ABOUT

PepinNini Lithium 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

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PepinNini Minerals Limited

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PepinNini Provides Update on Santa Ines Copper-Gold Project in Argentina

PepinNini Minerals Limited (ASX: PNN) (PepinNini, the Company), is pleased to provide the following update on its Santa Ines Copper-Gold Project in Salta Province of Argentina.

The Santa Ines Copper-Gold Project (the Project) represents a potential, large-scale, porphyry Copper-Gold opportunity. The Project 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.

PepinNini has conducted multiple phases of exploration at the Santa Ines Project and has identified two priority targets within the El Obsequio Prospect - the historic Santa Ines Copper-Iron-Gold Mine workings trend and Target 2, a significant ground magnetic anomaly situated 300 metres south of the Santa Ines Mine.

The Company's initial fieldwork at the Project consisted of a surface sampling program targeting the historic mine area. This program returned high-grade assay results, including 21.7% Copper, 0.91g/t Gold and 34.9g/t Silver (Figure 3), and confirmed the Project's potential to host high grade copper and gold mineralisation (ASX announcement, 15 June 2012).

This was followed by two subsequent phases of exploration at Santa Ines that included a rock chip sampling program, which targeted the Santa Ines Mine pits. The program returned the following highly encouraging results; 3.25% Copper, 0.8g/t Gold, 12.5g/t Silver and 91.1ppm Molybdenum (ASX announcement, 28 February 2014).

PepinNini subsequently conducted a targeted geological mapping and soil sampling program, as well as an eleven line-kilometre Induced Polarisation (IP) geophysical survey, designed to assess the potential for porphyry Copper-Gold mineralisation. This delivered further positive results, including 228ppm Copper and 13.7ppb Gold in soil samples (ASX announcement, 18 July 2014).

The Company has undertaken a review of its exploration programs at the Project and based on the positive outcomes, is planning to commence preparations for a maiden drill program.

Plans for Maiden Drilling Program – Next Steps

PepinNini plans to conduct a maiden reverse circulation (RC) drilling program at its two priority targets at the Project.

Drilling will target the historic Santa Ines Copper-Iron-Gold Mine workings trend at depth and, separately, the magnetic anomaly at Target 2 (see Figures 2 and 5: Santa Ines Project - El Obsequio Prospect, proposed drill hole locations).

This phase of drilling will be designed to:

- Confirm the continuity of width and grade of the Copper-Gold mineralisation within the structure at a vertical depth of 75 metres to 100 metres, beneath the old mine workings at the Santa Ines Mine; and
- Confirm that the source of the magnetic anomaly at Target 2 is accompanied by Copper-Gold mineralisation.

Figure 1; Santa Ines Mine (South East Excavation)

Background to Drill Targets

The two drill targets – the Santa Ines Mine and Target 2 anomaly – are both narrow secondary northeast trending structures. They sit within granites of the Permian-Triassic Llullaillaco Plutonic Complex, which contains variable copper-gold-hematite-magnetite mineralisation. There has been small-scale extraction of mineralisation historically at the Santa Ines Mine (Figure 1). The targets are located 300 metres from each other and the proposed drill collars are situated 50 metres to 100 metres from existing tracks. (Figure 2).

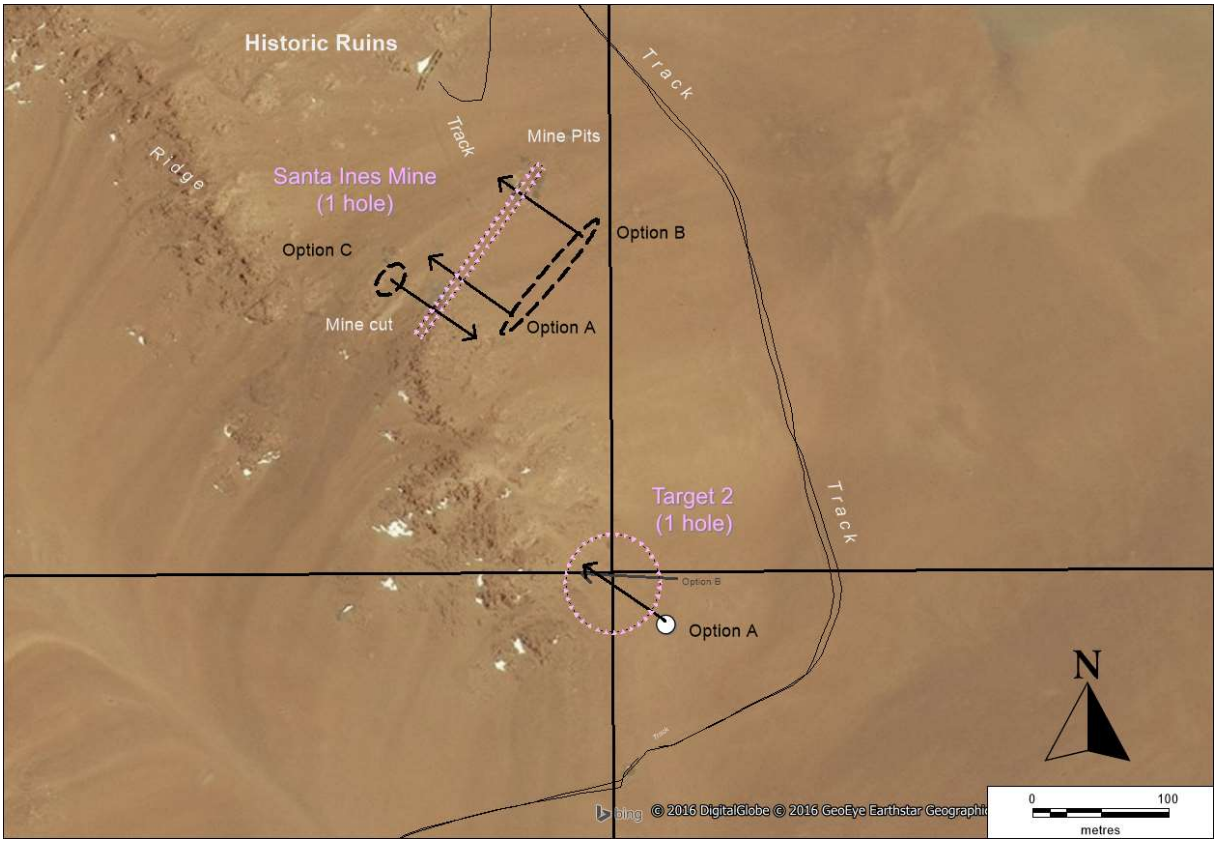

Figure 2: Proposed RC drill hole locations at the El Obsequio Prospect, Santa Ines Project.

Santa Ines Mine Trend

The proposed drilling at the Santa Ines Mine will aim to intersect the structure at 75 metres to 100 metres vertical depth, beneath the surface mineralisation. This structure is greater than 100 metres in length and trends southwest-northeast and dips at approximately 85° to the southeast.

Several historic excavations (pits) lie along a northeast trending structure at Santa Ines. These workings host substantial secondary copper mineralisation (Malachite and Azurite) and abundant hematite within a 2 metre wide shear zone.(Figure 3)

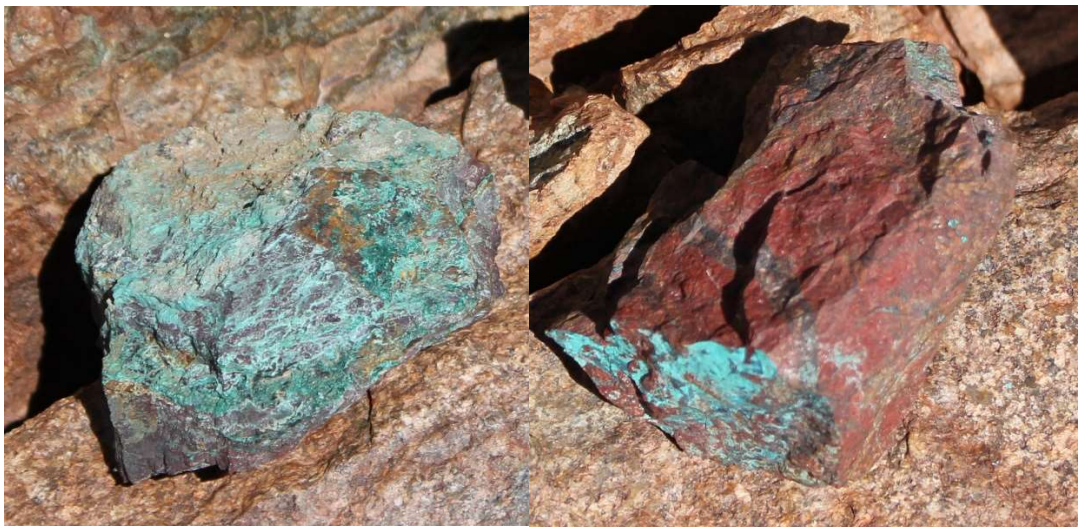

Figure 3 – Santa Ines Mine samples April 2012

Target 2 Magnetic Anomaly

The second proposed drill hole is designed to test the source of the Target 2 ground magnetic anomaly, at a vertical depth of approximately 75 metres to 80 metres. This hole will be drilled at a dip of 60° to the northwest (305° Azimuth) and the collar will be positioned on the southeast flank of a hill at the drill site, less than 100 metres from the access track. The magnetic anomaly is modelled to be its shallowest at this point (see Figures 2 and 4).

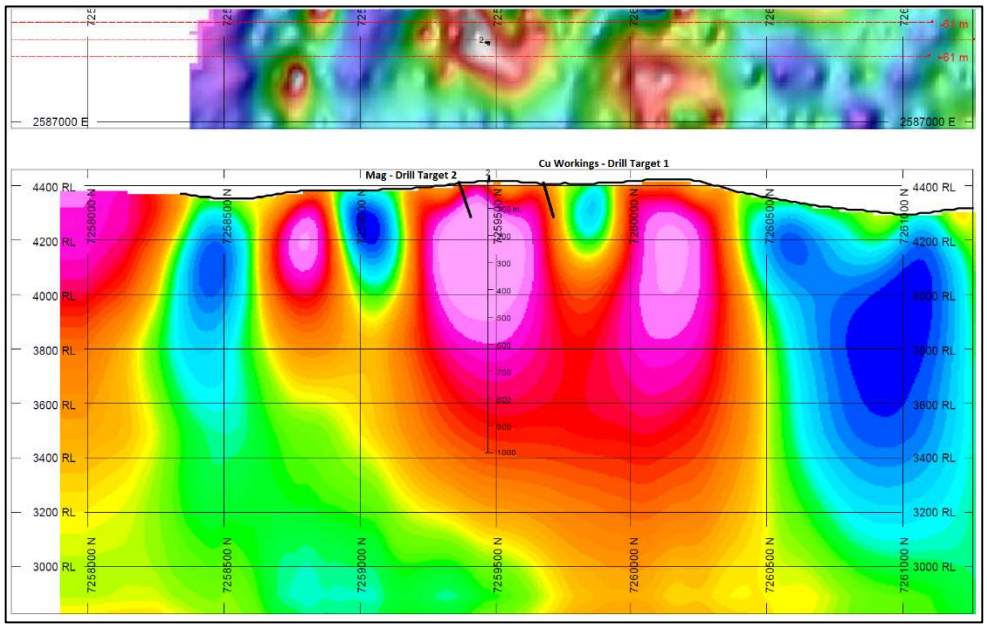

Figure 4: Magnetic inversion profile through the Santa Ines Mine and Target 2 drill targets.

About the Santa Ines Project

The Santa Ines Project comprised of 4 mining leases(Mina) is 100% held by PepinNini subsidiary, PepinNini SA. It is located in the western region of Salta Province in northwest Argentina, approximately 40km east of the border with Chile and covers a total area of 6,138 hectares or 61.4km^2 (see Figure 5, Project location map).

The Project is located within a crustal scale mega–lineament (the Archibarca lineament zone) which trends to the northwest and also hosts the giant Escondida Copper-Gold Project, 80 kilometres to the northwest. These crustal structures are widely recognised as being fundamental in the control and distribution of porphyry-epithermal deposits, particularly where they are intersected by northeast-trending structures, such as those seen at Santa Ines.

PepinNini is exploring the project area for large copper-gold-molybdenum porphyry systems, which may also have iron-copper-gold (IOCG) characteristics. Potential epithermal gold-silver mineralisation has also been identified.

The Project is physically amenable for exploration. Access to site is via main highways and other sealed roads, then via unsealed road to the project site - and is only five kilometres from the Salta-Antofagasta railway. The Project is situated in the western part of a plateau and the topography is amenable to straightforward 4WD vehicle access, via a network of pre-existing tracks within the Project area.

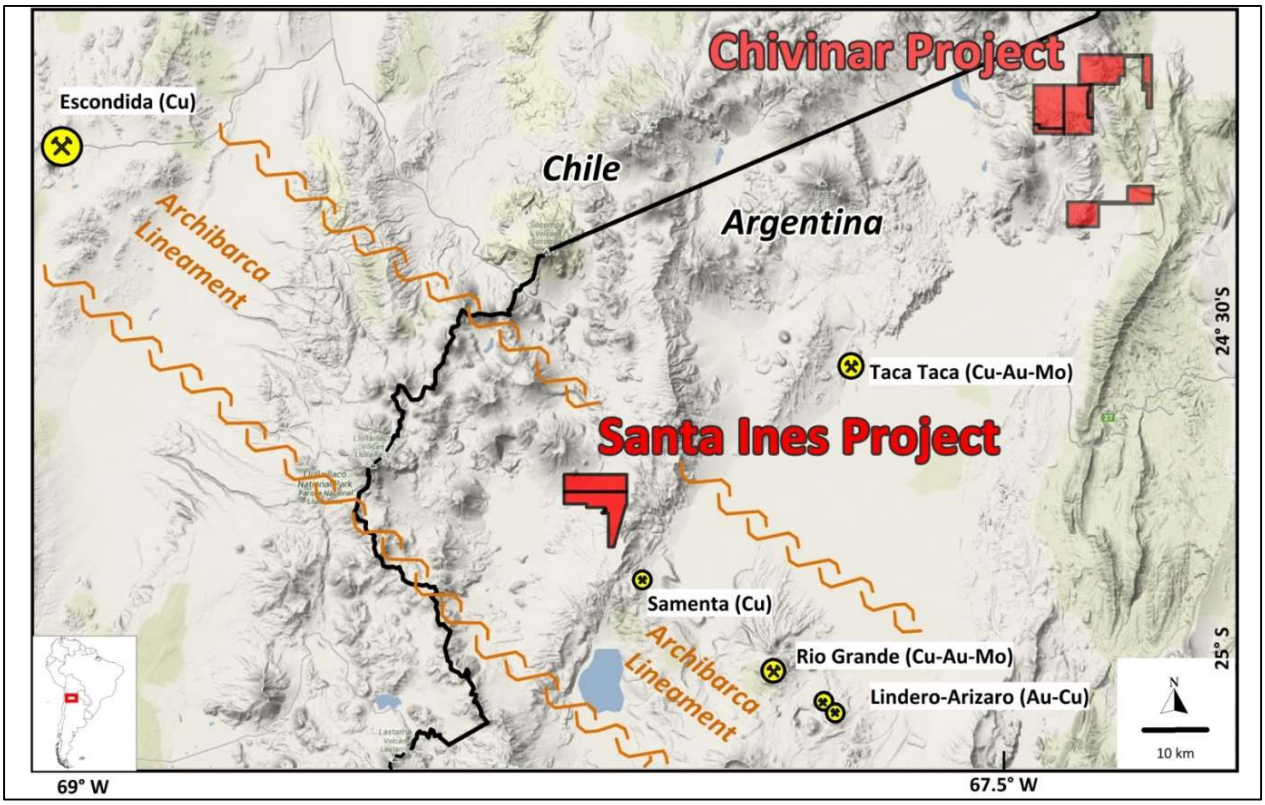

Figure 4: Santa Ines Copper-Gold Project Location Map – the Escondida Copper-Gold Project (BHP-RIO) is located 80kms to the northwest

The information in this report that relates to Exploration Targets and Exploration Results, is based on information compiled and/or thoroughly reviewed by Mr Philip Clifford, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Clifford has sufficient experience that 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 Clifford consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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

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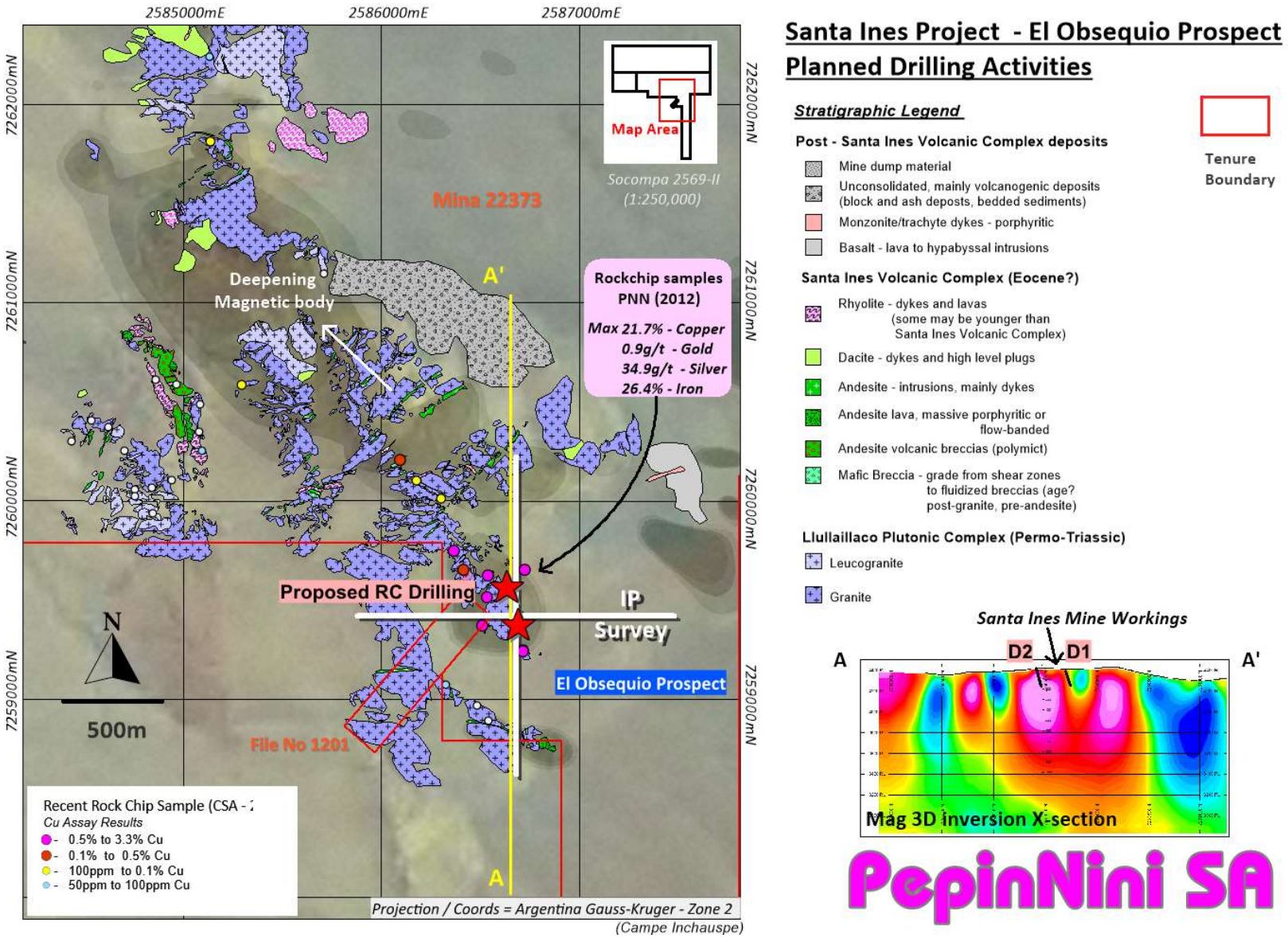

Figure 5 – Planned Drilling Activities Santa Ines Project

JORC TABLE 1

JORC Code, 2012 Edition – Table 1 Santa Ines Project, Salta Province, Argentina

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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.*	• Grab and rock chip samples from outcrop and historical mining dumps have been collected for both geochemistry and hyperspectral analysis during the course of reconnaissance field mapping. Sampling has not been designed to estimate mineralised grades as this is the first stage of exploration activity on the property.
Drilling techniques	• *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).*	• No drilling undertaken due to early stage of exploration.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Not applicable as no drilling has been completed.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Not applicable as no drilling has been completed.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Rock samples weighing up to 1 kg were passed through a jaw crusher to reduce the grain size to a nominal 80% less than 2 mm. The sample size is considered adequate for sampling of secondary copper mineralization in fine grained intrusive rocks. A 200 to 250 g split was then pulverized to a nominal 85% less than 75 microns. A 30 g charge was used for Au fire assay and is considered suitable for the style of mineralization. A 0.25 g split was used for multi-element analysis and is also considered appropriate. • A batch of 37 rock samples was accompanied by one preparation (crusher) duplicate and five pulp duplicates. No field duplicate samples were collected at this stage of the exploration program as the samples were only designed to assess the surface geochemistry and will not be used in resource estimation.
Quality of assay data and laboratory tests	• *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 (ie lack of bias) and precision have been established.*	• Gold was determined by lead-collection fire assay (total analysis) and the remaining multi-element suite was analysed using a multi-acid digestion, which will be total for the base metals but near-total for those elements found in refractory minerals. The digestion and analytical methods used are considered appropriate for oxidised Cu-Au mineralization. • The samples were analysed with a total of 26 internal multi-element certified reference materials, blanks and quartz washes and a single external standard reference material. The results have been compared to certificates and acceptable levels of accuracy have been obtained. The data indicate acceptable reproducibility but are insufficient to quantify precision.
Verification of sampling and assaying	• *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.*	• No drilling was undertaken. • Data entry for this early stage exploration program was through the use of data capture directly into GIS software on a handheld Trimble Nomad. Merging of field and assay data was done in an Excel spreadsheet. • The data has not been adjusted.
Location of data points	• *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.*	• Argentina Gauss Kruger Zone 2 - Campo Inchauspe datum. • Sample locations were collected using handheld GPS.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *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.*	• Sampling was not designed to constrain resources.
Orientation of data in relation to geological structure	• *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.*	• Rock samples for geochemistry were focused on mineralised structures to determine the presence or absence of Cu-Au mineralisation. • Sampling for hyperspectral analysis is more widely spaced. • The ground magnetic survey was designed to cover most areas of exposed Palaeozoic, Mesozoic and Cainozoic bedrock.
Sample security	• *The measures taken to ensure sample security.*	• Samples were delivered to the AcmeLabs preparation facility in Mendoza, Argentina by the contractors engaged to carry out the field program.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• None undertaken at this early stage.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *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.*	• Mina Santa Ines (File 1201), Mina Santa Ines VIII (22074), Mina Santa Ines XIII(22372) and Mina Santa Ines XII (22373) are held 100% by PepinNini SA, a wholly owned subsidiary of PepinNini Minerals Ltd. • Surface rights for the tenements are held by Salta Province (i.e. crown land). • An approved environmental impact report has been lodged with the Salta Mining Court(October 2020) is in place to allow exploration activities to take place.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Historical artisanal mining has taken place but there are no records of production or previous exploration on the tenements.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Cu-Au-Mo mineralisation of either porphyry-Cu or iron oxide copper gold (IOCG) style in a Cainozoic Andean magmatic arc setting.

Drill hole Information	• *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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• Not applicable as no drilling was undertaken.

Data aggregation methods	• *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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable as no weighted averages, aggregates or metal equivalents have been used at this early stage of exploration.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• Not applicable as no drilling has been undertaken nor has systematic channel sampling of surface workings been carried out.
Diagrams	• *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.*	• Geological map with significant grab sample results provided.
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.*	• Cu grades vary from a low of 4.1 ppm to a high of 32,560 ppm. • Au grades vary from a low of <2 ppb to a high of 635 ppb. • Ag grades vary from below detection to a high of 12.5 ppm. • Mo grades vary from a low of 0.4 ppm to a high of 91.1 ppm.

Criteria	JORC Code explanation	Commentary
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; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• A preliminary interpretation of hydrothermal alteration from hyperspectral analysis of Aster satellite data and hand samples, as well as from geochemical analyses, has been undertaken. • The results of ground magnetics survey are also presented.
Further work	• *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.*	• Exploratory shallow RC drilling is planned to examine surface mineralisation and source of magnetic anomalism.