exploration project in Salta Province, Argentina

DIRECTORS

Rebecca Holland-Kennedy
Managing Director
Luis Kennedy
Non-Executive Director
Robert (Wei) Sun
Non-Executive Director
Pamela Sayers
Company Secretary

CONTACT

PepinNini Minerals Limited
ABN 55 101 714 989

Level 1, 6/68 North Terrace
Kent Town SA 5067
TEL: +61 (0)8 8218 5000
FAX: +61 (0)8 8212 5717
EMAIL: admin@pepinnini.com.au

FURTHER INFORMATION

Ms Rebecca Holland-Kennedy
Managing Director
TEL: +61 (0)8 8218 5000
www.pepinnini.com.au

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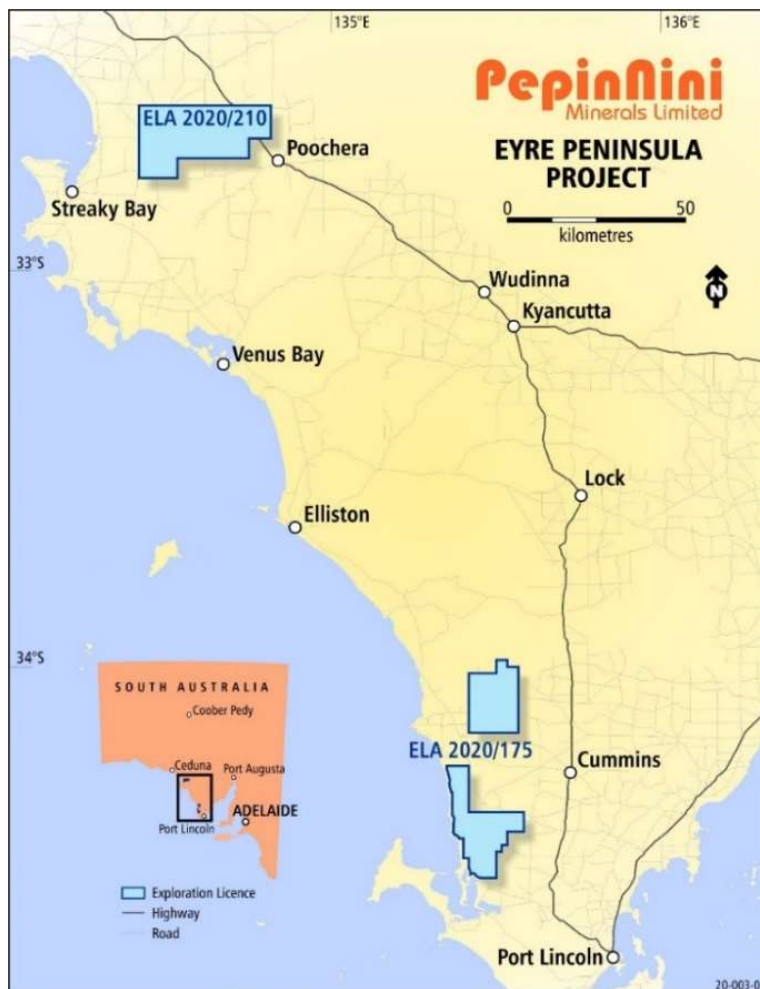


Figure 1: Hillside Tenement Locations

Salta Lithium Project, Argentina – Brine sampling program to commence

The Company advises that it is preparing to conduct a brine sampling program for second stage beneficiation test work on blended brines at its Salta Lithium Brine Project in the Salta Province, in north-west Argentina.

The brine for the sampling program will be extracted from the Rincon Deposit, within the Salta Project.

The brine sampling program is due to commence in the current quarter and will be followed by the second stage beneficiation test work. Results will be released when they become available.

This phase of beneficiation test work will follow up Pepinini's highly successful first stage beneficiation test work, which delivered an **enriched lithium brine concentrate containing 3.05% (30,500ppm – parts per million) lithium and a very low magnesium contaminate ratio of 1.6:1 Magnesium:Lithium** (ASX announcements 13 July 2020, 16 July 2019 and 4 October 2019).

The first stage results represented a massive increase in lithium content in raw brine. Prior to this, the previously extracted percentage ppm (for evaporation testing), was 0.02% (200ppm) Li from the Salar del Rincon and 0.015% (150ppm) Li from the upper halite aquifer of the

Salar de Incahuasi, within the Salta Project (ASX announcements 27 June 2018 and 4 October 2019).

The first stage test work involved blending brines from the Rincon and Incahuasi deposits. The chemistries of the Rincon and Incahuasi salt lakes (salares) were demonstrated to be highly complementary, with the Rincon brine being high in sulphate and the Incahuasi brine being high in calcium. With the blending of these brines, the gypsum (CaSO_4) contaminate was precipitated out, resulting in high-grade 3.05% lithium brine concentrate through evaporation.

Santa Ines Copper-Gold Project, Argentina – plans for maiden drill program

PepinNini also continues to progress plans for a maiden drilling program at the Santa Ines Copper-Gold Project, in the Salta Province of Argentina (Figure 2), and advises that drilling permits for the program are expected to be granted next month.

A community consultation meeting for the planned drilling has been successfully completed, and logistics planning is underway. The Company will update the market on timing of commencement of the drill program in due course.

PepinNini plans to conduct a two-hole borehole drill program at two priority targets at the Project generated by ground geophysics and field samples - the historic Santa Ines Copper-Iron-Gold Mine workings at depth and Target 2, a significant magnetic anomaly 300 metres south of the Santa Ines Mine (Figure 2) (ASX announcement 30 October 2020).

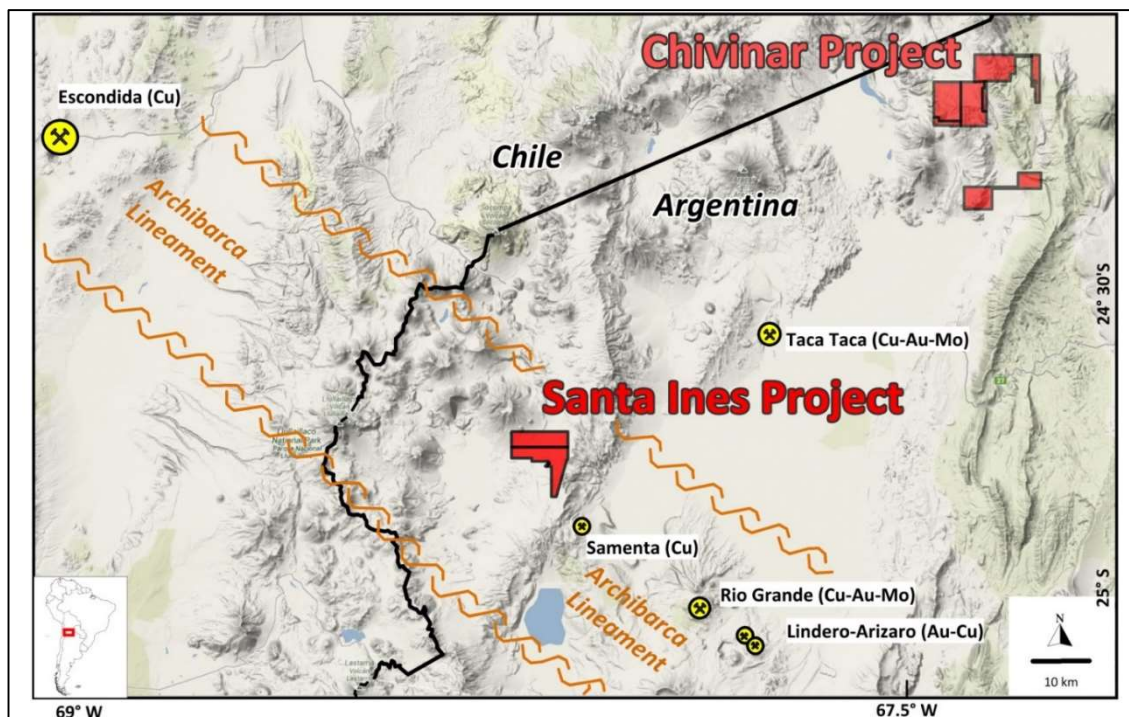


Figure 2: Santa Ines Copper-Gold Project Location Map – the Escondida Copper-Gold Project (BHP-RIO) is located 80kms to the northwest.

The Santa Ines Project comprises four mining leases (Mina) covering an area of 61.4km², and is 100% held by PepinNini subsidiary, PepinNini SA. It is located in the same geological structure and setting as BHP's world-class Escondida Copper-Gold Project in Chile, 80

kilometres to the northwest – and represents a potential, large-scale, porphyry Copper-Gold opportunity for PepinNini.

In addition to the porphyry potential, the Project may also host iron-copper-gold (IOCG) characteristics. Potential epithermal gold-silver mineralisation has also been identified.

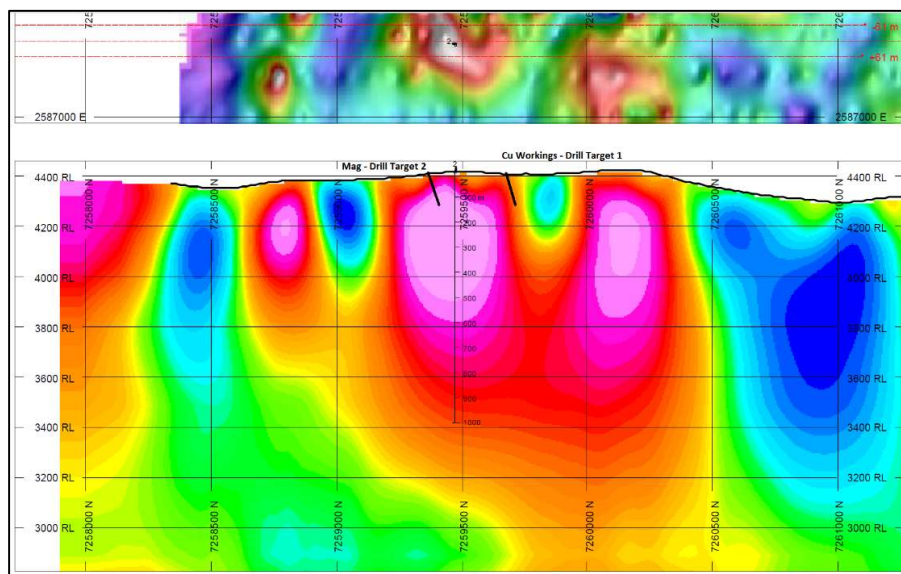


Figure 3: Magnetic inversion profile through the Santa Ines Mine and Target 2 drill targets

Musgrave Nickel Copper Project, South Australia – progress toward Exploration Deed

The Musgrave Project remains a core focus for PepinNini. It is located in the Musgrave minerals district, within the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands, in north west South Australia (Figure 4).

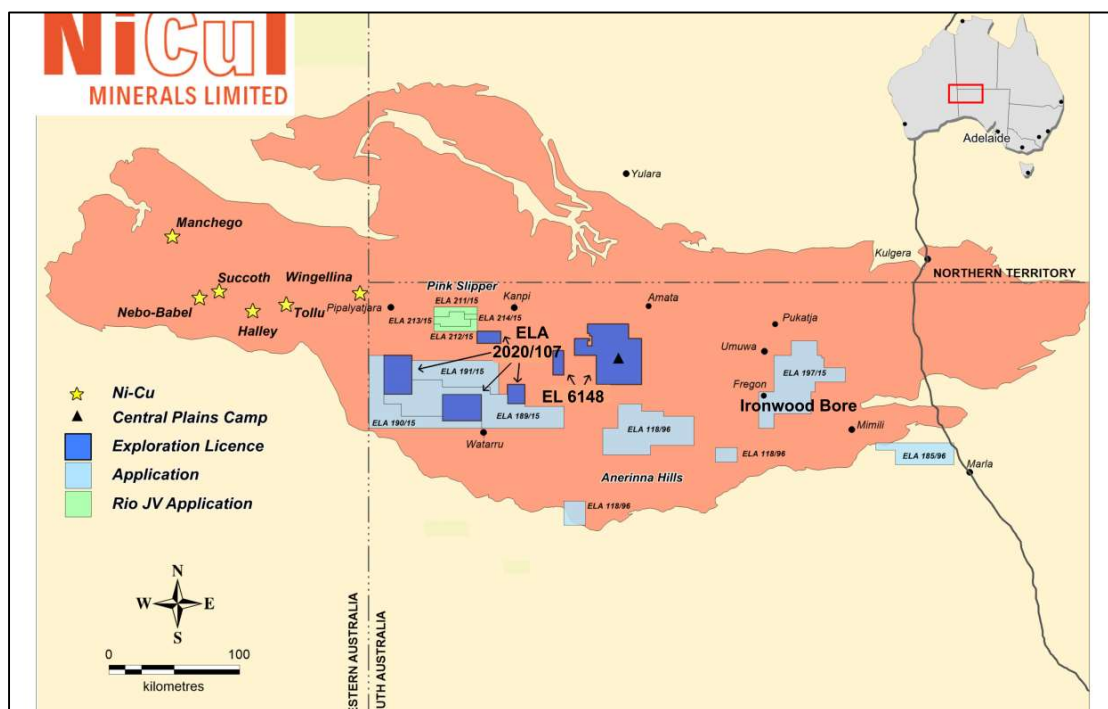


Figure 4: Musgrave Project locations, South Australia

The Project comprises two granted exploration licences and eight exploration licence applications covering a total area of 14,003 km², and is held by PepinNini 100%-owned subsidiary, NiCul Minerals Ltd. PepinNini is targeting large-scale Nickel-Copper-Cobalt sulphide discoveries at the Musgrave Project and has generated a number of priority targets.

The priority target is the Pink Slipper Farm-in Joint Venture Project with Rio Tinto Ltd (Rio Tinto Exploration Pty Ltd), which comprises four exploration licence applications (ELAs) covering a total area of 615 km² (Figure 5).

PepinNini is currently negotiating an Exploration Deed with the APY traditional owners in respect of ELA 2015/214, which contains the Pink Slipper geophysical target. Community consultation meetings, which are essential to the Exploration Deed agreement, are planned to be held in the current quarter (dependent on COVID-19 restrictions).

The agreed Exploration Deed with the traditional owners is a pre-requisite for the granting of ELA 2015/214, and the commencement of exploration and drilling at the Pink Slipper. PepinNini plans to drill the Pink Slipper target as soon as the ELA is granted

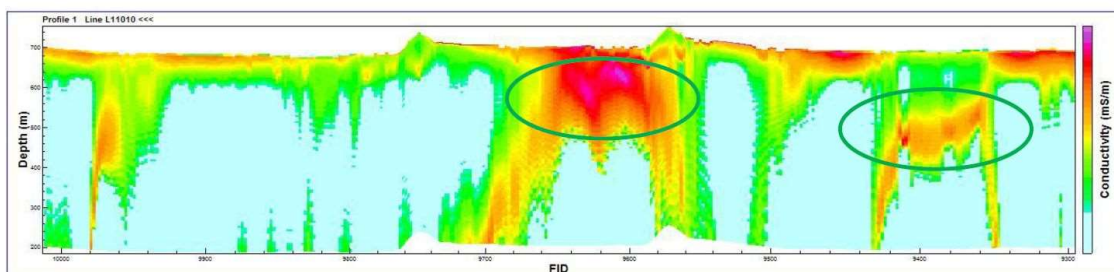


Figure 5: Pink Slipper Geophysical Target ELA 2015/214 (courtesy CSIRO Spectrem EM Survey Mar 2019(2))

¹ Open File Envelope No.1940, SML 669, Marble Range, Progress Report to Licence Expiry/Renewal for the period 10/2/1972 to 9/2/1973, submitted by Blacker Motors Pty Ltd and Abaleen Minerals NL, 1972, Government of South Australia Minerals and Energy Resources.

The section on the Salta project has been prepared with information compiled by Marcela Casini, MAusIMM. Marcela Casini is the Exploration Manager-Argentina of PepinNini Minerals 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.

This announcement was authorised for issue by the Directors of PepinNini Minerals Ltd

For further information please contact:

Rebecca Holland-Kennedy
Managing Director,
PepinNini Minerals Limited
Phone: (08) 8218 5000

James Moses
Investor Relations
Mandate Corporate
Mob: +61 420 991 574

Note: Additional information on PNN is available at www.pepinnini.com.au