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# Investment Ideas PepinNini Minerals (ASX:PNN): drilling area targeted

## Salta Lithium Project – Exploration Results

PNN announced on 27 February 2017 that geophysical vertical electrical sounding surveys ("VES")
completed over three tenements (Pular, Arizaro, Pocitos) indicate the potential for lithium brine
bearing aquifers close to the surface with considerable thickness. See table below

#### **VES** survey results

| Salar           | Mina              | Area<br>ha | Minimum<br>depth(m) | Aquifer layers interpreted | maximum<br>depth (m)   | average<br>thickness (m)    |
|-----------------|-------------------|------------|---------------------|----------------------------|------------------------|-----------------------------|
| Pular           | Sulfa I           | 657        | 0.24                | three                      | Open at depth<br>> 150 | 119<br>but open at<br>depth |
| Arizaro         | Ariza Sur 1       | 3,004      | 5.7                 | one                        | 95                     | 52                          |
| Pocitos<br>West | Tabapocitos<br>02 | 2,970      | 2.1                 | three                      | 264                    | 181                         |
| Pocitos<br>East | Pocitos 11        | 3,000      | 11.6                | one                        | 139                    | 85                          |

Source: Company

- **Drilling permit applications have been submitted for drilling at the** <u>Pocitos Salar</u>. Drilling to confirm lithium grades and aquifer thickness is planned for March/April.
- Management disclose that the Pocitos Salar was drill tested by 12 shallow holes in 1979 by and
  Argentinian government agency (DGFM). The most significant result from the historical work
  program included an intersection of 417mg/L lithium (Li) and 14,300mg/L Potassium (K). Note: the
  results of these holes are historical, and cannot be confirmed by PNN under JORC 2012 standards.
- If PNN's drilling program intersects significant grades, then drainable porosity (specific yield) will be evaluated through core samplings and pumping tests; management is targeting to have an estimated (JORC 2012 compliant) maiden Resource at Salar Pocitos within the next 12 months.
- PNN intends to complete additional VES surveys over three other tenements Salinas Grandes, Rincon, and Cauchari.

#### **State One comments**

- ✓ We note that the geophysical survey results (probably in combination with historical drilling) has supported PNN to select Salar Pocitos as the target for its maiden drilling programme.
- ✓ The average thickness of deposit 181m at Pocitos West / 85m at Pocitos East implies an attractive average thickness for Salar Pocitos as a whole (State One estimate 135m).
- ✓ The lithium grade of 417mg/L as per historical government drilling at Salar Pocitos is below the grades disclosed by peers operating in the same region (NW Argentina). However, we calculate that this grade is high enough to potentially result in a significant maiden Resource of ~1.45Mt lithium carbonate equivalent (LCE). As a comparative, the Resource at Orocobre's (ASX: ORE) flagship producing Salar de Olaroz Project is some 6.4Mt of LCE.



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## Peer comparative: lithium grades

| Grade (mg/L)               |                    |         |               |  |  |  |  |  |  |
|----------------------------|--------------------|---------|---------------|--|--|--|--|--|--|
| Company                    | Project            | Li      | Potassium (K) | Comments   |  |  |  |  |  |
| Lithium X                  | Sal de Los Angeles | 450     | 5,000         | Indicated and Inferred Resource  |  |  |  |  |  |
| Orocobre (ASX: ORE)        | Salar Olaroz       | 690     | 5,730         | Measured and Indicated Resource / Producing operation                          |  |  |  |  |  |
| Orocobre (ASX: ORE)        | Salinas Grandes    | 795     | 9,547         | Inferred Resource  |  |  |  |  |  |
| Orocobre (ASX: ORE)        | Salar de Cauchari  | 400-700 |               | 20km south of Olaroz, viewed by ORE as same basin with similar brine chemistry |  |  |  |  |  |
| Galaxy Resources (ASX:GXY) | Sal de Vida        | 753     | 8,377         | Measured and Indicated and Inferred Resource                                   |  |  |  |  |  |
| PepinNini (ASX:PNN)        | Salar de Pocitos   | 417     | 15,300        | As per 1979 drilling programme by Argentinian government agency                |  |  |  |  |  |

Source: Companies, compiled by State One Stockbroking

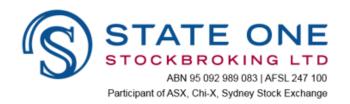
#### Salar Pocitos: estimated Maiden Resource sensitivity analysis - Lithium Carbonate Equivalent (Mt)

|          |     | Average deposit thickness (m) |      |      |      |      |  |  |  |
|----------|-----|-------------------------------|------|------|------|------|--|--|--|
|          |     | 105                           | 120  | 135  | 150  | 165  |  |  |  |
|          | 300 | 0.84                          | 0.97 | 1.09 | 1.21 | 1.33 |  |  |  |
| Average  | 350 | 0.99                          | 1.13 | 1.27 | 1.41 | 1.55 |  |  |  |
| Li grade | 400 | 1.13                          | 1.29 | 1.45 | 1.61 | 1.77 |  |  |  |
| (mg/L)   | 450 | 1.27                          | 1.45 | 1.63 | 1.81 | 1.99 |  |  |  |
|          | 500 | 1.41                          | 1.61 | 1.81 | 2.01 | 2.21 |  |  |  |

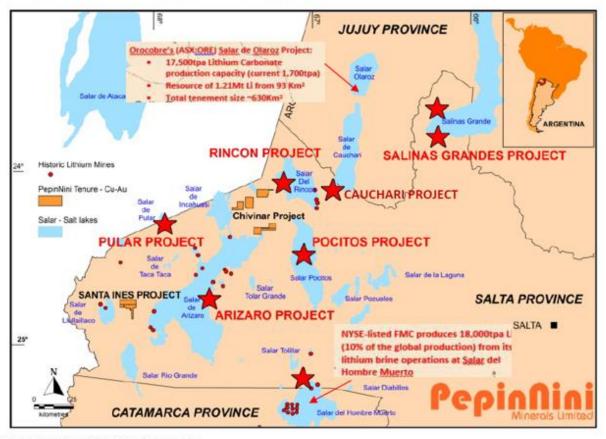
Source: State One Stockbroking

Note: Assumptions: 1) potential brine area = 85% of Salar Pocitos 5,970ha combined tenement (mina), base case average deposit thickness = 135m, base-case lithium grade = 400 mg/L, base-case brine yield = 10%, conversion ratio: 1t Li =  $5.29 \text{t Li}_2 \text{CO}_3$ .

- At a forecast long-term lithium carbonate price of US\$10,000/t, our estimated/indicative Salar Pocitos maiden Resource of 1.45Mt LCE has an in-situ value of US\$14.5bn.
- At the current spot lithium carbonate price of US\$20,000/t, the in-situ value doubles to US\$29bn.
- PNN has been exploring in the Salta Province of NW Argentina since 2010 and continues to hold a portfolio of properties covering the Santa Ines and Chivinar Cu-Au Projects. Through strong local connections, and being "on-the-ground" when tenements were relinquished by small private holders, PNN has for relatively modest outlays successfully accumulated thirteen mining leases (mina) prospective for lithium brine over the past 6-8 months. As at end December 2016, PNN's total tenement holding was 32,665ha. The Salar Pocitos mina of 5,970ha accounts for 18% of PNN's total tenement holdings. As a result, we suggest that a total exploration target of over 3Mt LCE is not unreasonable. We believe a Resource of this size would be attractive to a number of potential LCE processors. Our understanding is that PNN has been approached by several industry players, with discussion progress dependent on Resource development.
- The initial drilling and assay results (targeted for April 2017) will provide key data on aquifer thickness and brine composition (specifically the lithium grade in mg/L). This data could act as a powerful share price catalyst as it will give investors for the first time some idea of the potential grade and size of the Resource at PNN's Salta Lithium Project.



## PNN's Lithium Project - Salta Province, Argentina



Source: Company, State One Stockbroking

• PNN also has **16 tenements in central Australia** covering 16,608km<sup>2</sup> (Musgrave and Mozart Projects) prospective for nickel, copper, PGE, and diamonds. Capital demands here are at a minimum, but give investors "free" exposure to any increase in the base metal price environment.



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Note: State One Stockbroking was lead manager for PNN in a A\$1m capital raising in July 2016 and A\$0.6m capital raising in February 2017.

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