PepinNini Minerals Limited
ABN 55 101 714 989

ASX ANNOUNCEMENT

27th July, 2009

Musgrave Project Update:
Pine Ridge EL3536, Musgrave Province, South Australia

PepinNini Minerals Limited (PepinNini) conducted a drilling program within EL3536 Pine Ridge between March and June 2009 (*Figure 1*). Exploration activities were focused on targeting nickel-copper sulphide mineralisation within the Giles Complex and base metal mineralisation within the Birksgate Complex. Stratabound copper mineralisation within felsic gneiss of the Birksgate Complex has been reported by previous explorers in the area and were prioritised for drilling.

DIAMOND DRILLING

Drilling operations utilised the Company owned and operated diamond drill rig and vacuum drill rig. A total of five diamond boreholes were drilled for 1007.98m. All diamond boreholes targeted nickel-copper sulphide mineralisation within prospects previously identified within the tenement. These prospects were previously explored by the Department of Mines and Energy in the 1960's and 1970's and by Rio Tinto Exploration from 1998 to 2004.

Two diamond boreholes were drilled within the Kenmore II copper prospect, one within the Eremophila prospect and two within the Southbank prospect (*Figure 2*). Drilling was terminated at ~30m in both boreholes within the Southbank prospect due to poor ground conditions.

Lithologies intersected by diamond drilling were dominantly those of the Birksgate Complex, including felsic and mafic gneiss, calcsilicate rock and garnet (spessartine) quartzite. Granites of the Pitjantjatjara Supersuite (Kulgera Suite) and mafic-ultramafic rocks of the Giles Complex (serpentinite, peridotite, troctolite and gabbro) were also intersected.

Minor sulphide mineralisation was intersected within intermediate and mafic gneisses within the Kenmore II prospect (*Figure 3*). Ultramafic lithologies were not associated with significant sulphide mineralisation but have relatively higher concentrations of chromium and nickel. Maximum assay results from two diamond boreholes (DD09PIN001 & DD09PIN002) drilled within the Kenmore II copper-nickel prospect included:

Borehole DD09PIN001

- *0.74m @ 0.21% Cu from 220.23m*
- *2.8m @ 0.20% Cu from 221.89m*
- *3m @ 0.27% Cr & 0.17% Ni from 340.7m*

Borehole DD09PIN002

- *0.3m @ 0.48% Cu from 124.68m*
- *3.0m @ 0.2% Cr & 0.21% Ni from 273.3m*
- *1.65m @ 0.4% Cr from 310.5m*

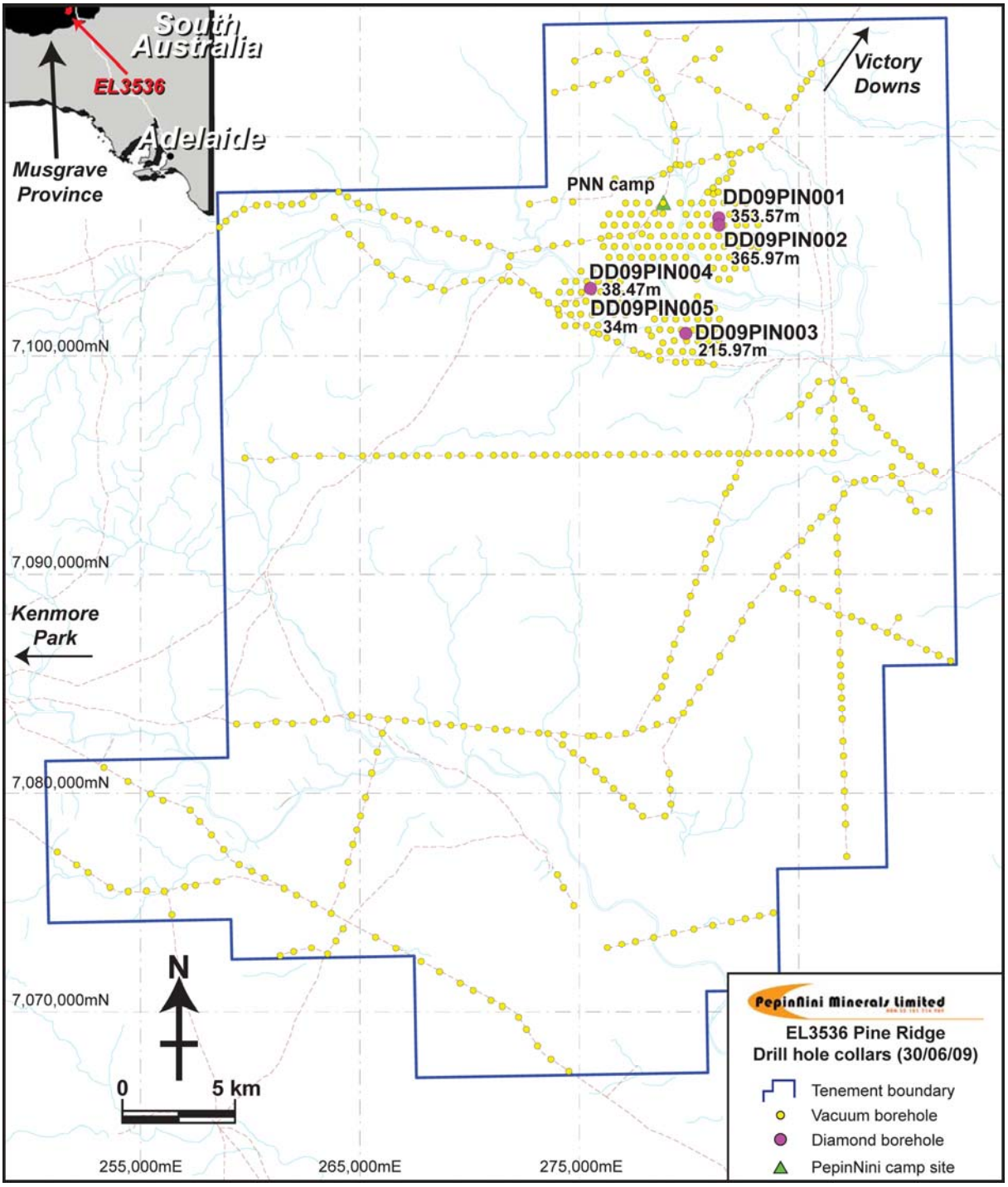

Figure 1. Diamond and vacuum borehole locality map, EL3536 Pine Ridge.

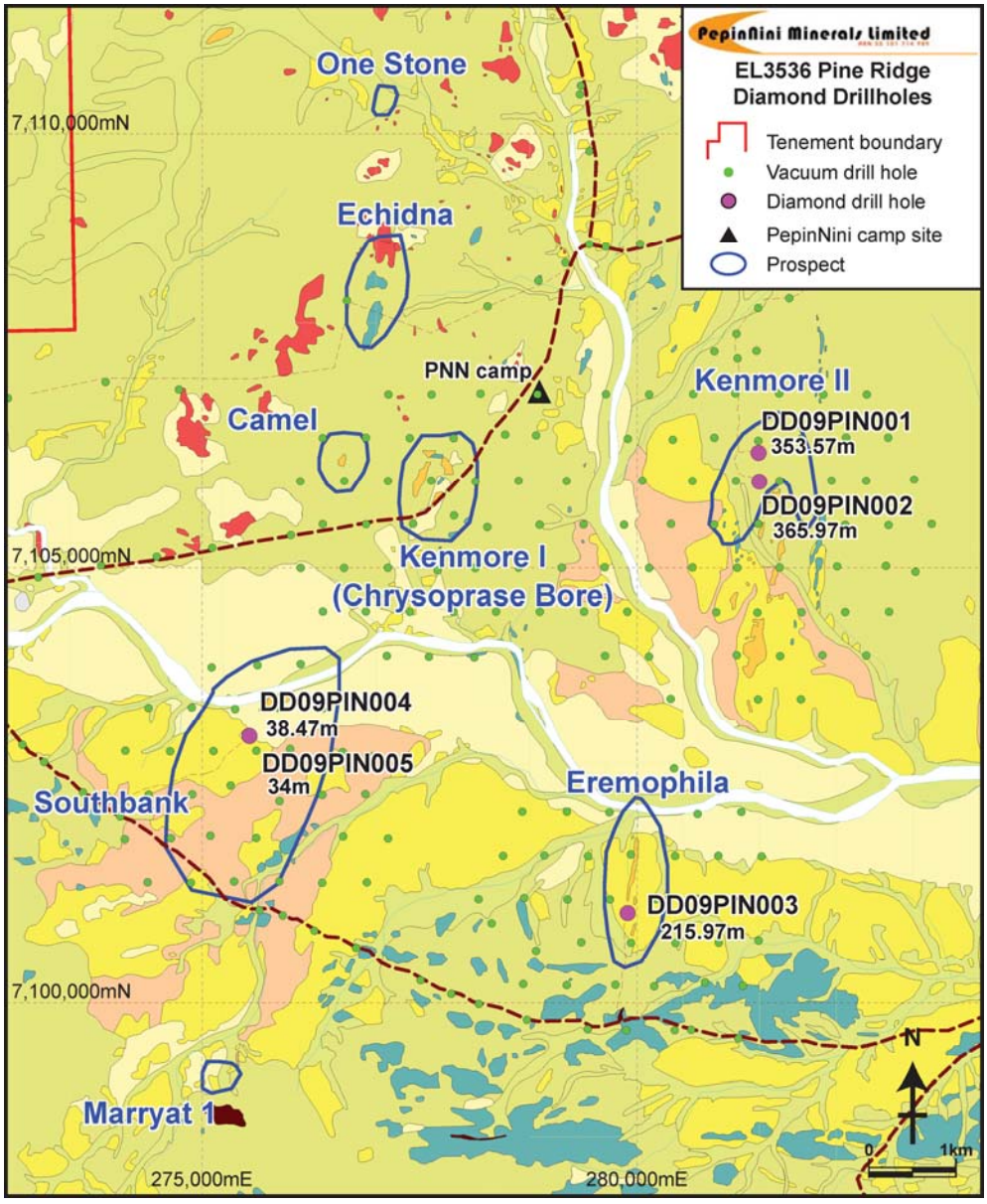

Figure 2. Diamond borehole localities and EOH depths, EL3536 Pine Ridge.

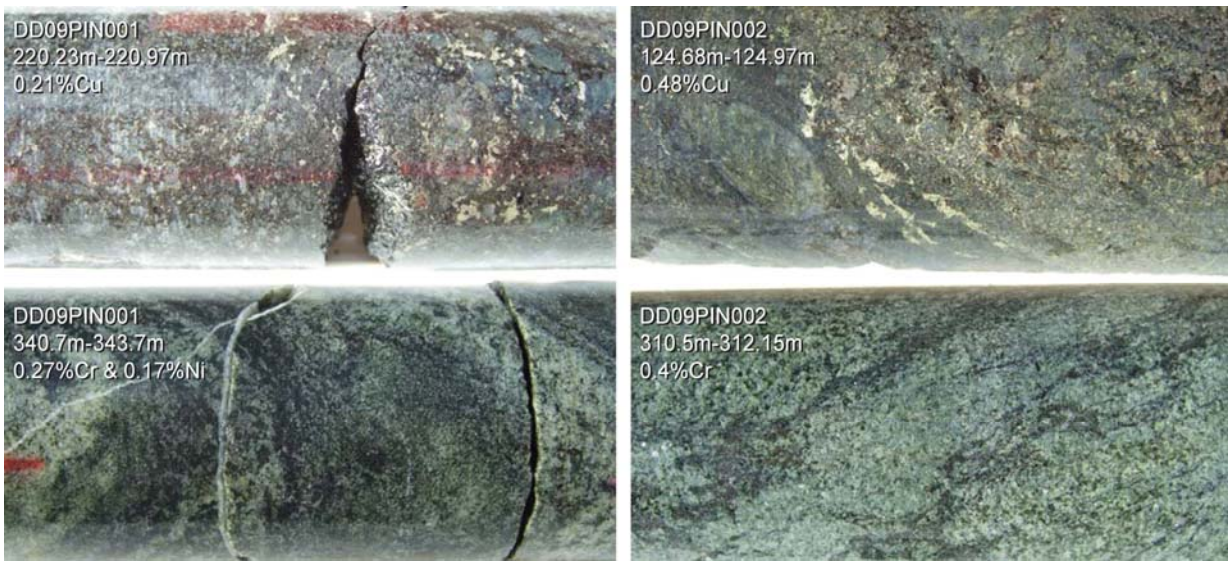

Figure 3. Diamond core photos of mineralisation intersected by drilling within the Kenmore II Prospect.

The intersection of stratabound copper mineralisation within mafic and intermediate gneiss of the Birksgate Complex is considered by PepinNini to be very encouraging. This is due to the similarities in rocks of the Birksgate Complex with those associated with the Broken Hill Pb-Zn-Ag deposit. Of particular significance is the identification of metasedimentary rocks, calcsilicate rocks, garnet quartzite (up to 15.4% Mn) and mafic rocks within the Birksgate Complex stratigraphic sequence. This increases the overall prospectivity of the Birksgate Complex in the Musgrave Province for hosting base metal mineralisation. In addition, the identification of ultramafic rocks of the Giles Complex within EL3536 also increases the prospectivity of the eastern Musgrave Province. The relatively primitive geochemical signature of these ultramafic rocks is encouraging given the prospectivity of similar rocks for hosting nickel, chromium and PGE mineralisation.

VACUUM DRILLING

The regional vacuum drilling program within EL3536 completed 534 boreholes totaling ~3445.5m. Hole depths varied between 0.6 – 19.2m with a median depth of 4.8m. The relatively shallow depth of the boreholes is attributed to the comparatively shallow regolith profile in the tenement area. A total of 790 samples were collected during the vacuum drilling program with the majority of assay results received. Maximum results from the vacuum drilling program to date include:

- *Cu 500ppm*
- *Co 650ppm*
- *Ni 800ppm*
- *Pb 95ppm*
- *Zn 380ppm*
- *Ag 47ppm*
- *La+Ce+Y 1160ppm*
- *Th 205ppm*

Nickel and copper anomalies were recorded over the known prospect areas (up to 415ppm Cu at Kenmore II; 650ppm Ni at Southbank; and 435ppm Ni at Kenmore I). Coincident base metal anomalies have been identified within the tenement in areas not previously explored and warrant further investigation. Several regions of anomalous rare earth element concentrations have been identified proximal to known granite occurrences (*Figure 4*). Anomalous La, Ce, Y and Th indicate enriched felsic rocks or hydrothermal fluid systems. This has implications for the potential of mineralising systems within the region.

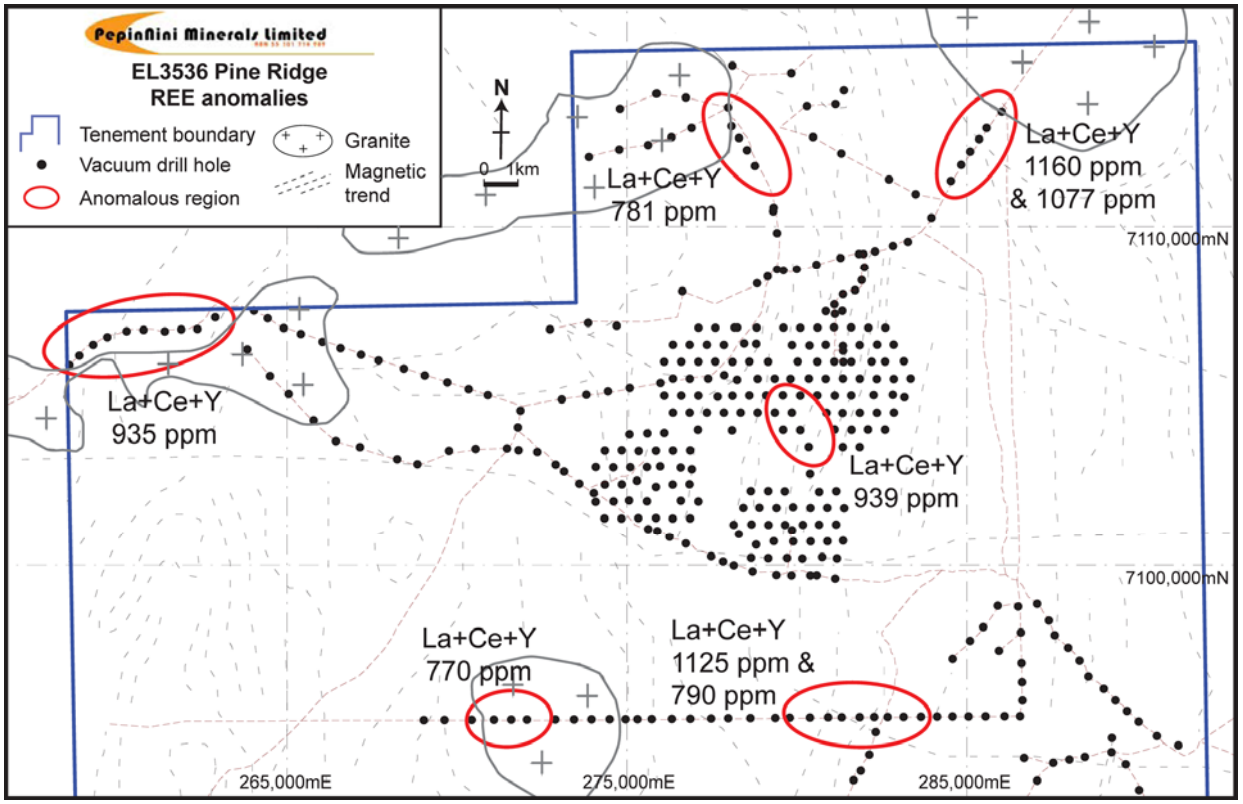

Figure 4. Location of rare earth element anomalies adjacent to known granite occurrences.

The information in this report that relates to Exploration Results is based on information compiled by Norman Kennedy BSc MAusIMM. Norman Kennedy is the Chairman and Managing Director 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 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Norman Kennedy consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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Note: Additional information on PepinNini Minerals Limited can be found on the website: www.pepinnini.com.au