



## Report for the Quarter Ending 30<sup>th</sup> September, 2013

29<sup>th</sup> October 2013

### *Highlights during the quarter*

- ◆ **Musgrave Project**, South Australia: Drill testing of the SkyTEM<sup>508</sup> target at Marrawah Prospects intersects massive to strongly disseminated magmatic sulphides grading up to 0.25% Copper. Drill testing of V-TEM targets for Cooperinna Project complete.
- ◆ **Curnamona Project**, South Australia: Trial metallurgical test work confirms that Billeroo magnetite can produce clean concentrates with high iron recoveries through both high and low magnetic separation processing (DTR & LIMS) at coarse grind sizes of 150µm and 125µm respectively.
- ◆ On 22<sup>nd</sup> July the Company closed the pro-rata Non-renounceable entitlement issue of options. The Options Shortfall closed 23 October 2013 raising \$323,171 before costs
- ◆ At the end of the quarter the Company held \$0.58 million in cash. Subsequent to the end of the quarter conversion of options has added \$0.26m to cash reserves.



## Project Locations

### SOUTH AUSTRALIA

#### Musgrave Province Project

Exploration activities to further examine the magmatic nickel – copper sulphide targets within the Cooperinna Block of EL4587 (100% PepinNini) and Woodroffe EL5185 (Rio Tinto JV, PepinNini earning 51%) continued during the quarter.

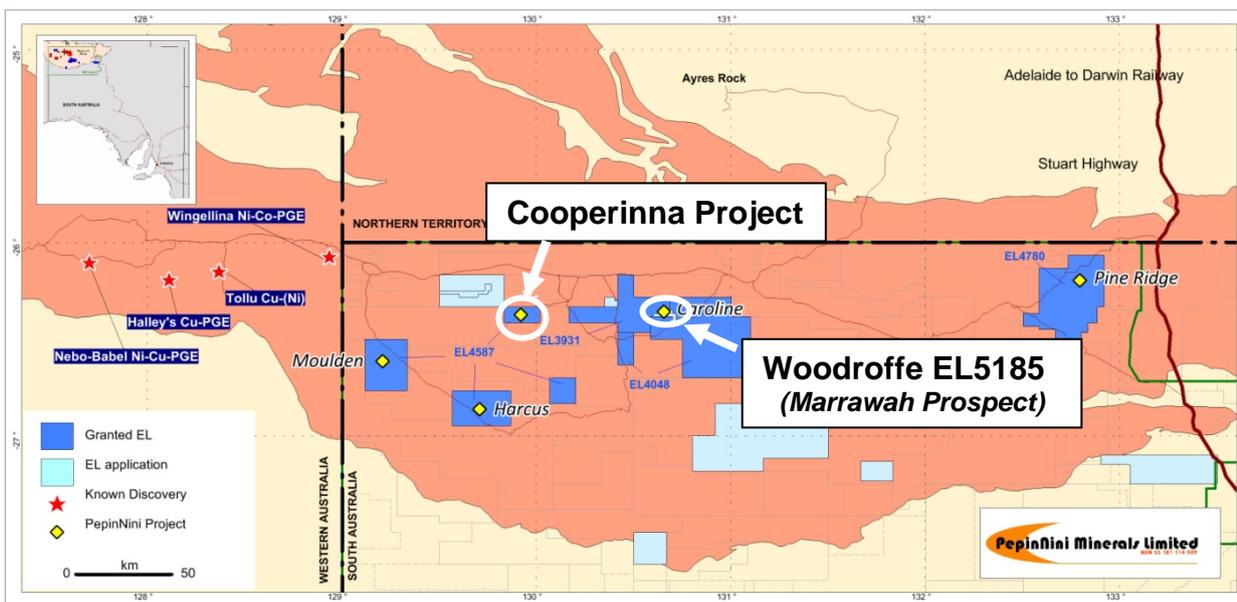


Figure 1 - Tenement Location Plan – Musgrave Project

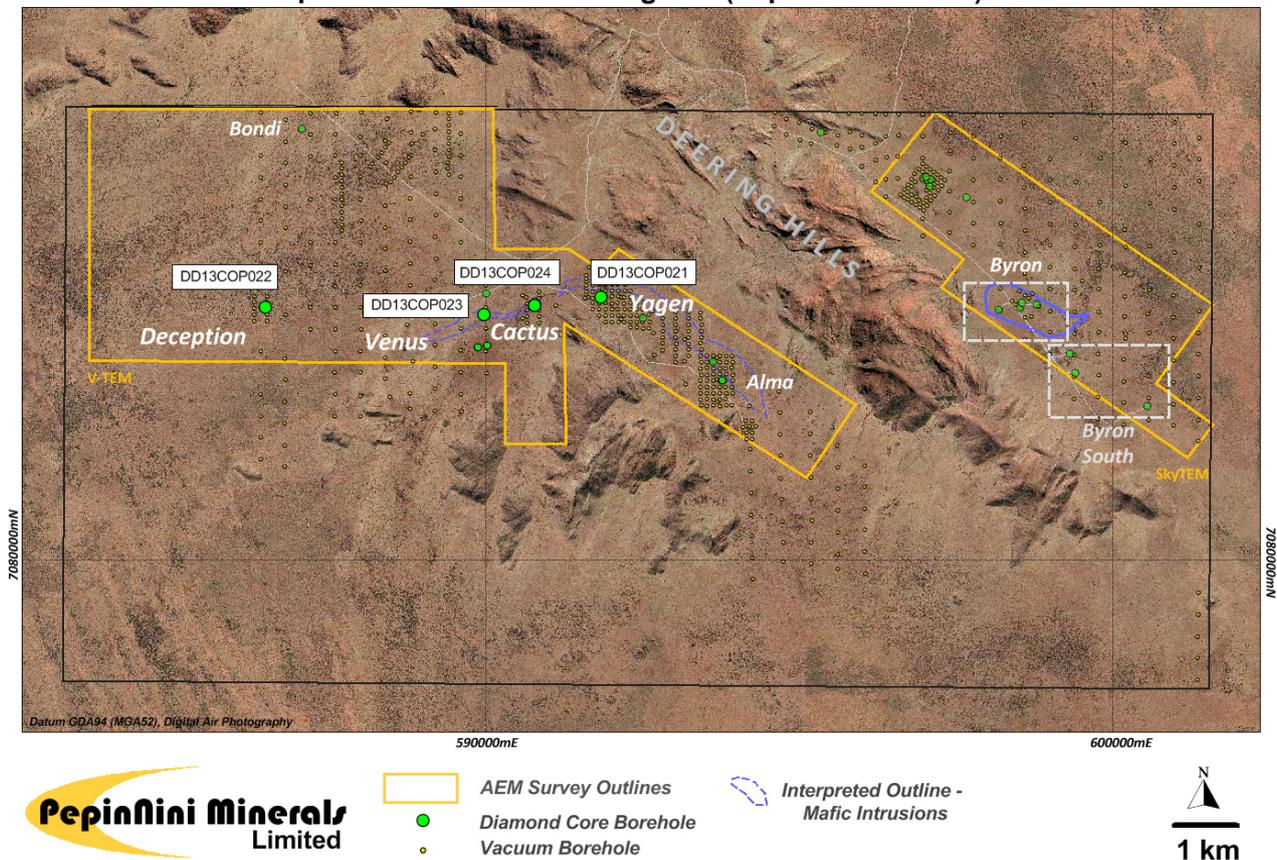
Drill testing of V-TEM and ground electromagnetic targets at Cooperinna has concluded following the completion of four diamond core holes (Table 1) at the Yagen, Deception, Venus and Cactus Prospects.

**Table 1 – Diamond drill hole details**

Hole ID	Easting	Northing	Elevation	Azimuth	Dip	Depth
Yagen Prospect						
DD13COP021	591801mE	7084198mN	691m	240°	-70°	281.97m
Deception Prospect						
DD13COP022	586440mE	7084049mN	691m	205°	-70°	204.09m
Venus Prospect						
DD13COP023	589926mE	7083957mN	719m	255°	-60°	122.87m
Cactus Prospect						
DD13COP024	590725mE	7084090mN	725m	230°	-75°	150.05m

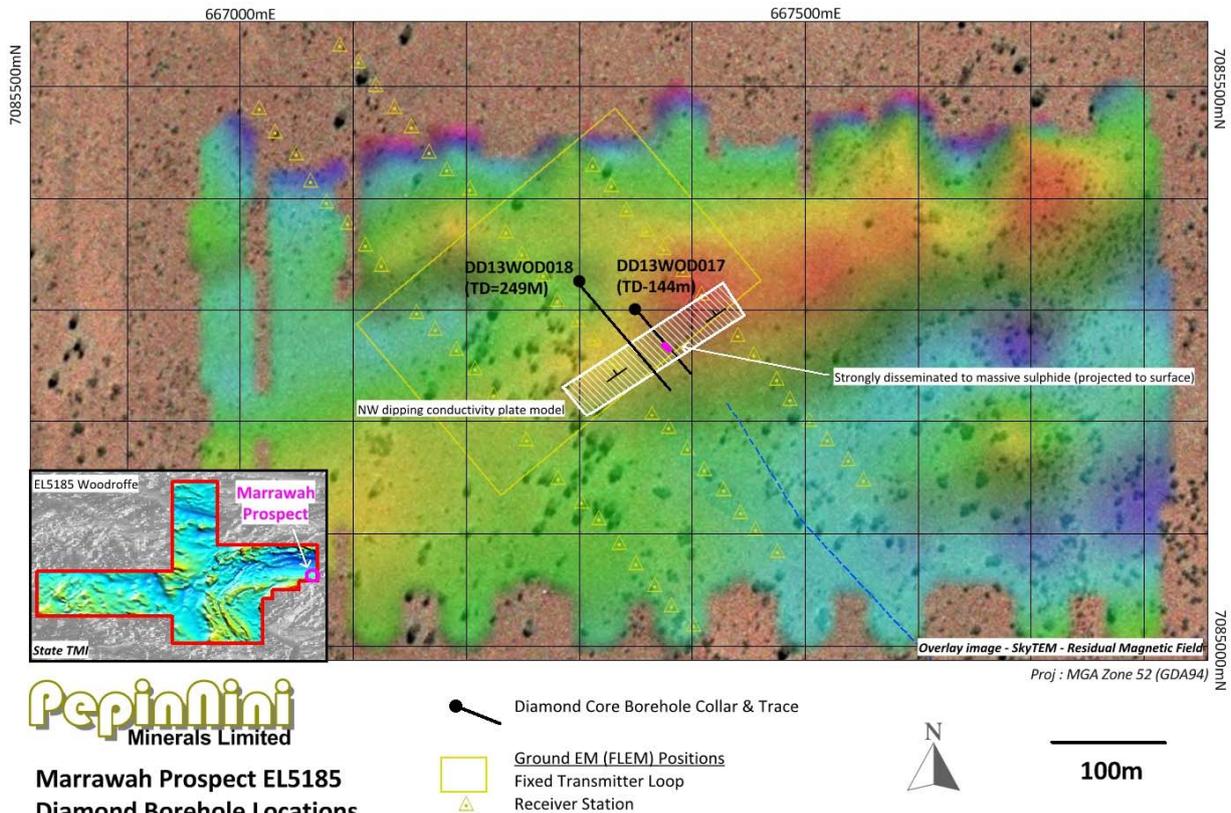
The EM conductivity targets at the Yagen, Deception, Venus and Cactus Prospects were conclusively tested, adequately resolved and attributed to the occurrence of graphite bearing gneiss or graphite bearing shear structures within the bedrock sequence. Each of the holes did contain some quantity of disseminated to blebby magmatic sulphide within the crystalline basement associated with intruded magmatic mafic melt. The sulphide species observed within the core is dominantly pyrrhotite (iron sulphide). This was confirmed by geochemical analyses.

**Cooperinna EL4587 : Drill Program (Sept Quarter 2013)**



**Figure 2** Diamond Drill Hole Locations September Quarter 2013, Cooperinna block (EL4587)

Two diamond core holes (Table 2) were completed at the Marrawah Prospect which is located in the eastern part of EL5185 “Woodroffe” (Figure 3). The drilling was undertaken to investigate the source of a well constrained electromagnetic anomaly which had been defined during fixed-loop ground EM surveying across a SkyTEM<sup>508</sup> electromagnetic anomaly. The conductivity target was modeled to be a steeply dipping 7millisecond time constant response proximal to the layered mafic Giles Complex Caroline Intrusion.



**Figure 3 – Borehole Locations Woodroffe Tenement EL 5185**

**Table 2 – 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

Drill hole DD13WOD017 intersected strongly disseminated to massive sulphide accumulations associated with intrusive mafic lithologies between 75.6 to 94.4m (down hole depth) at the modeled position of the conductivity anomaly. The sulphide phases present consist of abundant coarse pyrrhotite (iron sulphide) with lesser pyrite (iron sulphide) and chalcopyrite (copper sulphide) which are hosted within pyroxenite and gabbro-norite. A photograph of drill core intersecting the main sulphidic zone is presented as Figure 4. Analytical results from the sulphide bearing intervals returned maximum results of 2,500ppm Copper, 745ppm Nickel, 660ppm cobalt, 13ppb gold, 3.5ppb Platinum and 6ppb palladium (Table 3).



**Figure 4:** DD13WOD017 from depth 84 to 93 metres: image showing massive to semi-massive pyrrhotite hosted within a sulphidic pyroxenite and gabbronorite.

**Table 3 – Summary of Core sample assay results**

Hole	from	to	(m)	All results reported in ppm unless stated					
				Copper	Nickel	Cobalt	Chrome	Sulphur	Iron
DD13WOD017	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	1,010	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	<b>2,270</b>	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	<b>2,500</b>	335	129	125	9.36%	21.7%	

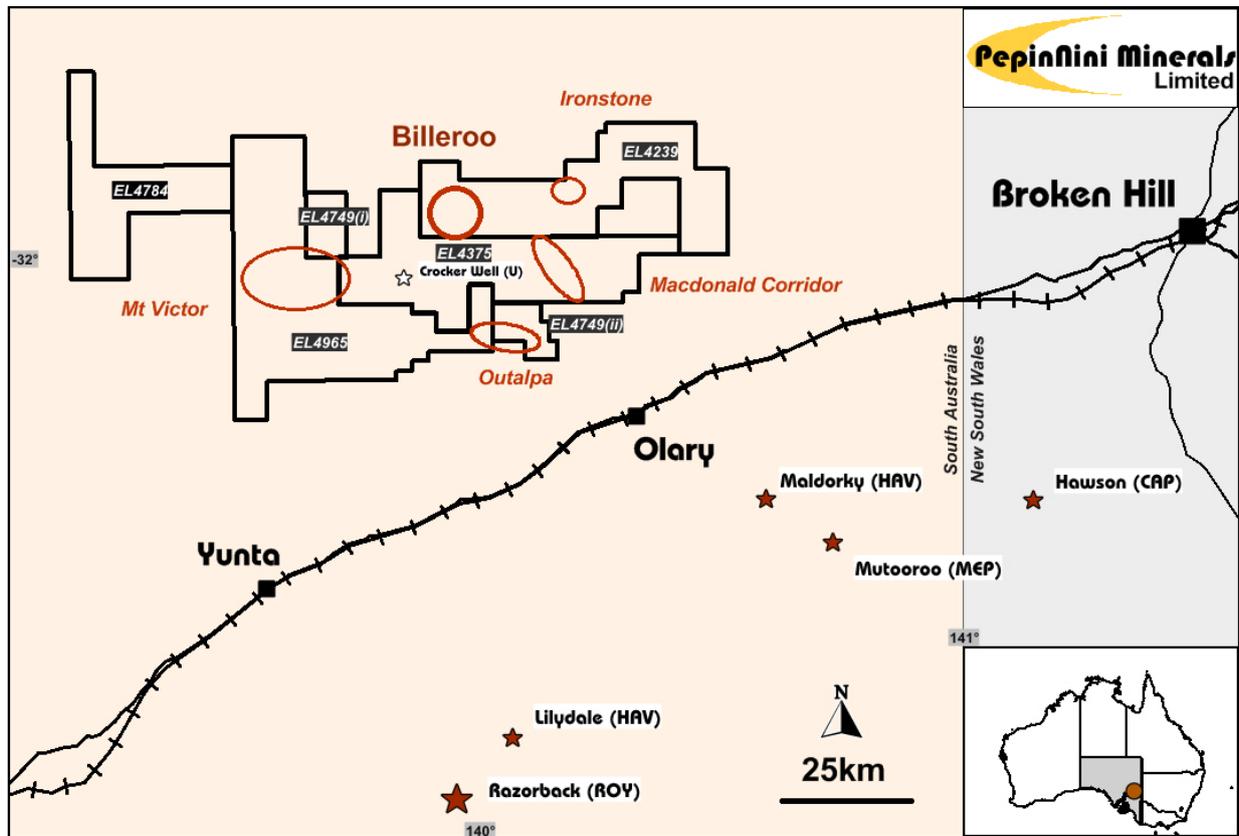
Note: All metrages quoted are down-hole depths as true widths are not known.

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

The intersection in DD13WOD017 confirms that encouraging sulphide accumulations can be dependability identified from AEM (airborne electromagnetic surveying) within the Musgrave Province as a valuable exploration targeting tool in the search for magmatic nickel – copper sulphide deposits.

## Curnamona Province Project

Figure 5 Curnamona Project – Tenement Location Plan



Exploration within the Curnamona Province Project area, which includes the Crocker Well Uranium Deposit, is being managed by Sinosteel PepinNini Curnamona Management Pty Ltd (SPCM) on behalf of the Joint Venture partners Sinosteel Corporation (60%) and PepinNini Minerals (40%). The Joint Venture has prioritized the investigation of the iron ore potential of the five tenements covering approximately 3,605 kms<sup>2</sup> held by the Joint Venture.

### Billeroo Magnetite Prospect - Trial Metallurgical Results

Trial metallurgical test work was undertaken on existing drill samples to assess the indicative metallurgical characteristics of the magnetite mineralisation at the Billeroo Magnetite Prospect.

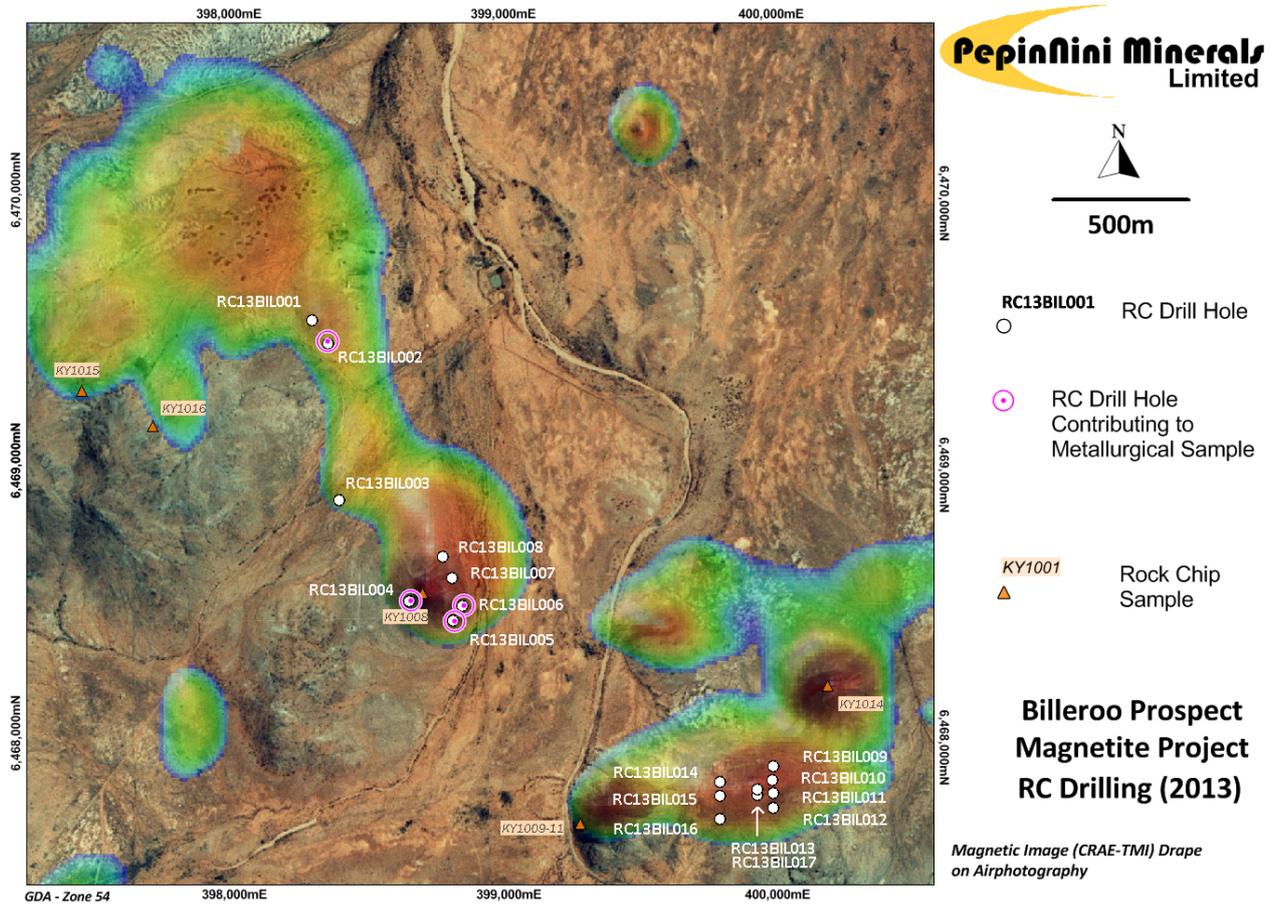
An 80kg “sighter sample” was created by compositing percussion drill cuttings of mineralised intersection from four representative reverse circulation (RC) boreholes drilled during February 2013 at the Billeroo Prospect (Figure 6). The sample material was combined, uniformly mixed and split to provide a representation of the iron mineralisation encountered at the Billeroo Prospect. The composite formed a source sample with a head grade of 35.6% iron.

**Table 4 - Details of Composition of the Trial “Mixed Sighter Sample”**

Drill Hole Details						Sample Interval			Head Grade Fe%	Mixed Sighter Sample Head Grade					
Hole_No	MGA East	MGA North	Dip	Az_Mag	Total Depth (m)	From (m)	To (m)	Interval (m)		Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	S %	LOI % 1000°C
RC13BIL002	398346	6469447	-60	262	118	93	109	16	27.3	} 35.6	36.7	5.9	0.054	0.55	-1.96
RC13BIL004	398648	6468485	-60	50	226	29	39	10	29.5						
						120	133	13	34.8						
RC13BIL005	398812	6468410	-60	230	142	26	53	27	37.9						
RC13BIL006	398847	6468465	-60	230	172	121	134	13	43.2						

NB Metre intervals are down hole depths (not true width)  
Datum GDA zone 54

The mixed sample was assessed by ALS Metallurgy using both high magnetic separation (Davis Tube Recovery) and low magnetic separation processing streams.



**Figure 6** Source locations of trial composite metallurgical sample, Billeroo Prospect, Curnamona.

Six sub-sample splits were pulverised to a range of particulate sizes between 250µm (p80) and 25 µm (p80) and passed through the Davis Tube Recovery magnetic separation at 3000 gauss (Table 5).

**Table 5** Davis Tube Recovery Process Results

Grind Size (P80)	Mass Recovery	Concentrate Analytical Results					
		Iron		Silica (SiO <sub>2</sub> )	Alumina (Al <sub>2</sub> O <sub>3</sub> )	Phosphorous (P)	Sulphur (S)
		(Fe)	recovery				
250µm	53.4%	62.0%	92.9%	10.05%	1.52%	0.010%	0.09%
150µm	50.4%	67.0%	94.7%	5.13%	0.86%	0.005%	0.08%
75µm	48.3%	70.6%	95.7%	1.56%	0.34%	0.001%	0.07%
45µm	47.3%	71.4%	94.8%	0.66%	0.23%	0.001%	0.07%
32µm	47.4%	71.5%	95.0%	0.66%	0.23%	0.001%	0.07%
25µm	48.5%	71.3%	96.9%	0.70%	0.24%	0.001%	0.07%

Three sub-sample splits were pulverised to a variety of particulate sizes between 125µm (p80) and 90 µm (p80) and passed through the LIMS magnetic separation at 900 gauss (Table 6).

**Table 6** Low Magnetic Separation (LIMS) Process Results

Grind Size (P80)	Mass Recovery	Concentrate Analytical Results					
		Iron		Silica (SiO <sub>2</sub> )	Alumina (Al <sub>2</sub> O <sub>3</sub> )	Phosphorous (P)	Sulphur (S)
		(Fe)	recovery				
125µm	48.8%	68.3%	92.1%	4.01%	0.65%	0.005%	0.08%
106µm	48.3%	69.2%	92.7%	2.89%	0.50%	0.003%	0.08%
90µm	47.6%	70.1%	92.8%	1.71%	0.34%	0.002%	0.07%

The results show;

- *That a favourable concentrate can be achieved at a coarse grind size (150µm) with 94.7% of the contained iron recovered at a grade of 67.0% Fe when applying high magnetic separation (DTR) processing.*
- *That 92.1% recovery of the available iron at a concentrate grade of 68.3% Fe can be achieved at a grind size of 125µm when applying low magnetic separation (LIMS) techniques.*

The DTR and LIMS metallurgical test work suggest that the Billeroo magnetite mineralisation can produce a coarse high-quality concentrate and confirms the project to be worth pursuing to establish whether substantial quantities of the representative mineralisation tested can be identified and defined.

## WESTERN AUSTRALIA

### Robinson Range Iron Ore Project

The Robinson Range Project comprises seven tenements that cover approximately 700km<sup>2</sup>. PepinNini has a 50% interest in the iron ore contained within three tenements and a 40% interest in the iron ore contained within the other four tenements and manages exploration on behalf of the Joint Venture partners. PNN Area C is located within exploration tenement E51/1033 held by PepinNini Robinson Range Pty Limited (40%), Resource and Investment NL (ASX:RNI) (40%) and Fe Limited (ASX:FEL) (20%).

The joint venture has delineated an Inferred Mineral Resource for PNN Area C as follows; (*PNN ASX Release 6<sup>th</sup> June, 2012*);

**Table 7** Inferred Mineral Resource Estimate for PNN Area C (June, 2012)

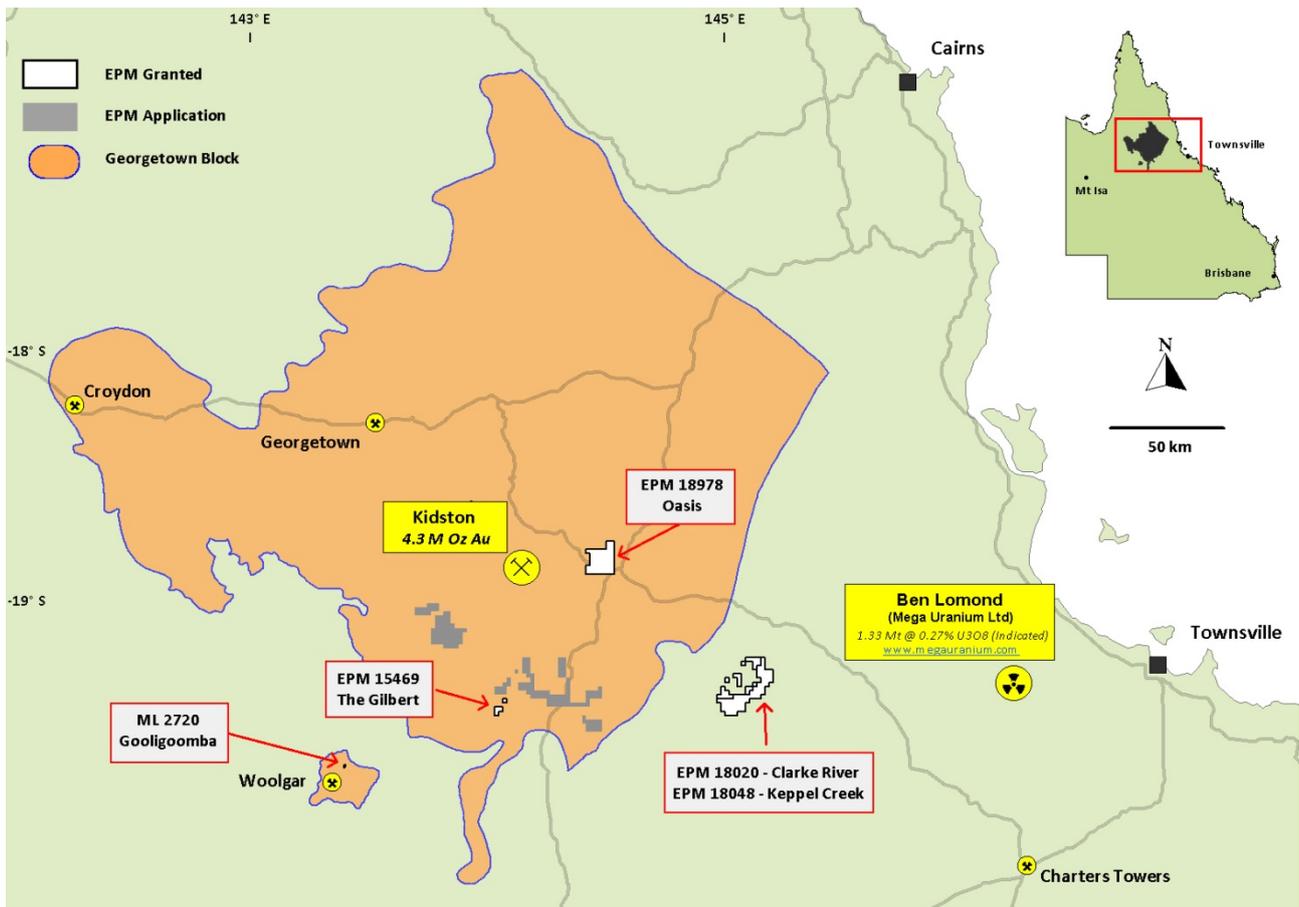
Million Tonnes	Cut Off %Fe	Density SG	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	S %	TiO <sub>2</sub> %	LOI %
17.7	45	3.6	49.7	13.3	8.5	0.06	0.04	0.29	5.4
4.3	52	3.8	55.2	8.5	6.5	0.06	0.05	0.21	4.7

No iron ore field activities were undertaken on the project during the quarter.

## NORTH QUEENSLAND

PepinNini Minerals continues to hold five tenements in North Queensland following the sale of six tenements completed during the previous quarter with tenement transfers completed during this quarter. Three of the remaining licences are considered prospective for uranium and cover 415km<sup>2</sup>. The Company is considering options regarding these tenements following the Queensland Government announcement on 22<sup>nd</sup> October 2012 lifting its uranium mining ban.

No field activities were undertaken during the quarter.



**Figure 7 - Queensland Tenement Regional Location Plan – 30 September 2013**

## **ARGENTINA**

### **Salta Project**

PepinNini has three granted exploration leases (cateo), two granted mining leases and five applications for mining leases covering approximately 335 kms<sup>2</sup> in the Argentine province of Salta. The Salta Project comprises two separate areas designated as Santa Ines and Chivinar and the Santa Ines Project comprises two granted mining leases, five mining lease applications and one granted exploration tenement covering approximately 82 km<sup>2</sup>. The Chivinar Project comprises 2 granted exploration leases and covers 253 kms<sup>2</sup>.

Significant assay results for grab samples collected from a historic mine working confirm potential for high grade copper and gold mineralization within the Santa Ines Project Area. There is no evidence of any modern exploration work having been undertaken at Santa Ines and no historical data is available. This project logistically benefits by being only 5kms from the Salta-Antofagasta railway and is easily accessed using existing roads and tracks.

PepinNini is progressing plans to target this area with field mapping and sample collection to better delineate mineralised targets for drill testing. No field activities were undertaken on the project during the quarter.

*The information in this report that relates to Exploration Results and Mineral Resources 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:**

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Managing Director, PepinNini Minerals Limited  
Phone: (08) 8218 5000

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

## Mining exploration entity quarterly report

Rule 5.3

## Appendix 5B

## Mining exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10

Name of entity

PepinNini Minerals Limited

ABN

55 101 714 989

Quarter ended ("current quarter")

Sep 2013

## Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (3 months) \$A'000
1.1 Receipts from product sales and related debtors	9	9
1.2 Payments for (a) exploration & evaluation	(472)	(472)
(b) development		
(c) production		
(d) administration	(225)	(225)
1.3 Dividends received		
1.4 Interest and other items of a similar nature received	6	6
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid/refund	-	-
1.7 Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>	<b>(682)</b>	<b>(682)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of: (a) prospects		
(b) equity investments		
(c) other fixed assets		
1.9 Proceeds from sale of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	34	34
1.10 Loans to other entities		
1.11 Loans repaid by other entities		
1.12 Other (provide details if material)		
<b>Net investing cash flows</b>	<b>34</b>	<b>34</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(648)</b>	<b>(648)</b>

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	<b>(648)</b>	(648)
<b>Cash flows related to financing activities</b>			
1.14	Proceeds from issues of shares, options, etc.	<b>283</b>	283
1.15	Proceeds from sale of forfeited shares		
1.16	Proceeds from borrowings		
1.17	Repayment of borrowings		
1.18	Dividends paid		
1.19	Other (provide details if material)		
	<b>Net financing cash flows</b>	<b>283</b>	283
	<b>Net increase (decrease) in cash held</b>	<b>(365)</b>	(365)
1.20	Cash at beginning of quarter/year to date	<b>941</b>	941
1.21	Exchange rate adjustments to item 1.20		
1.22	<b>Cash at end of quarter</b>	<b>576</b>	576

**Payments to directors of the entity and associates of the directors**  
**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	<b>105,103</b>
1.24	Aggregate amount of loans to the parties included in item 1.10	

1.25 Explanation necessary for an understanding of the transactions

1. Managing Director, Administration Director and non-executive directors' Remuneration.....	\$95,734
2. Managing Director, Administration Director and non-executive directors' Superannuation.....	\$9,369

**Non-cash financing and investing activities**

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

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2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

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**Financing facilities available**

Add notes as necessary for an understanding of the position.

		Amount available \$A'000	Amount used \$A'000
3.1	Loan facilities		
3.2	Credit standby arrangements		

+ See chapter 19 for defined terms.

## Mining exploration entity quarterly report

## Estimated cash outflows for next quarter

		\$A'000
4.1	Exploration and evaluation	300
4.2	Development	
4.3	Production	
4.4	Administration	100
<b>Total</b>		<b>700</b>

## Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.

		Current quarter \$A'000	Previous quarter \$A'000
5.1	Cash on hand and at bank	176	191
5.2	Deposits at call	400	750
5.3	Bank overdraft		
5.4	Other (provide details)		
<b>Total: cash at end of quarter (item 1.22)</b>		<b>576</b>	<b>941</b>

## Changes in interests in mining tenements

		Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed	EPM 15440 EPM 15547 EPM 16917 EPM 17879 EPM 17918 EPM 18168	Transfers following sale of QLD tenements	100%	0%
6.2	Interests in mining tenements acquired or increased	-	-	-	-

+ See chapter 19 for defined terms.

## Appendix 5B Mining exploration entity quarterly report

### Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1 <b>Preference + securities</b> (description)				
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3 <b>+Ordinary securities</b>	<b>115,177,993</b>	<b>115,177,993</b>	<b>N/A</b>	<b>N/A</b>
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs				
7.5 <b>+Convertible debt securities</b> (description)				
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7 <b>Options</b> (description and conversion factor)	<b>32,224,836</b> <b>2,500,000</b> <b>2,500,000</b> <b>1,600,000</b>	<b>32,224,836</b> <b>0(employee)</b> <b>0(employee)</b> <b>0(employee)</b>	<i>Exercise price</i> <b>5c</b> <b>4c</b> <b>6c</b> <b>12.5c</b>	<i>Expiry date</i> <b>30 Jun 15</b> <b>1 Jun 16</b> <b>1 Jun 16</b> <b>1 Jun 16</b>
7.8 Issued during quarter	<b>32,224,836</b>	<b>32,224,836</b>	<b>5c</b>	<b>30 Jun 15</b>
7.9 Exercised during quarter				
7.10 Expired during quarter				
7.11 <b>Debentures</b> (totals only)				
7.12 <b>Unsecured notes</b> (totals only)				

+ See chapter 19 for defined terms.

## Mining exploration entity quarterly report

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### Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act.
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:

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.....

Date: ...Tuesday 29<sup>th</sup> October 2013

Print name:

Justin Nelson .....

### Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report.

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