

ASX ANNOUNCEMENT

19th October, 2012

Sulphides intersected in SkyTEM⁵⁰⁸ Follow-up Drilling, Musgrave Project, SA.

- **Massive to semi-massive sulphides intercepted at the Byron Prospect**
- **Follow up ground EM survey to extend SkyTEM⁵⁰⁸ conductors**

PepinNini Minerals is pleased to announce that recent diamond drilling of SkyTEM⁵⁰⁸ conductive targets (ASX release, 12th June, 2012) has intercepted encouraging intervals of massive to semi-massive, matrix and disseminated sulphides at the Byron and Byron South Prospects.

The most salient visual intercepts recorded are:

- **DD12COP007:** 47metres with matrix and disseminated sulphides from a depth of 127metres,
- **DD12COP008:** 15metre zone with intervals of massive to semi-massive sulphides from a depth of 196metres, followed by 28metres with matrix and disseminated sulphides from a depth of 248metres,
- **DD12COP013:** 20metres with matrix and breccia sulphides from a depth of 167metres, followed by 4metres of matrix sulphides from a depth of 207metres.

All metreages quoted are down-hole depths as true widths are not known.

First pass follow up drilling of SkyTEM⁵⁰⁸ electromagnetic anomalies has been completed at Cooperinna as part of PepinNini's ongoing search for magmatic Nickel-Copper sulphide deposits across the Musgrave Province, far north South Australia (Figure 1). The Cooperinna Project forms part of exploration license EL4587 (100% PepinNini) and is located approximately 330km west of the Stuart Highway and Adelaide to Darwin Rail line.

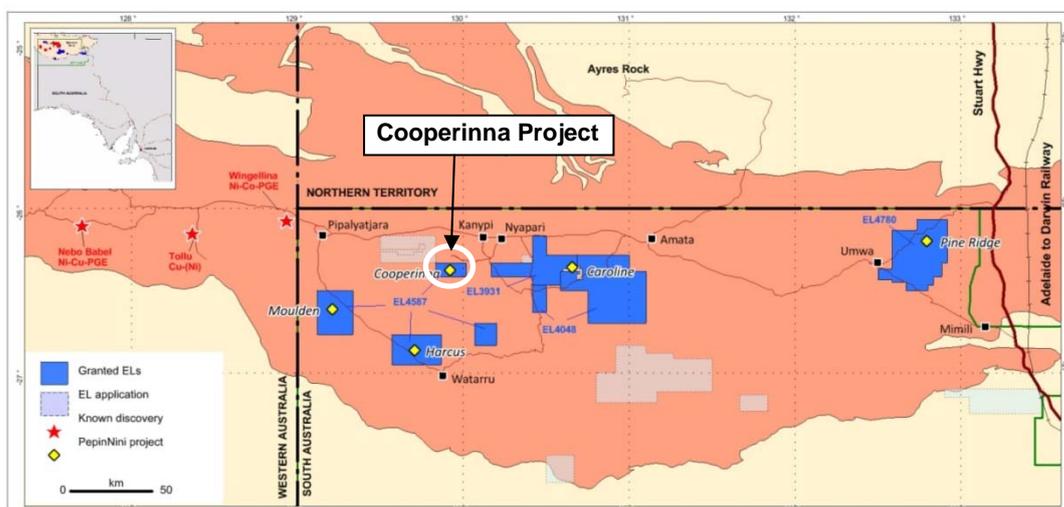


Figure 1: Tenement location plan

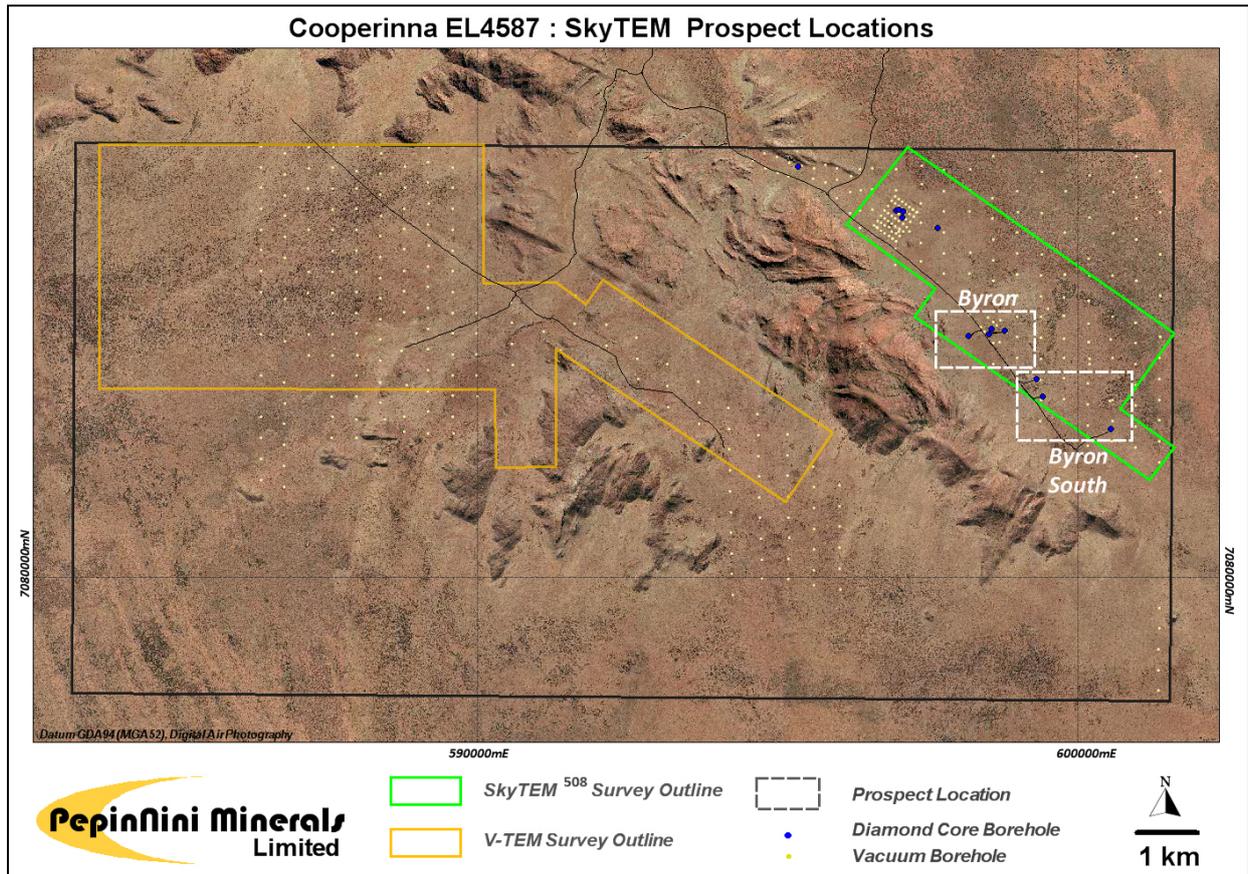


Figure 2: Cooperinna – SkyTEM⁵⁰⁸ Prospect location plan

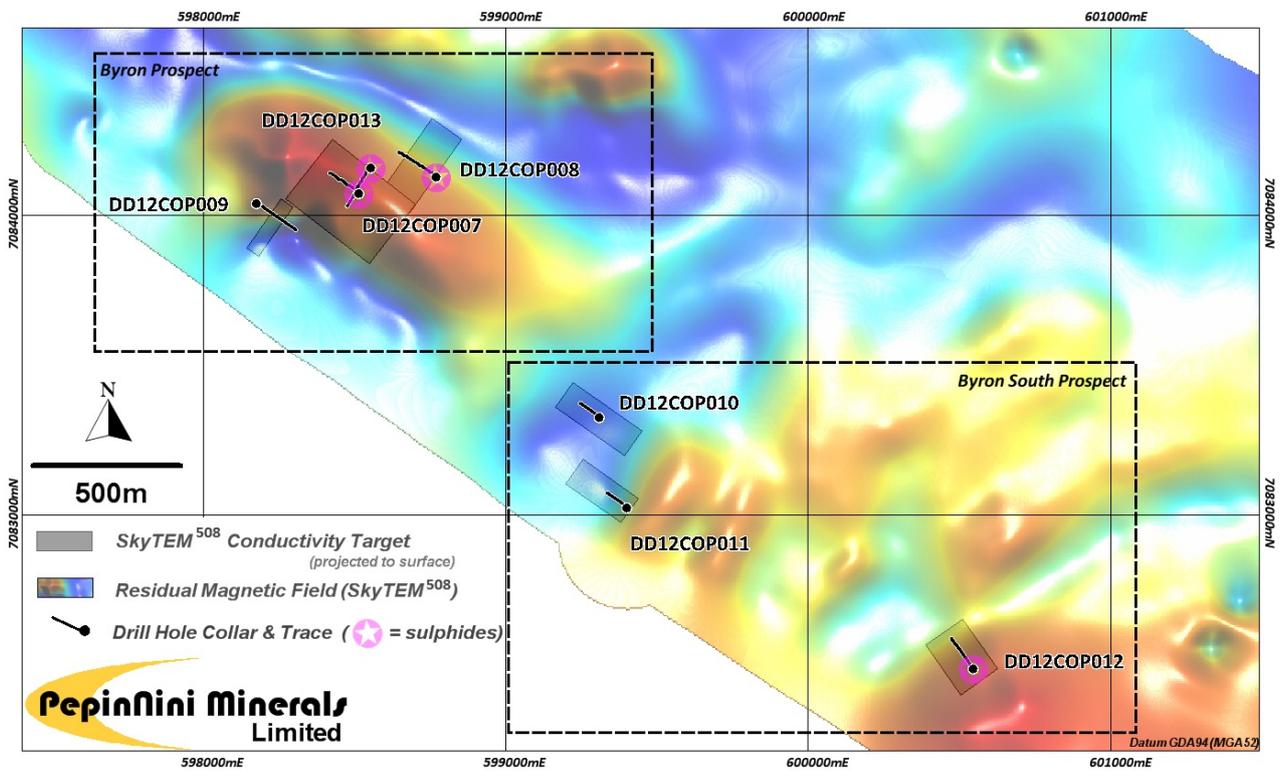


Figure 3: Byron/Byron South Prospects - SkyTEM⁵⁰⁸ anomaly drill hole locations (on residual magnetic image)

Diamond core drilling has been undertaken to test bedrock conductors identified from the SkyTEM⁵⁰⁸ helicopter electromagnetic survey flown across the project area during March 2012. A total of seven (7) boreholes (~1660metres) have been completed to investigate six modelled targets within the Byron and Byron South prospect areas (Figures 2 & 3).

Encouraging sulphide accumulations were intersected within four of the holes confirming the dependability of AEM (airborne electromagnetic surveying) as a valuable exploration targeting tool in the search for magmatic nickel – copper sulphide deposits.

Sulphide phases present in drill cores consist of abundant pyrrhotite (iron sulphide) with lesser pyrite (iron sulphide) - chalcopyrite (copper sulphide) - molybdenite (molybdenum sulphide) and are hosted within a garnet-pyroxene mafic granulite as well as brecciated garnet-bearing orthogneiss (Figure 4a-d).



Figure 4a: DD12COP008 from depth 205 metres: image showing massive to semi-massive pyrrhotite hosted within a pyroxene+garnet granulite. Lithological comparisons can be made between the rocks from the Byron Prospect to those that host the recently discovered Nova Ni-Cu deposit of Sirius Resources in Western Australia.

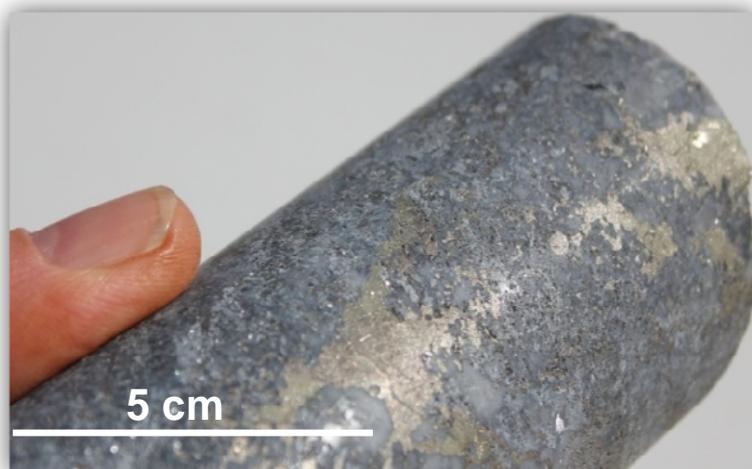


Figure 4b: DD12COP007 from depth~169.8 metres: matrix sulphide (pyrrhotite) within brecciated orthogneiss.

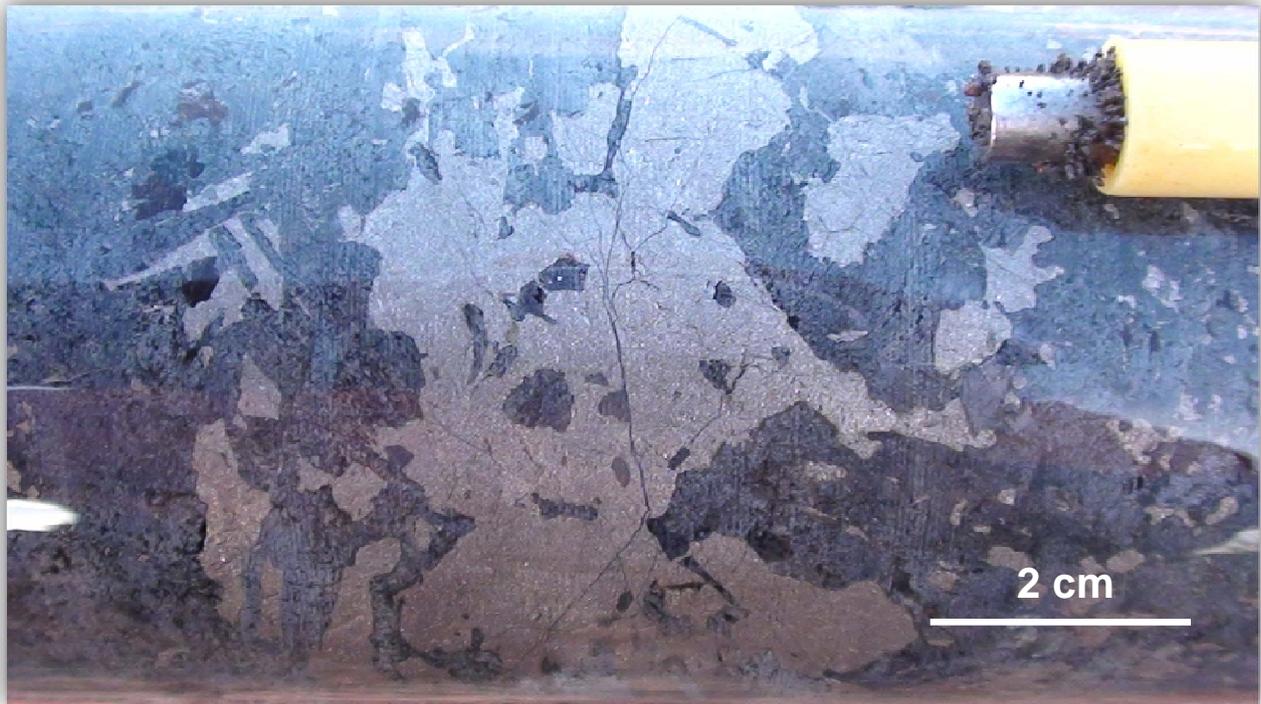


Figure 4c: DD12COP012 from depth ~107.6 metres: matrix sulphide (pyrrhotite) within brecciated intermediate granulite.



Figure 4d: DD12COP013 from depth 160 metres: image showing the mineralogical and textural aspects of a felsic orthogneiss from the Byron Prospect that has been brecciated and milled by remobilised sulphides.

Petrological investigation of drill core samples has concluded that mafic host rocks show mineralogical similarities to Giles Complex igneous intrusions like those that host Ni-Cu-PGE mineralisation at BHP's Nebo-Babel deposit in the Western Musgrave Province.

Garnet-pyroxene granulites incorporated within the zones of sulphide mineralisation are also analogous in age and mineralogy to rocks that host the "Nova" Nickel-Copper Sulphide deposit recently discovered by Sirius Resources within the Albany-Fraser region of Western Australia.

Assay results from three cored holes drilled at the Byron prospect have been received and include concentrations of up to 0.17 g/t gold (Au), 934ppm copper (Cu), 862ppm nickel (Ni) and 52ppm molybdenum (Mo). Although modest, the results are highly encouraging in that they reinforce the potential for a significant discovery within a green-fields tenement that has never been systematically explored by modern exploration methodologies.

Table 1 – Summary of Core sample assay results

Hole ID	mgaE	mgaN	Dip	Azi	From	To	Interval (m)	Au (g/t)	Cu (ppm)	Ni (ppm)
DD12COP007	598511	7084075	60	305	16.23	16.63	0.4	<0.03	260	762
					17.36	17.86	0.5	<0.03	201	862
					33.83	34.45	0.6		74.3	657
					44.11	44.75	0.6		552	191.5
					144	145	1	0.09	31.2	18
					145	146.5	1.5	0.06	11.7	17.4
DD12COP008	598769	7084131	60	305	86	86.2	0.2	<0.03	934	576
					132.9	133.3	0.4	0.06	306	56.8
					137.65	137.85	0.2	0.07	99.8	68.5
					142	143	1	0.17	310	41.1
					205	206	1	<0.03	427	67.6
DD12COP009	598174	7084042	60	125	<i>Target missed; follow up ground EM required</i>					
DD12COP010	599306	7083329	60	305	<i>No significant intercepts</i>					
DD12COP011	599399	7083028	60	305	<i>No significant intercepts</i>					
DD12COP012	600544	7082491	60	325	<i>Mafic hosted net-textured and disseminated pyrrhotite mineralisation -- awaiting assays</i>					
DD12COP013	598546	7084157	60	215	<i>Matrix and breccia sulphides - awaiting assays</i>					

Note: All metreages quoted are down-hole depths as true widths are not known.

Assay results of samples collected from boreholes DD12COP012 and DD12COP013 are awaited.

Ground electromagnetic surveys to extend the investigation of the bedrock targets at the Byron and Byron South prospects are currently being planned and will comprise fixed loop electromagnetic (FLEM) and down hole electromagnetic (DHEM) to enable higher resolution definition of the conductive zones beyond the limit of the original SkyTEM⁵⁰⁸ survey. It is proposed that these surveys are undertaken during November, 2012.

PepinNini is also awaiting the completion of heritage clearance surveys across the western portions of the Cooperinna block of EL4587 to embark on an aggressive exploration campaign to test twenty-one "Category-1" airborne electromagnetic (EM) targets identified from the recent VTEM helicopter borne electromagnetic survey completed during August 2012 (*ASX release, 27th August, 2012*). Work to follow up the priority targets will include an extensive vacuum drilling program, moving loop ground electromagnetic surveying (MLEM), and follow up diamond drilling.

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