



Report for the Quarter Ending 30th September, 2009

30th October, 2009

Highlights

- ◆ An infill drilling program of 78 boreholes designed to upgrade Inferred Resources of uranium to an Indicated or Measured Category was completed at the Crocker Well Uranium Deposit.
- ◆ New targets with potential for additional resources of U₃O₈ identified from detailed helicopter radiometric survey in the vicinity of Crocker Well. At least five prospects scheduled to be investigated by drilling before the end of the year.
- ◆ Four diamond cored boreholes were completed during the quarter and a fifth had commenced within EL4048 Mt Caroline in the Musgrave Province of South Australia. Three hundred and twenty seven vacuum boreholes totaling 3,836.4m were also completed within EL4048 with 723 regional geochemical samples being submitted for assaying.
- ◆ Seven Dipole-Dipole Induced Polarisation traverses were completed within EL4048 to investigate priority conductor anomalies identified in historic Tempest AEM data. Fourteen shallow chargeable zones above deeper conductors have been identified for further investigation by drilling.
- ◆ Priority drill targets have been identified within EL3931 (Musgrave Province of SA) from Tempest AEM data previously flown by Rio Tinto Exploration Pty Ltd. A Work Area Clearance including twelve cored boreholes and approximately 800 regional geochemical vacuum boreholes has been approved by the Traditional Owners for the area subsequent to the end of the quarter.
- ◆ Detailed magnetic and radiometric surveys were flown using a helicopter based system over EPM15457 The Return and over portions of EPM15440 Percyville located in north Queensland. The data has produced better definition and understanding of geological boundaries associated with the high grade gold mineralization previously identified within the areas investigated. A detailed field geological mapping survey at a scale of 1:2,000 was also completed over the target areas during the quarter to assist in defining drillhole sites.
- ◆ New targets with potential for uranium mineralisation have been identified within EPMs 15457 and 15440 from radiometric data flown over the tenements during the quarter.
- ◆ At the end of the quarter the Company held \$8.9 million in cash.



SOUTH AUSTRALIA

Musgrave Province Project

The Musgrave Province Project consists of four granted exploration licences, EL 3368, EL 3536, EL 3931 and EL 4048, and four exploration licence applications, ELAs 278/82, 491/94, 118/96 and 185/96. The tenements comprise fourteen separate areas covering approximately 9,525 km².

PepinNini is earning a 51% interest in EL 3931 and ELAs 278/82 and 491/94 under a Farm-in and JV Agreement with Rio Tinto.

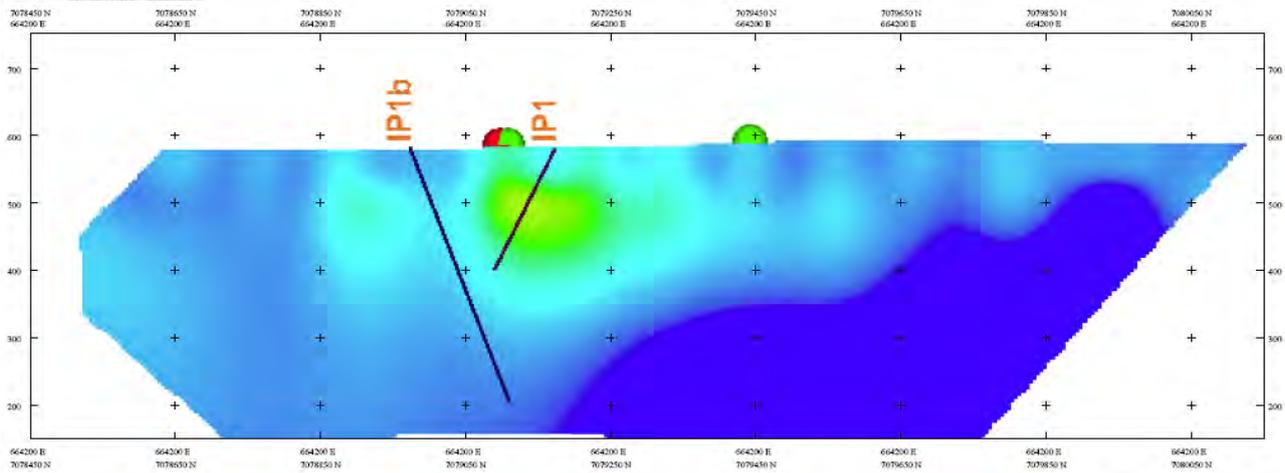
During the quarter exploration activity was focused on ELs 4048 and 3931

Exploration Licence EL4048 – Mt Caroline

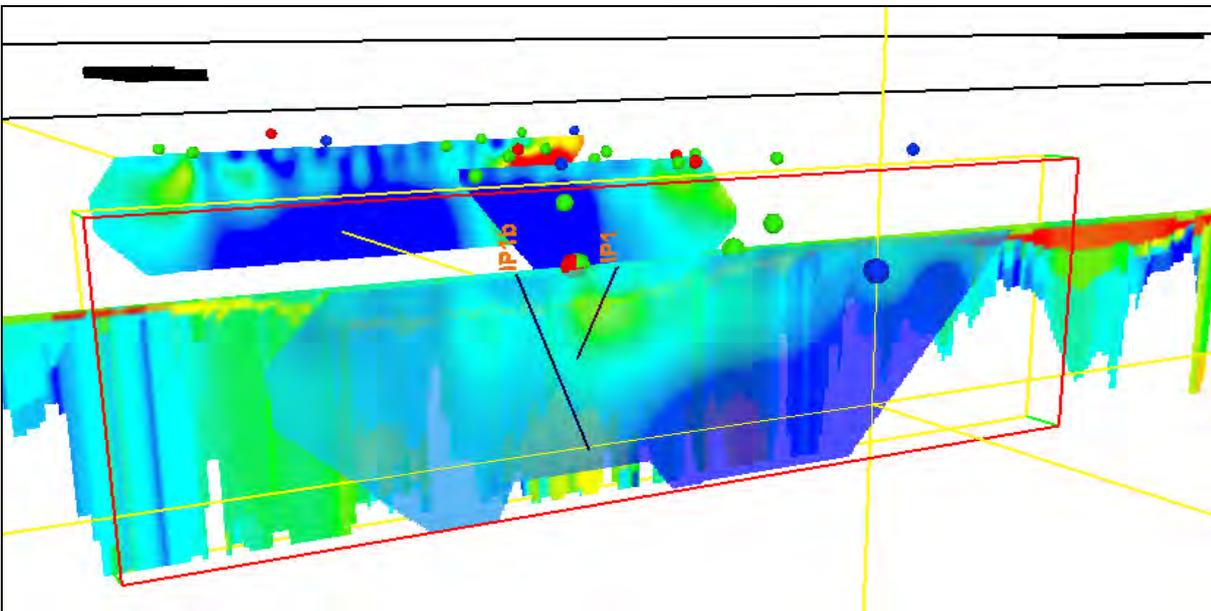
Exploration activities in EL4048 are currently focused on targeting nickel-copper sulphide and chromium-titanium-vanadium mineralisation within layered mafic-ultramafic intrusions of the Giles Complex. Base metal mineralisation in felsic and mafic gneisses of the Birksgate Complex are also being targeted by a regional drilling program.

A further four diamond boreholes were completed within EL4048 during the quarter (DD09CAR013 (494.4m), DD09CAR014 (450m), DD09CAR015 (426m), DD09CAR016 (465m)). Borehole DD09CAR017 was in progress at a depth of 234m at the end of the quarter. Visible sulphides were intersected in each hole and a total of 526 diamond drill core samples have been submitted for assaying.





IP traverse Chargeability Model showing proposed drillholes and surface location of AEM Anomalies.



Snap shot of 3D model showing the chargeability model (slightly transparent) along with the Tempest AEM model. Proposed shallow drillhole is designed to test the chargeable zone just above the deeper conductor.

Exploration Licence EL3931 – Woodroffe

During the quarter data from a regional airborne geophysical (AEM) survey commissioned previously by Rio Tinto over the tenement was assessed. Several conductive bodies that may represent sulphide mineralisation were identified. A Work Area Clearance conducted by the Traditional Owners for the area has approved twelve cored borehole sites targeting the AEM anomalies as well as approximately 800 regional geochemical vacuum boreholes. The Company owned diamond rig and vacuum rig will commence drilling within EL 3931 as soon as possible.

Curnamona Province Project

The development of the Crocker Well Uranium Deposit by Sinosteel Corporation (60%) and PepinNini Minerals (40%) is being managed by Sinosteel PepinNini Curnamona Management Pty Limited (SPCM) on behalf of the Joint Venture partners. The project has its own dedicated website at www.crockerwell.com.au. A Bankable Feasibility Study (BFS) for the development of a mine at

Crocker Well is currently in progress and the Sinosteel PepinNini Joint Venture has lodged an application for a Mining Lease with the South Australian Government for the development of a uranium mine at Crocker Well.

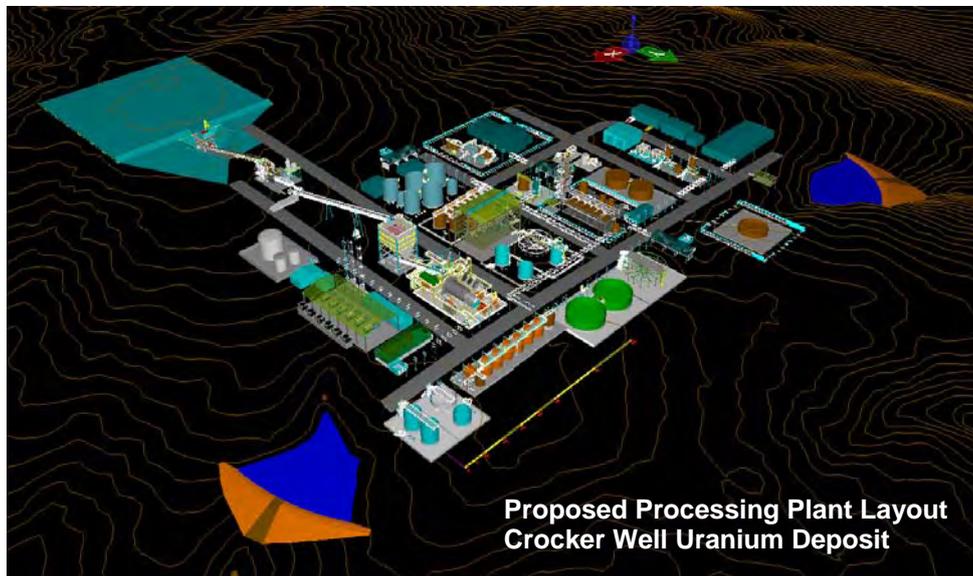
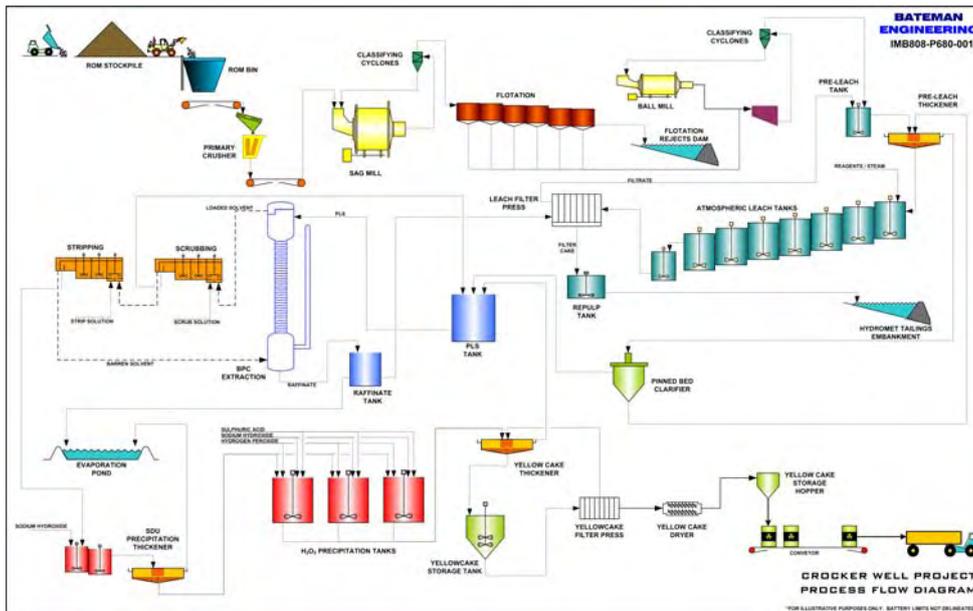
Bateman Engineering have been appointed to undertake the Bankable Feasibility Study. Kellogg Brown and Root (KBR) have been appointed to undertake the Regulatory Approvals and Baseline Studies using URS Australia as sub consultants. Australian Mine Design and Development Pty Limited (AMDAD) have been selected as the Mining Consultants for the Crocker Well project.

Data relating to flora, fauna, climate/meteorology, hydrology, hydrogeology and radiation continued to be collected during the quarter using the dedicated environmental monitoring equipment which has been installed at five sites for baseline data acquisition.

Consultation with the Government, pastoralists, indigenous groups and the local community regarding the proposed mine development also continued during the quarter.

Process Design

SPCM has reported that the proposed processing circuit for the Crocker Well ore has been finalized and that the overall uranium recoveries can be expected to be of the order of 80%.

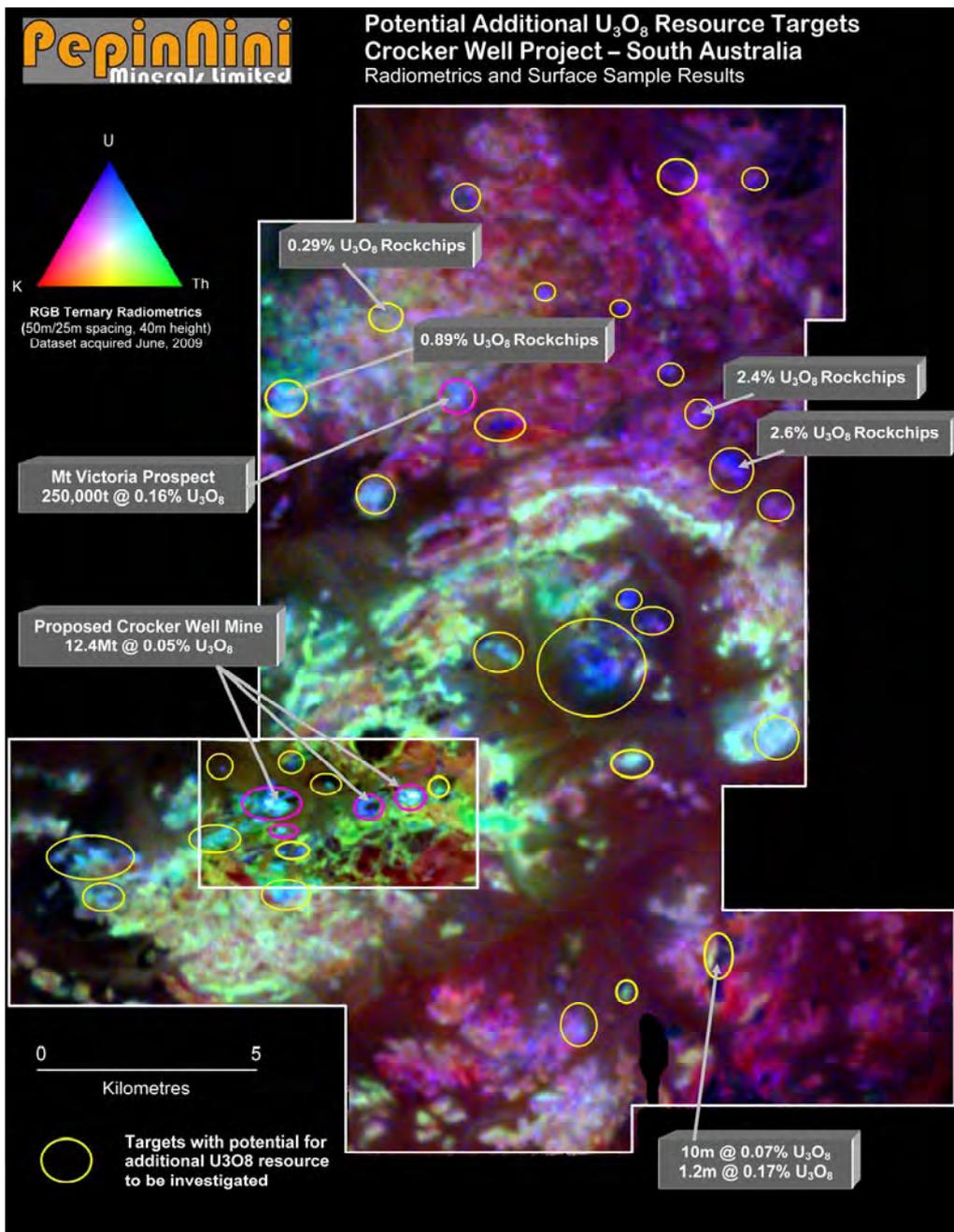


Resource Verification

Drilling operations to verify and upgrade sufficient of the currently defined JORC compliant uranium resource from an Inferred category to an Indicated or Measured category to allow for a 200 tpa to 400tpa production of U_3O_8 for approximately 7 years was completed during the quarter. SPCM have reported the completion of 78 holes for 8,088 metres drilled within the Crocker Well Uranium deposit during the current in-fill program. Data from the current program and the 2008 drilling program is currently being assessed and validated in preparation for a JORC compliant resource estimate.

Investigation of potential additional resource targets

Potential additional resources of U_3O_8 in the vicinity of the Crocker Well Deposit have been identified from the detailed magnetic and radiometric surveys flown during the previous quarter. Drilling is about to commence to investigate potential additional resource targets. It is proposed to investigate the potential of at least five prospects during the next quarter.



WESTERN AUSTRALIA

Peak Hill Gold Project and Robinson Range Iron Ore Project

During the quarter PepinNini continued to maintain the status of the Robinson Range Iron Ore Farm-In and Joint Venture notwithstanding disagreement between PepinNini and the Receiver and Manager of Grosvenor Gold Pty Limited on that issue.

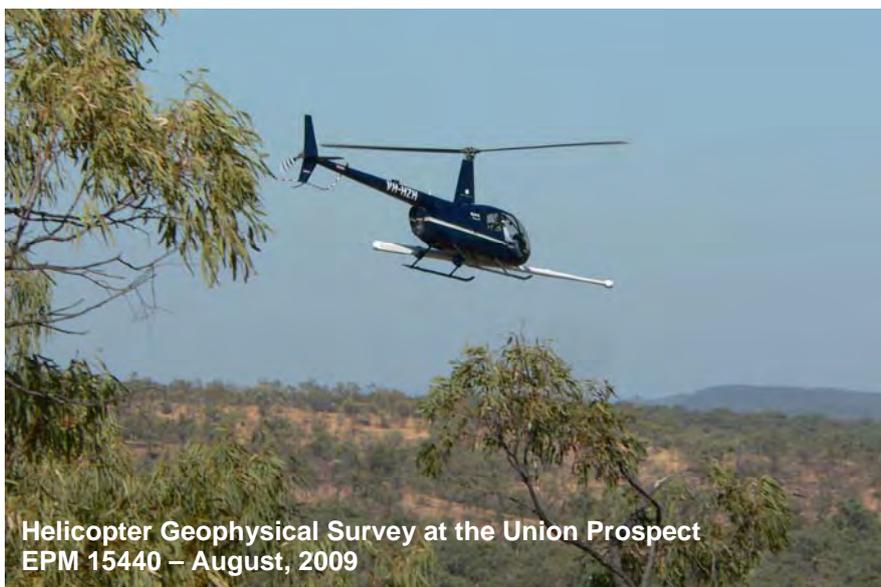
The seven tenements subject of the Farm-In Agreement contain a significant portion of the area within the Bryah- Padbury Basin deemed prospective for iron ore. The potential iron ore deposits have grades of up to 65% Fe with low phosphorous content suitable for exploitation as Direct Shipping Ore (DSO). The prospects have never been drilled, and exploration for iron ore has not been conducted over this ground since 1974.

PepinNini Minerals has identified approximately 40 kms strike length of the prospective Robinson Range Formation within the JV tenements and has completed a detailed 250m grid gravity survey to assist in identifying priority drill targets. A detailed reconnaissance surface mapping and sampling program to investigate prospective targets has been designed and is scheduled to be undertaken early in November, 2009.

NORTH QUEENSLAND

Georgetown Inlier/Woolgar Goldfield/Drummond Basin Project

During the quarter detailed magnetic and radiometric surveys were flown over EPM 15547 The Return and EPM 15440 Percyville using a helicopter based system. Detailed geological mapping at a scale of 1:2,000 was also undertaken for the same areas.



**Helicopter Geophysical Survey at the Union Prospect
EPM 15440 – August, 2009**

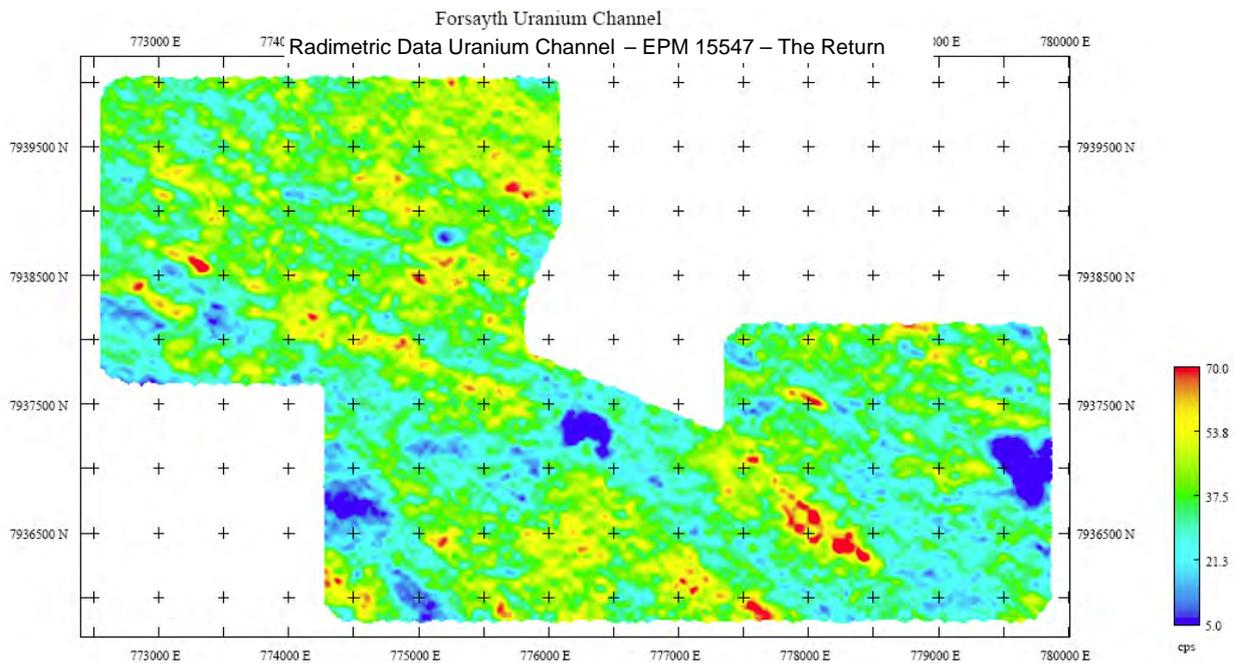
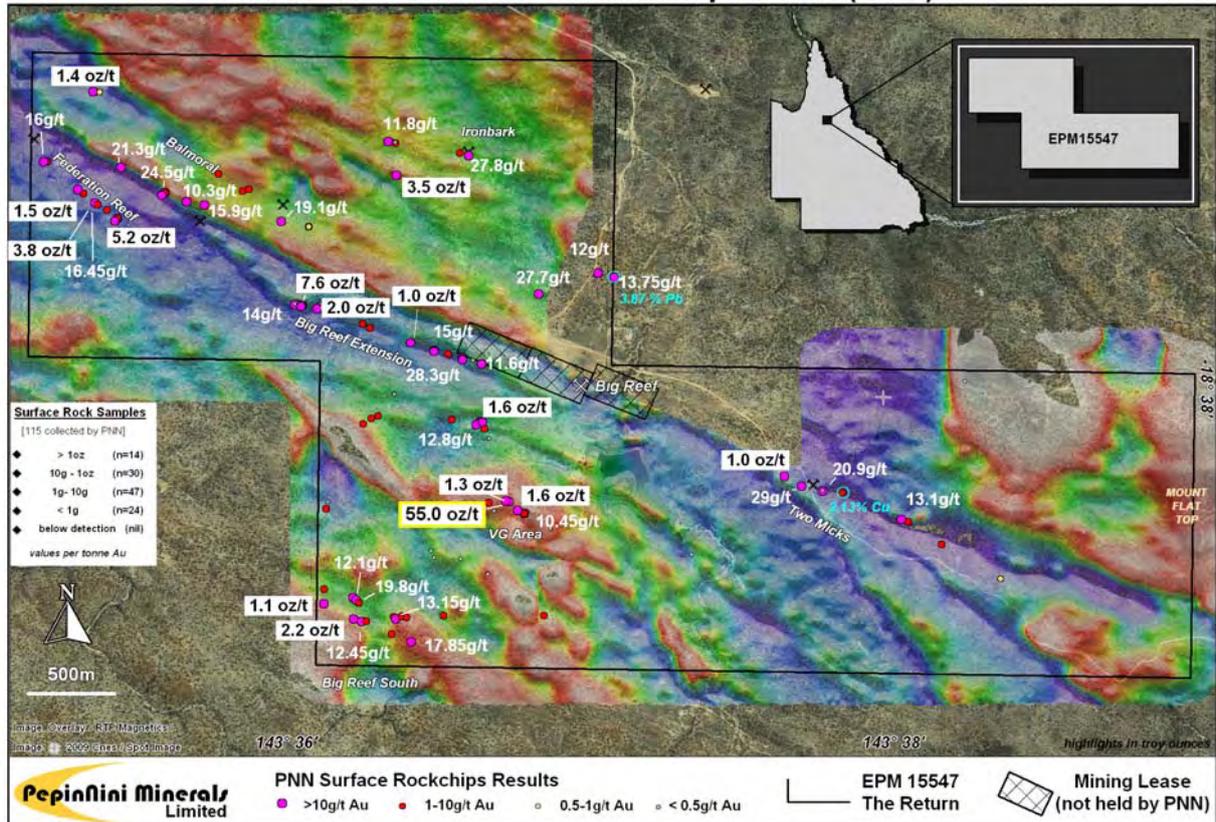
EPM 15547 – The Return

As previously reported several new vein systems have been identified by PepinNini within EPM 15547 and rock chip samples have returned gold grades ranging from 0.1 g/t (country rock) up to 1,710 g/t (55 oz/t). Significant silver grades of up to 20 oz/t have also been assayed for surface samples collected by PepinNini from within the tenement.

A detailed heli-mag survey was flown over the tenement during August, 2009. The survey was flown at a nominal height of 30m with a NS flight line spacing of 25m. The resultant data has assisted greatly in accurately defining structural targets for drilling. The radiometric data has highlighted several anomalies that could represent potential uranium mineralisation targets.

A detailed field mapping exercise at a scale of 1:2,000 primarily focussed on mineralised structures which have returned high grade gold results was also undertaken during August and September 2009. Apart from accurately locating corridors of well defined lodes the mapping has also defined several zones of stockwork veining which may have potential for an open pit resource.

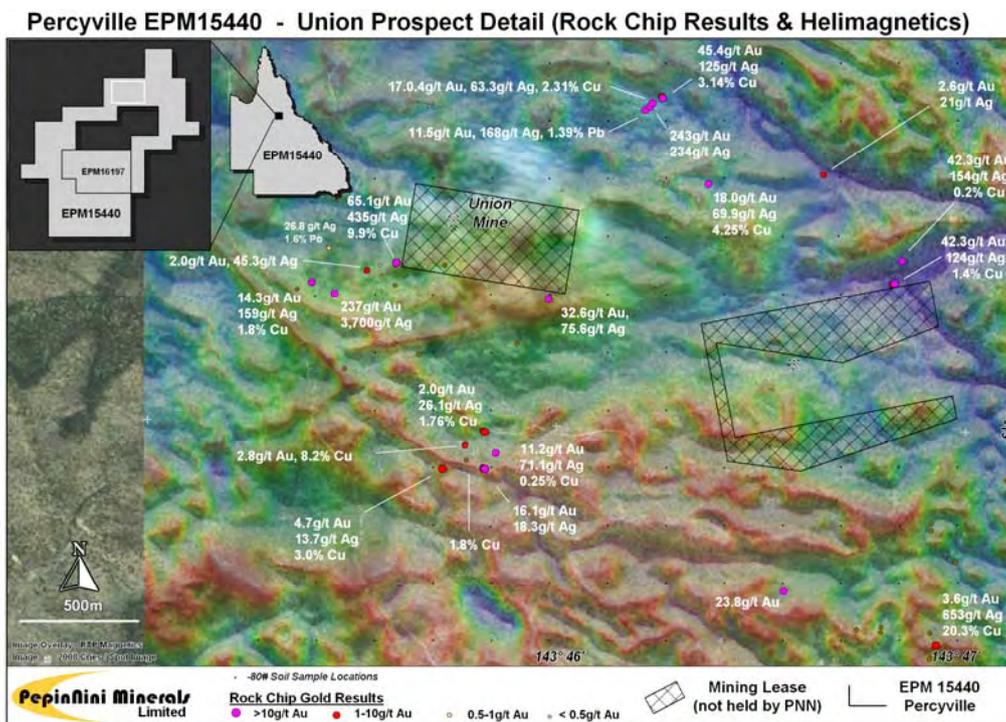
The Return EPM15547 - Rock Chip Results (Gold)



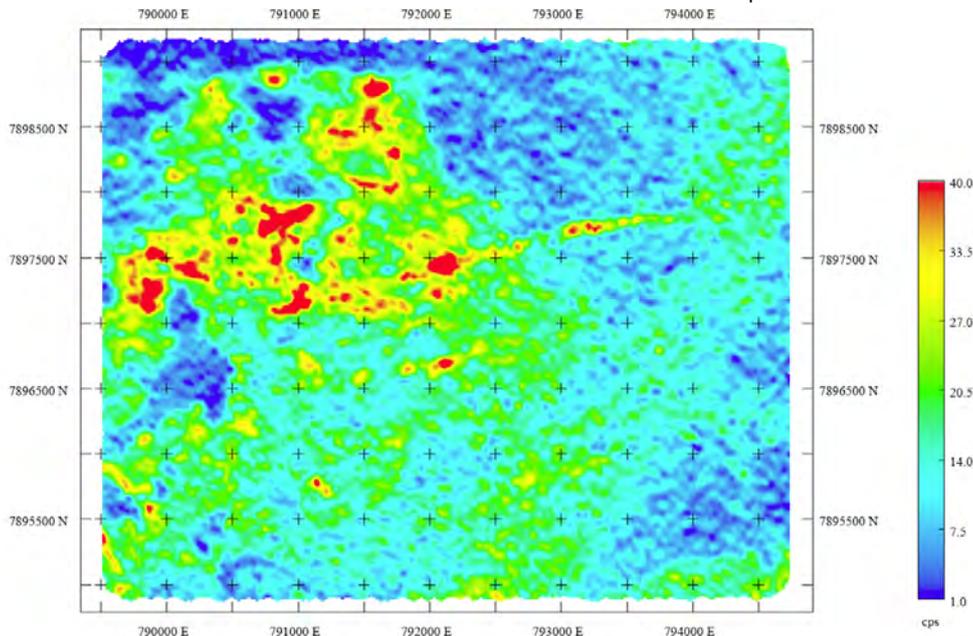
EPM 15440 (Percyville)

Previous rock chip and soil sampling programs have defined two priority gold/copper prospects in EPM 15440: Gold grades of up to 65g/t and copper grades of up to 20.3% have previously been reported for The Union Prospect. At the Spring Valley Prospects gold grades of up to 335 g/t and copper grades of up to 32.8% have been reported.

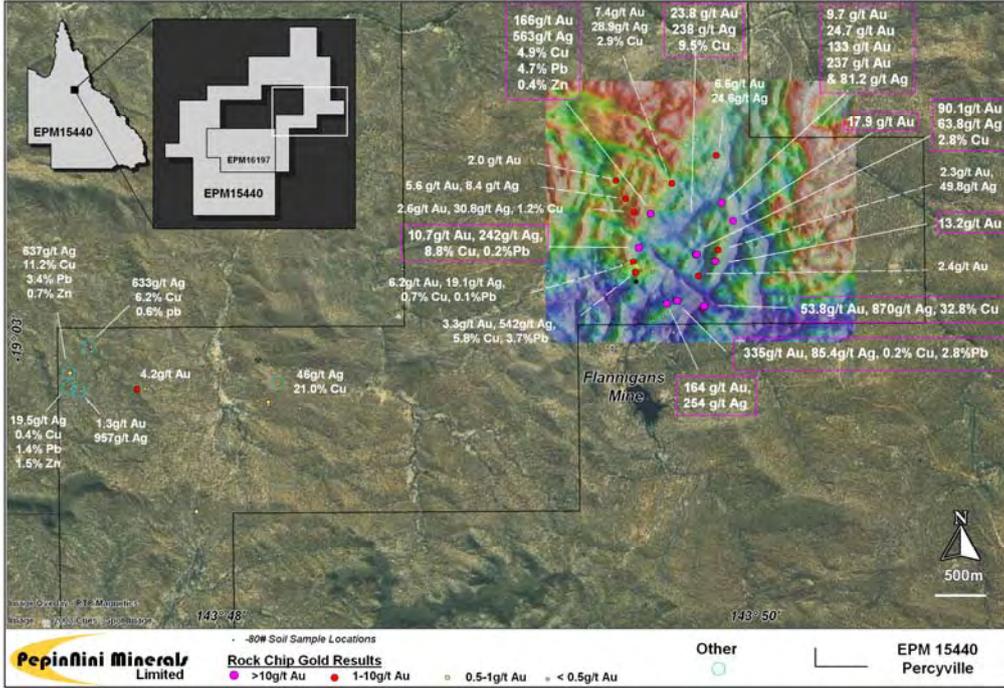
A detailed heli-mag survey was flown over both prospects during August, 2009. The survey was flown at a nominal height of 30m with a NS flight line spacing of 25m. The resultant data has significantly improved the structural definition of both prospects and together with the detailed geological mapping conducted during the quarter will assist in locating priority drill targets. The radiometric data has highlighted several anomalies that could represent potential uranium mineralisation targets.



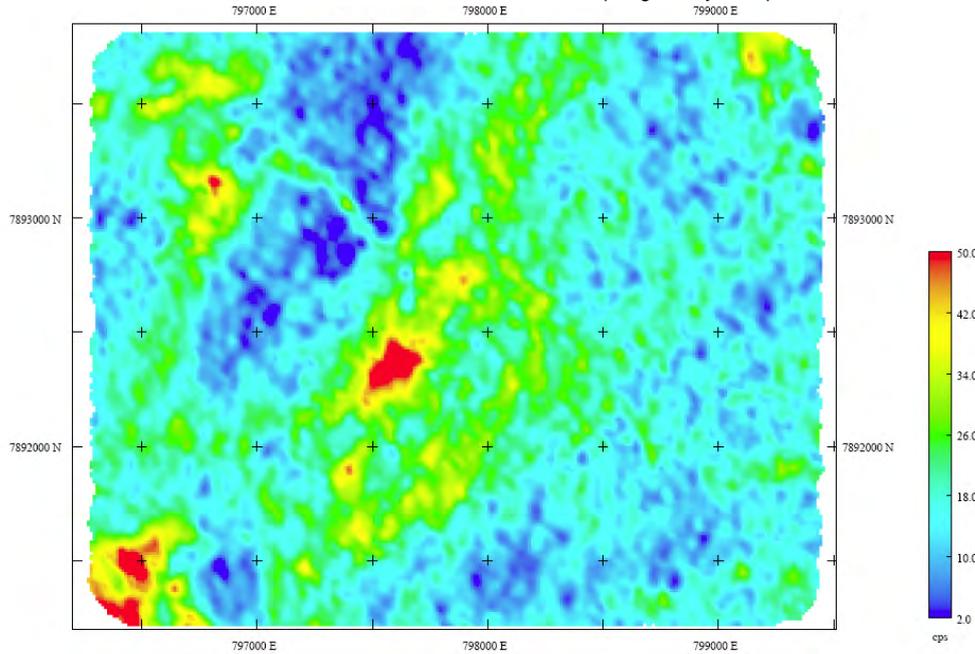
Radiometric Data Uranium Channel – EPM 15440 – The Union Prospect



Percyville EPM15440 - Spring Valley Prospect (Rock Chip Results & Helimagnetics)



Radimetric Data Uranium Channel – EPM 15440 – Spring Valley Prospect



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

For further information please contact:

Mr Norman Kennedy
 Chairman and Managing Director, PepinNini Minerals Limited
 Phone: (02) 9417 6212

Note: Additional information on PepinNini Minerals Limited can be found on the website:

www.pepinnini.com.au

Additional information for the Crocker Well Uranium Project can be found on the website:

www.crockerwell.com.au

Appendix 5B

Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001.

Name of entity

PepinNini Minerals Limited

ABN

55 101 714 989

Quarter ended ("current quarter")

September 2009

Consolidated statement of cash flows

	Current quarter \$A'000	Year to date (... 3... months) \$A'000
Cash flows related to operating activities		
1.1 Receipts from product sales and related debtors		
1.2 Payments for (a) exploration and evaluation (b) development (c) production (d) administration	(2,330)	(2,330)
1.3 Dividends received		
1.4 Interest and other items of a similar nature received	128	128
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Other (PACE drilling refund – SA govt grant)		
Net Operating Cash Flows	(2,455)	(2,455)
Cash flows related to investing activities		
1.8 Payment for purchases of: (a)prospects (b)equity investments (c)other fixed assets	(54)	(54)
1.9 Proceeds from sale of: (a)prospects (b)equity investments (c)other fixed assets		
1.10 Loans to other entities		
1.11 Loans repaid by other entities		
1.12 Other (provide details if material) – controlled entity contributing cash		
Net investing cash flows	(54)	(54)
1.13 Total operating and investing cash flows (carried forward)	(2,509)	(2,509)

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(2,509)	(2,509)
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	-	-
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 – On market Share Buy-back	-	-
	Net financing cash flows	-	-
	Net increase (decrease) in cash held	(2,509)	(2,509)
1.20	Cash at beginning of quarter/year to date	11,394	11,394
1.21	Exchange rate adjustments to item 1.20		
1.22	Cash at end of quarter	8,885	8,885

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	118
1.24	Aggregate amount of loans to the parties included in item 1.10	

1.25 Explanation necessary for an understanding of the transactions

Within Item 1.2	
1. Managing Director, Administration Director and non-executive directors' remuneration	\$115,000
2. Reimbursement of Directors' expenses	\$2,700

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.

Estimated cash outflows for next quarter

		\$A'000
4.1	Exploration and evaluation	2,000
4.2	Development	
Total		2,000

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	3,839	3,369
5.2	Deposits at call	5,046	8,025
5.3	Bank overdraft		
5.4	Other (provide details)		
Total: cash at end of quarter (item 1.22)		8,885	11,394

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 14834	Statutory partial relinquishment	100 sub-blocks	66 sub blocks
6.2	Interests in mining tenements acquired or increased nil	nil	nil	nil

+ 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 Preference +securities <i>(description)</i>				
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3 +Ordinary securities	78,202,499	78,202,499	N/A	N/A
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs				
7.5 +Convertible debt securities <i>(description)</i>				
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7 Options <i>(description and conversion factor)</i>	500,000 600,000 100,000		<i>Exercise price</i> 138cents 130 to 230 cents 35cents	<i>Expiry date</i> 30 Nov 2010 31 Jan 2011 31 Dec 2010
7.8 Issued during quarter				
7.9 Exercised during quarter				
7.10 Expired during quarter	600,000			31 Aug 2009
7.11 Debentures <i>(totals only)</i>				
7.12 Unsecured notes <i>(totals only)</i>				

+ See chapter 19 for defined terms.

Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 4).
- 2 This statement does give a true and fair view of the matters disclosed.



Sign here:

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Date **Friday 30th October 2009..**

Print name:

.....**Rebecca Holland-Kennedy**.....

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 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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