

ASX ANNOUNCEMENT

16th October, 2012

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

- Massive to semi-massive sulphides intercepted at the Marrawah Prospect, Caroline Intrusion
- Copper values up to 2500 ppm(0.25%) from drill core samples
- PepinNini Minerals Limited confirm joint R&D project with CSIRO for platinum group metals within the Caroline Intrusion

PepinNini Minerals is pleased to announce that recent diamond core drilling of SkyTEM⁵⁰⁸ conductive targets (ASX release, 30th May, 2012) has intercepted encouraging intervals of massive to semi-massive, magmatic sulphides at the Marrawah Prospect.

The most salient visual intercepts recorded are:

- **DD13WOD017:** 32 metres with disseminated to massive sulphides from a depth of 77 metres,
- **DD13WOD017:** 10.9 metre zone with intervals of massive to semi-massive sulphides from a depth of 88.1 metres with values from 1,010 to 2,500 ppm Copper including 6.4 metres with massive sulphides from a depth of 88.1 metres with values from 1,810 to 2,500 ppm Copper.

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

Two cored boreholes have been completed, drilled to test a priority fixed loop electromagnetic conductivity anomaly which was defined during follow up of SkyTEM⁵⁰⁸ electromagnetic anomalies within EL 5185 Woodroffe.

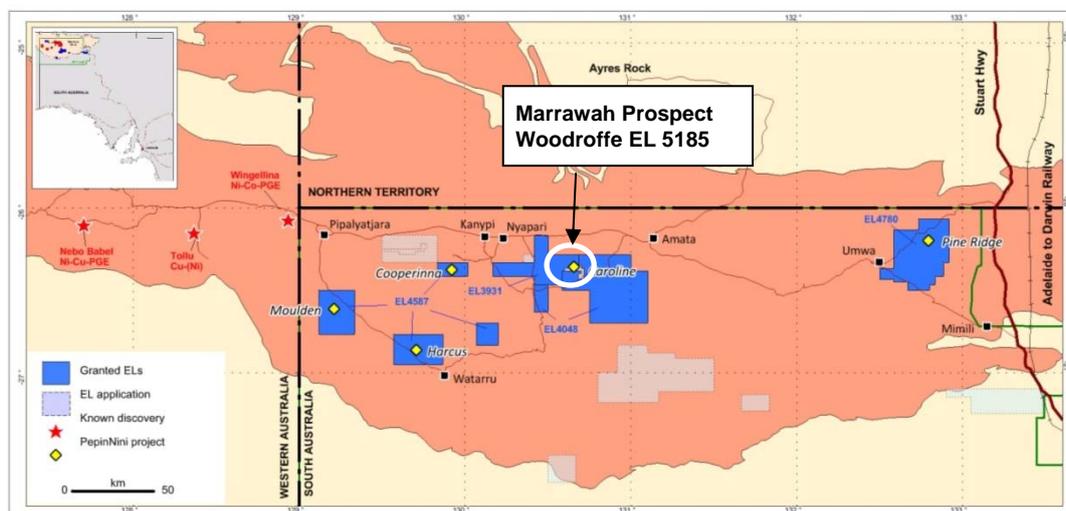


Figure 1: Tenement location plan

The tenement forms part of the Rio Tinto Joint Venture in which PepinNini is undertaking activities to earn 51% of the project covering one granted exploration licence and two application areas. The activities form part of PepinNini’s ongoing search for magmatic Nickel-Copper sulphide deposits across the Musgrave Province, located approximately 330km west of the Stuart Highway and Adelaide to Darwin Rail line in far north South Australia (Figure 1).

The diamond core drilling at the Marrawah Prospect was undertaken to investigate the source of a well constrained, steeply dipping conductivity target associated with the Caroline Intrusion in the eastern part of the tenement (Figure 2).

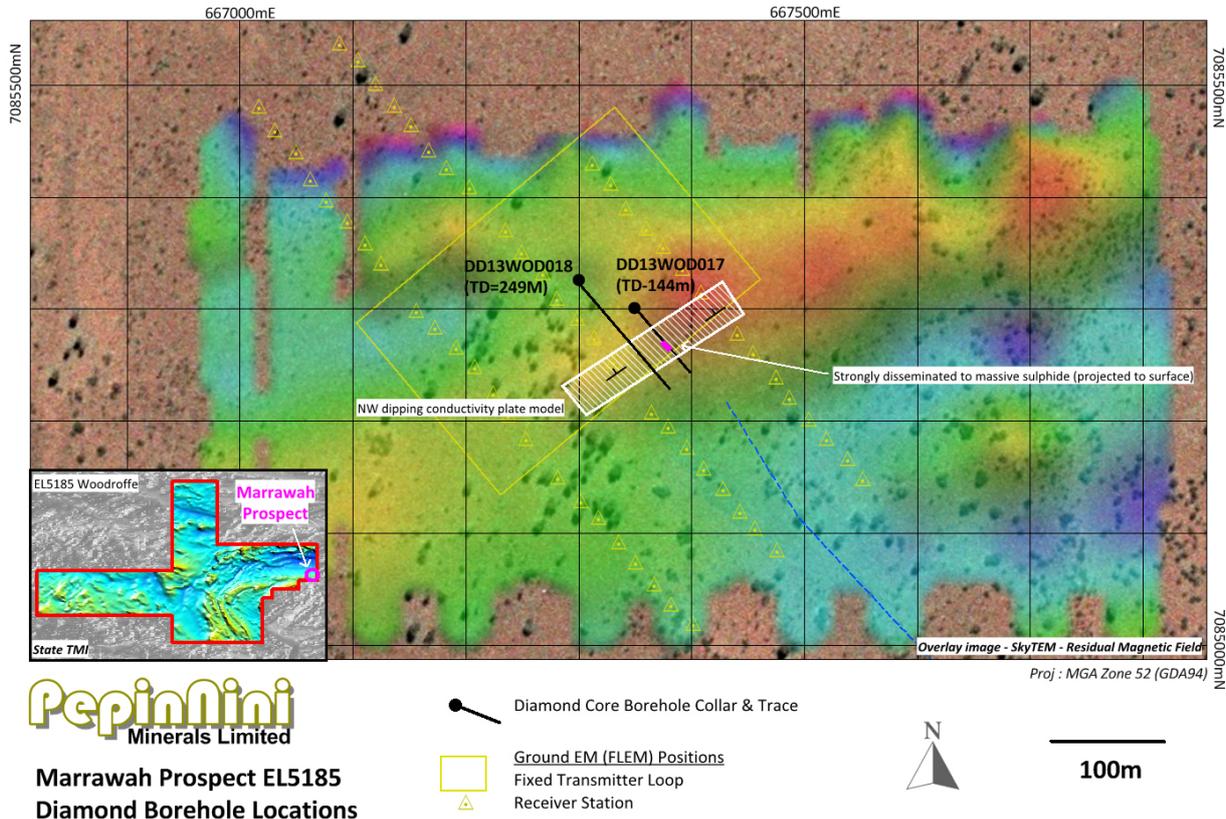


Figure 2 – Borehole Locations Woodroffe Tenement EL 5185

Table 1 – Diamond drill hole details

Hole ID	Easting	Northing	Elevation	Azimuth	Dip	Depth
Marrawah Prospect						
DD13WOD017	667350mE	7085300mN	619m	140°	-60°	143.97m
DD13WOD018	667300mE	7085325mN	618m	140°	-60°	249.07m

Assay results from borehole DD13WOD017 and the encouraging sulphide accumulations reinforce 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) and chalcopyrite (copper sulphide) and are hosted within a sulphidic pyroxenite and sulphidic gabbro-norite (Figure 3).



Figure 3: DD13WOD017 from depth 84 to 93 metres: image showing strongly disseminated and massive pyrrhotite hosted within a sulphidic pyroxenite and gabbroenrite.

Analytical results from core samples across the sulphide bearing interval returned maximum results of 2,500ppm Copper, 745ppm Nickel, 660ppm cobalt, 13ppb gold, 3.5ppb Platinum and 6ppb palladium.

Table 2 – Summary of Core sample assay results

Hole	from	to	(m)	All results reported in ppm unless stated					
				Copper	Nickel	Cobalt	Chrome	Sulphur	Iron
DD13COP017	75.6	76.3	0.7	783	143.5	90.2	179	4.05%	13.2%
	76.3	76.9	0.6	73.1	78	62.5	161	0.58%	12.35%
	76.9	77.7	0.8	165.5	125	65.3	125	1.21%	13.25%
	77.7	78.4	0.7	361	156.5	86.1	183	1%	15.35%
	78.4	79.2	0.8	357	60.2	56.8	59	0.95%	13.25%
	79.2	80.3	1.1	857	145	146	91	4.73%	10.3%
	80.3	80.8	0.5	116.5	93.1	68.5	115	0.3%	9.36%
	80.8	81.5	0.7	33.9	106.5	58.8	113	0.37%	9.1%
	81.5	82.5	1	46.4	125.5	64.8	130	0.52%	10.3%
	82.5	83.6	1.1	156.5	90.7	59.9	93	0.29%	12.8%
	83.6	84.6	1	.01	479	390	78	>10.0%	30.1%
	84.6	85.6	1	1,160	163	98.7	107	4.58%	19.6%
	85.6	86.6	1	1,240	421	211	79	>10.0%	23.4%
	86.6	87.4	0.8	640	130	65.8	62	3.52%	13.45%
	87.4	88.1	0.7	1,470	156	192	100	6.09%	17.45%
	88.1	89.1	1	1,810	672	660	52	>10.0%	36.1%
	89.1	90	0.9	1,130	745	320	50	>10.0%	36.6%
90	91	1	1,280	339	244	34	>10.0%	19.8%	
91	92	1	2,270	396	211	82	>10.0%	23.6%	
92	93	1	1,650	450	356	82	>10.0%	25.5%	
93	94	1	1,280	296	129.5	125	8.08%	21.9%	
94	94.5	0.5	2,500	335	129	125	9.36%	21.7%	

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

The second hole (DD13WOD018) did not encounter the down dip extent of the mineralised zone intersected in DD13WOD017.

PepinNini Minerals Limited is also pleased to confirm a joint research and development (R&D) project with CSIRO in relation to the platinum potential of the Caroline Intrusion located within the Company's tenements of the Musgrave Project. Supported by Enterprise Connect's Researchers in Business program, the R&D project will investigate the nature of platinum group element (PGE) mineralisation in mafic layered intrusions, and the geological and geochemical observations necessary for successful exploration of the Caroline Intrusion.

The information in this report that relates to Exploration Results is based on information compiled by Phil Clifford BSc MAusIMM. Phil Clifford is the Technical 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". Phil Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information please contact:

Ms Rebecca Holland-Kennedy
Managing Director, PepinNini Minerals Limited
Phone: +61 (0)8 8218 5000

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