



## ASX ANNOUNCEMENT

27 February 2015

### **Spinifex Range Magnetics Interpretation Complete**

PepinNini Minerals Limited (PNN) is pleased to announce that the Company has completed an interpretation of recently acquired high-resolution magnetics and identified a number of Nickel-Sulphide (Ni-S) and Platinum Group Element (PGE) prospect areas within the Spinifex Range Project, West Musgrave Province of Western Australia.

The study has highlighted six prospects within the central northern project area that share geological similarities to nearby Nebo-Babel deposits (31.2Mt @ 0.7% Ni and 0.6% Cu, Cassini Resources Limited) and are therefore prospective for Ni-S mineralisation. Principal recommendations for additional work within these areas include ground electromagnetic surveys (detection of possible massive sulphide at depth) and reconnaissance regolith sampling utilising the Company's tractor mounted vacuum drill rig.

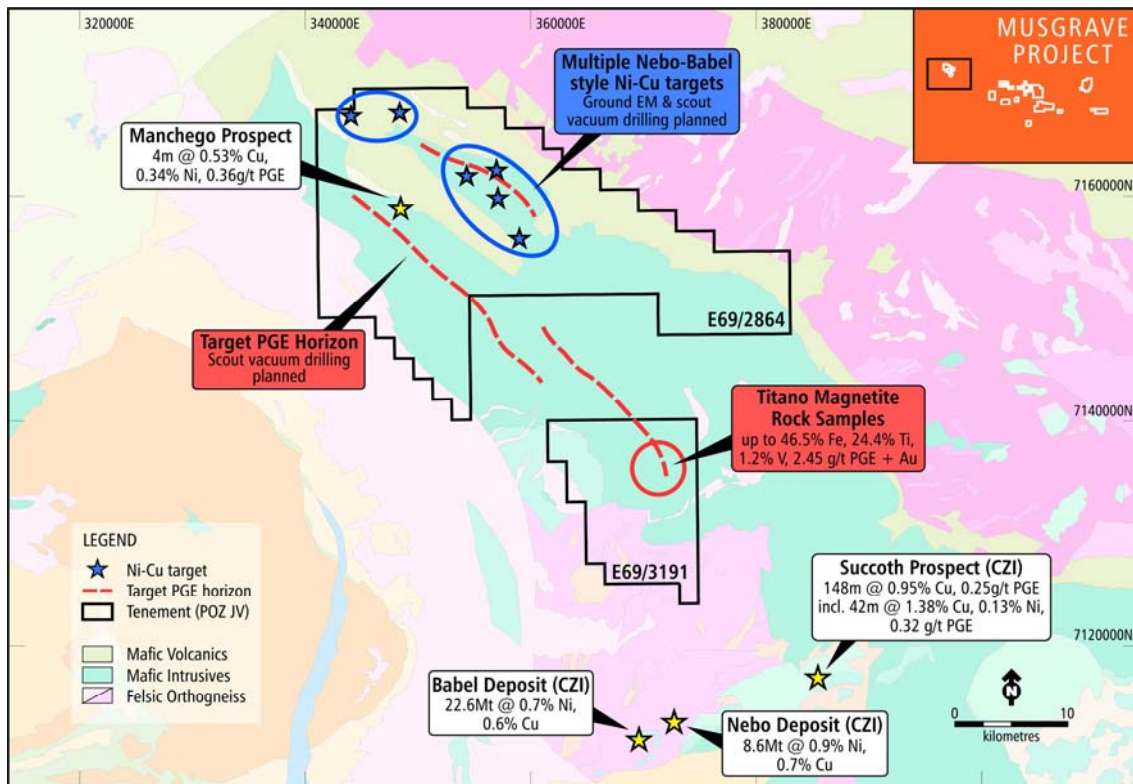
Interpretation of the new magnetics data has also improved the Company's understanding of the geology of the layered ultramafic-mafic Jameson Intrusion, which is prospective for reef-style PGE mineralisation hosted within Iron-Titanium Oxide (Magnetite) seams. This work has demonstrated that the most northern magnetic horizon represents the first generation of magnetite formation within the emplacement history, and therefore is the most prospective for high-tenor PGE sulphides such as those discovered within magnetites of the Stella Intrusion of South Africa. Details of a possible PGE reconnaissance drill program are yet to be determined.

The company has submitted an amended proposal to the Ngaanyatjarra Land Council for low-impact follow up ground exploration activities and has requested that traditional owners assess the cultural heritage status of the proposed work areas. An introductory meeting and heritage clearance process has currently been scheduled for mid March to facilitate access to the areas of interest. Once the status of the land access approval is confirmed and logistical matters are resolved then exploration will be commenced as a matter of priority.

## About Spinifex Range

The Spinifex Range Project includes two granted exploration licences which PepinNini is exploring for magmatic nickel – copper sulphide and platinum group metals under a two year option agreement with Phosphate Australia Limited(ASX:POZ)(PNN ASX announcement 15 September 2014).

The Spinifex Range Project (E69/2864) is located within the same key geological formations that host Cassini Resources Ltd (ASX: CZI) Nebo-Babel deposits, located some 50km south-southeast of the project area. The mineral potential of this area is also supported by the identification of fertile mafic lithologies at the Manchego prospect (Figure 1), where historic diamond drilling intercepted a 4m zone yielding 0.53% Copper - Cu, 0.34% Nickel - Ni & 0.36 g/t Platinum Group Elements – PGE(ASX:POZ release 28 October 2013 and 3 January 2014).



**Figure 1:** Spinifex Range (E69/2864) - Nickel-sulphide and Platinum Group Element prospects overlying regional geology (Geological Survey of Western Australia)

*The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Philip Clifford who is a member of the Australasian Institute of Mining and Metallurgy. Mr Clifford is employed full time by the company as Technical Director and has a minimum of five years relevant experience in the style of mineralisation and type of deposit under consideration and qualifies 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 of the information in this report in the form and context in which it appears.*

### **For further information please contact:**

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**Note:** Additional information on PepinNini Minerals Limited can be found on the website:  
[www.pepinini.com.au](http://www.pepinini.com.au)

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All data is within Spinifex Range tenement E69/2864 in the west Musgrave Province of Western Australia. E/69/2864 is 100% Phosphate Australia Limited. On September 15, 2014, NiCul Minerals Limited (wholly owned subsidiary of PepinNini Minerals) purchased a two year option from Phosphate Australia Limited for exploration over the project.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>During early 2000s Western Mining Corporation conducted regional soil &amp; rock chip sampling, ground geophysics (IP and EM) and prospect drilling [17 RC &amp; 5 DD] targeting Ti-V-PGE-Ni-Cu mineralisation. During 2011-2013 Anglo American Exploration completed a regional Spectrem Electromagnetic survey and conducted soil sampling &amp; prospect drilling [15 RC] at Manchego</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>PepinNini is exploring for conduit-style Ni-Cu sulphide systems related to mafic intrusions of the 1070Ma Giles Event. The project is also prospective for magnetite-hosted Ti-V-PGE mineralisation associated with the Jameson Layered Intrusion.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling has been undertaken by the holder or the operator referred to in this report</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high</li> </ul>	<ul style="list-style-type: none"> <li>Significant intercepts presented herein for the Manchego prospect have been calculated using weighted averages using parameters 0.4% Cu</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>grades) and cut-off grades are usually Material and should be stated.</p> <ul style="list-style-type: none"> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	and/or 0.4% Ni lower cut-off, minimum sample length of 1m and no internal dilution
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul style="list-style-type: none"> <li>Mineralisation at Manchego occur as bands of disseminated pyrrhotite ± chalcopyrite dipping approximately 30° to the south. Significant intercepts cited herein related to MRC048 collared with an inclination of -80° and azimuth 270°.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Regional geological map and Ni-Cu occurrences are provided in Figure 1</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No exploration work undertaken by the owner or operator is referred to in this report</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The airborne magnetic data was collected N-S line orientated flight lines with a 100m line spacing and nominal sensor height of 35-40m.</li> <li>The grid system used is GDA94 z52</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>High-priority areas will be investigated with rock chip sampling (where possible), shallow drilling (max depth 30m) and ground electromagnetic surveys</li> </ul>