



ASX ANNOUNCEMENT

15th April, 2009

Exploration Activity Update

The following update relates to field exploration activity currently being conducted at our South Australian and Queensland Projects.

SOUTH AUSTRALIA

Musgrave Province Project

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 the regional drilling program.

Drilling operations utilising the Company owned and operated diamond drilling rig and vacuum rig recommenced within EL4048 on the 14th February. Since drilling recommenced in 2009, three boreholes have been completed (DD08CAR008, DD09CAR009, DD09CAR010) and a fourth commenced (DD09CAR011). Visible sulphides have been intersected in each hole. The diamond drilling program within EL4048 has now drilled a total of ~3,762m, up to and including DD09CAR010. A total of 266 diamond drill core samples have recently been submitted for assaying.

The regional vacuum drilling program within EL4048 has now completed 469 boreholes, totaling ~5,142 metres. Holes vary in depth from 1.2 – 24.6m with a median depth of 11.1m. A total of 972 subsurface samples have been collected and submitted for multi-element geochemical analysis. To date, 770 sample results have been received from holes VC001-383. A total of 202 geochemical samples have recently been submitted for assaying.

Anomalous results from the vacuum drilling occur as three groups:

1. Central Caroline Intrusion

Interpreted as a >500m wide zone of anomalous Nickel-Copper-Cobalt wrapping around the western side of the core of the Caroline intrusion consistent with magnetic horizons interpreted to be layering within the mafic intrusion and occasionally coincident with gravity and EM anomalies. Maximum assay values within the zone include:

- 1880 ppm Ni & 1340ppm Ni
- 360 ppm Cu & 335ppm Cu
- 1660 ppm Co & 475ppm Co

2. Caroline Intrusion Margins (A-F)

Six dispersed anomalous occurrences are located to the south and east of the Caroline Intrusion. These targets require follow-up investigations.

Maximum assay values include:

- Area A - 140ppm Ni & 115ppm Cu
- Area B - 175ppm Cu & 105ppm Ni
- Area C - 285ppm Ni & 250ppm Ni
- Area D – 510ppm Ni, 195ppm Co & 115ppm Cu
- Area E - 210ppm Cu, 185ppm Zn & 48.5ppm Pb
- Area F - 11g/t Ag & 135ppm Zn

3. Ulkya Road (A-D)

Four regional targets are located along the Ulkya access road to the southwest, east and north of the Mt Caroline hill. The anomalous results overly felsic and mafic gneisses of the Birksgate Complex. Maximum assay values include:

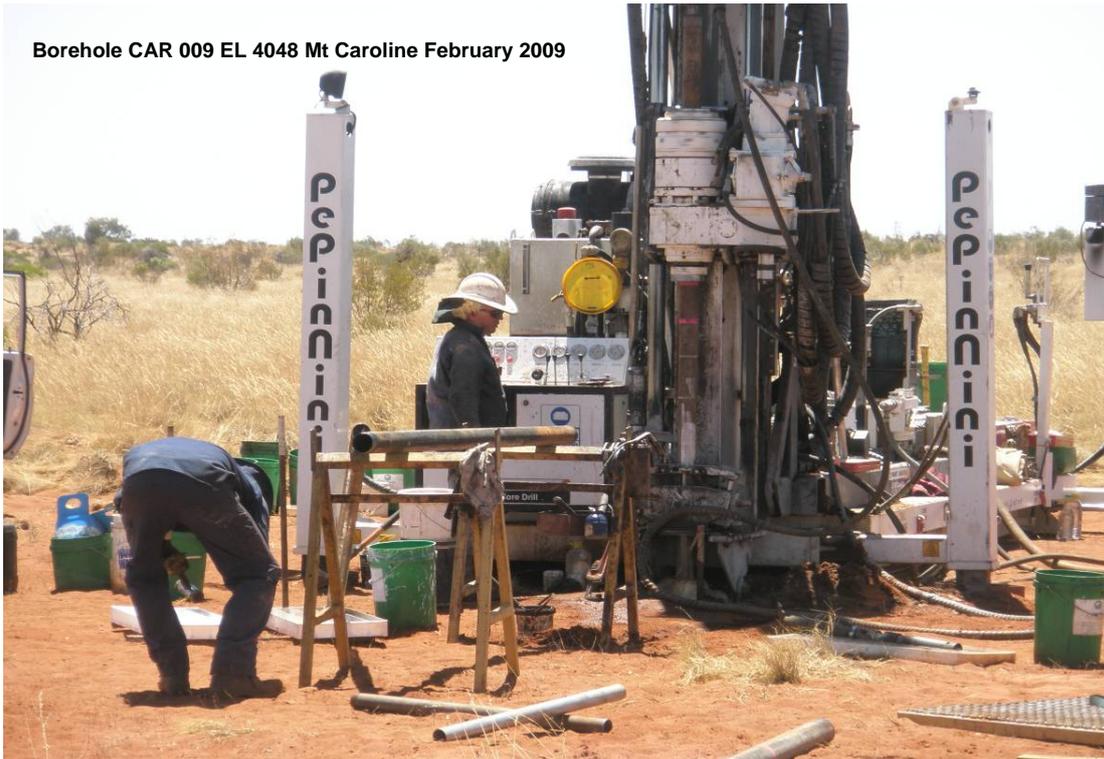
- Ulkya Rd A – 25.5g/t Ag & 1240ppm Zn, 14ppm Mo, 280ppm Ni & 140ppm Cu
- Ulkya Rd B - 1g/t Ag & 600ppm Zn
- Ulkya Rd C - 1g/t Ag & 1200ppm Zn
- Ulkya Rd D - 560ppm Zn

The vacuum drilling program has delineated several regions of anomalous nickel-copper-cobalt in the regolith which are being followed up with infill vacuum drilling and diamond drilling. The vacuum drilling rig has now been relocated to EL3536 Pine Ridge.

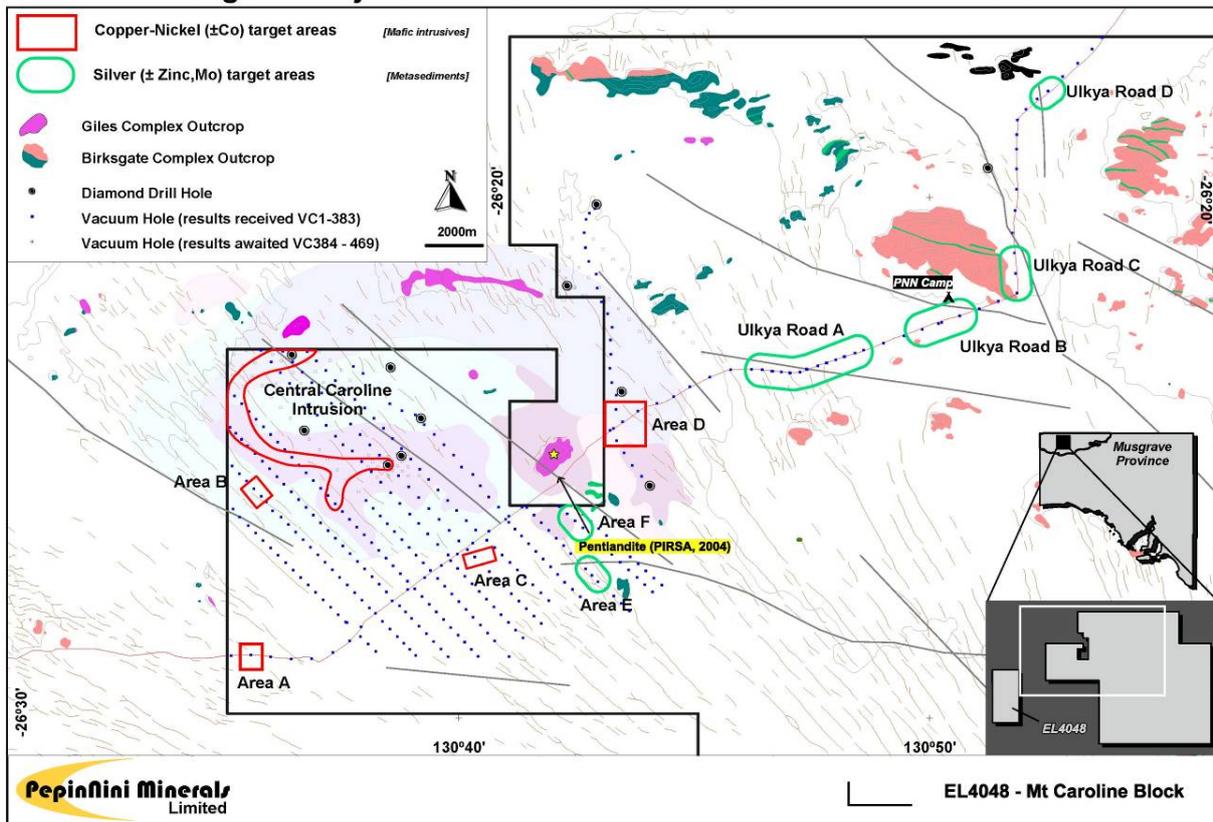
Exploration Licence EL3536 – Pine Ridge

Exploration activities within EL3536 are 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 is prioritised for follow-up drilling. A temporary field camp has been established for the Pine Ridge tenement and a 700 borehole vacuum drilling program commenced on 24th March. Five prospect sites identified by previous explorers within EL3536 have been approved for diamond drilling and the Company diamond rig will commence drilling within EL3536 on completion of the current program within the Mt Caroline tenement.

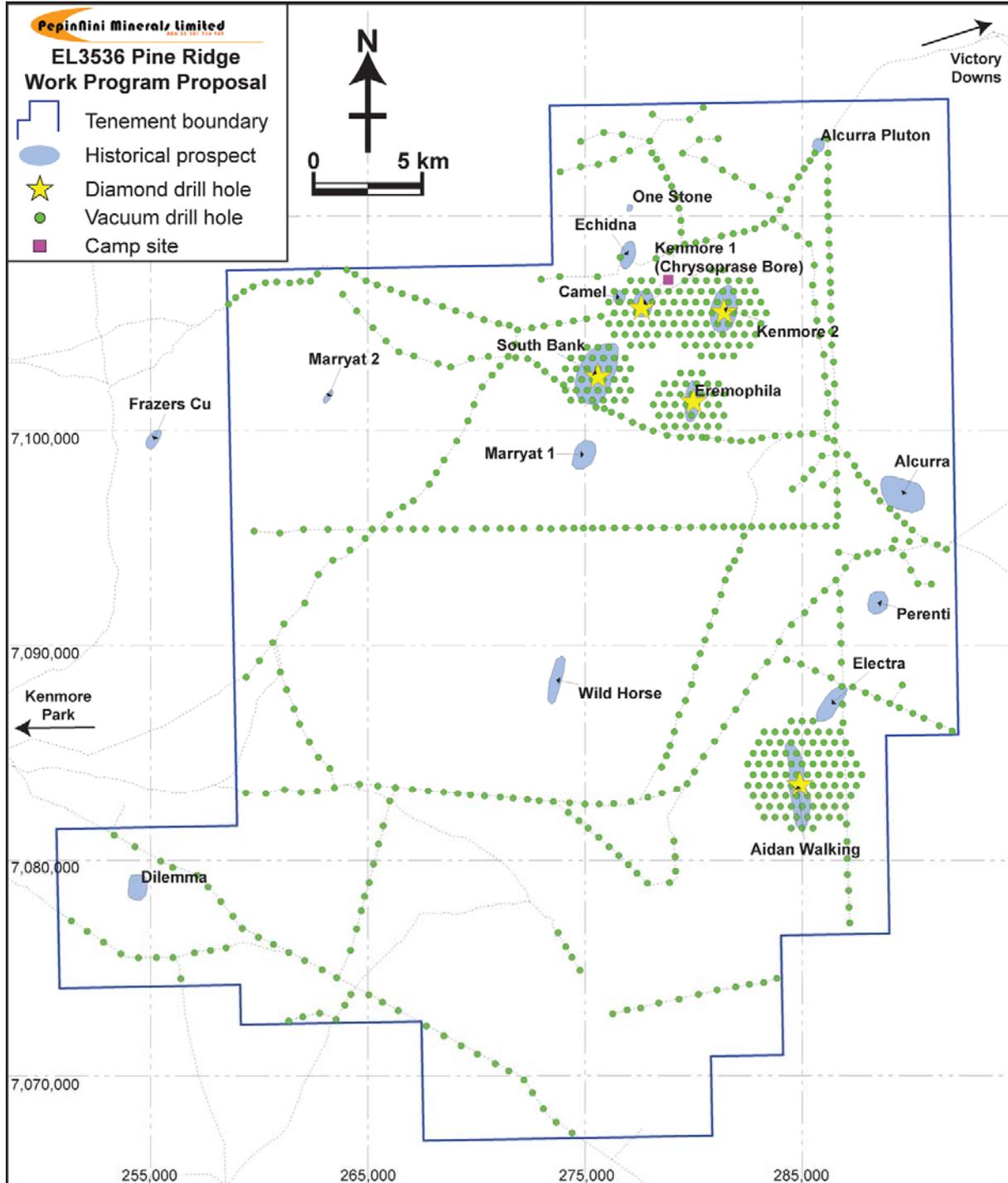
Borehole CAR 009 EL 4048 Mt Caroline February 2009



Musgrave Project - Mt Caroline EL4048 Vacuum Drill Anomalies



Vacuum borehole drilling program, EL4048 Mt Caroline, highlight areas of anomalous geochemistry



Prospects, diamond drill hole and vacuum drill hole localities, EL3536 Pine Ridge

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 is scheduled to be completed in September, 2009. 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.

Geotechnical Drilling

Drilling at the proposed site for the process plant has been completed to determine geotechnical parameters for construction purposes. Drilling is also being undertaken at the proposed site of the tailings dam.

Hydrogeological Program

Work is currently underway to determine the hydrogeological parameters of the proposed mine areas and to investigate possible water sources in the immediate vicinity of the mine.

Process Design

The BFS managers, Bateman, have designed a process circuit which includes a flotation beneficiation stage. Laboratory flotation test work was completed during December 2008. The results indicate that flotation can be successfully deployed for upgrading the Crocker well ore body. The recovery of uranium by flotation was determined to be in excess of 80% with a mass pull of approximately 20-30%. Further metallurgical test work is still in progress to optimize the process and the overall uranium recovery.

Ministerial Site Visit

The SA Minister of Mines and Energy the Hon. Paul Holloway visited the Crocker Well site on 20th January, 2009 together with representatives from PIRSA, PepinNini Minerals and SPCM.



Resource Verification

Additional drilling is required to convert more of the current Inferred resource to an Indicated Category. A drilling program of approximately 8,000 metres in approximately 77 boreholes has been designed to complete the conversion of at least 80% of the current Inferred Resource to an Indicated category. The program is expected to commence before the end of April. An interim resource estimate incorporating data from the previous drilling program conducted last year is in preparation and is expected to be completed by mid June.

NORTH QUEENSLAND

Georgetown Inlier/Woolgar Goldfield/Drummond Basin Project

A helicopter assisted reconnaissance sampling survey of EPM14834 Plain Creek, EPM15990 Rush and EPM16537 Loyo was undertaken between 19th and 29th January, 2009. A total of 127 sites were inspected during the sampling program and a total of 90 rock samples collected. Assay results have been received and confirm high uranium, phosphate, potash and strontium grades occur in all 3 tenements at a number of prospects. Highest grades reported from the samples submitted were:

- Highest Uranium 3,513 ppm U₃O₈ from Sassafras Creek Prospect
- Highest Phosphate 21.4% P₂O₅ from Robyn Lorraine West Prospect
- Highest Potash 5.8% from Sassafras Creek & Homestead Prospects
- Highest Strontium 5,630 ppm from Robyn Lorraine West Prospect

Samples were also collected from the Edward EPM 15160. A total of 21 sites were inspected and surface malachite mineralisation was observed at all but one site. Copper values ranged from 1.6% to 8.8% with several samples also reporting high lead up to 10.5% and silver up to 160 g/t. An IP survey is scheduled to be undertaken to define drilling targets.



Reconnaissance and surface sampling programs are currently being conducted at the Percyville Project including EPMs 15440, 15547, 16289 and 16917. Fifty four samples have been submitted recently for assaying. Encouraging results from previous sampling programs conducted over the past 6 months have confirmed widespread copper, gold, silver, lead and zinc mineralization and identified a number of priority drill targets within these tenements.

Some of the more significant assay results previously reported include:

EPM 15440 Spring Valley Prospect

- **335g/t gold**, 85.4g/t silver, 0.2% copper, 2.8% lead
- 53.8g/t gold, **870g/t silver**, **32.8% copper**
- 166g/t gold, 563g/t silver, 4.9% copper, **4.7% lead**, 0.4% zinc
- 3.3g/t gold, 542g/t silver, 5.8% copper, 3.7% lead
- 10.7g/t gold, 242g/t silver, 8.8% copper, 0.2% lead
- 90.1g/t gold, 63.8g/t silver, 2.8% copper

EPM 15440 Union Prospect

- **65.1g/t gold**, 435g/t silver, 9.9% copper
- 3.6g/t gold, **653g/t silver**, **20.3% copper**
- 42.3g/t gold, 124g/t silver, 1.4% copper
- 4.7g/t gold, 13.7g/t silver, 3.0% copper

EPM 15440 Dividend Gully

- **40.5g/t gold**, **1,360g/t silver**, 0.1% copper, 0.4% lead
- 38.1g/t gold, 184g/t silver, 0.2% copper, 2.3% lead
- **18% lead**

EPM 15440 Freedom Prospect

- 3.2g/t gold, **732g/t silver**, **13.8% copper**, **1.0% lead**
- **15.1g/t gold**, 28.6g/t silver, 3.1% copper, 0.6% lead, 0.2% zinc

EPM 15547 The Return

- **31.3g/t gold**, 42g/t silver, 0.2% lead
- 27.7g/t gold, 41g/t silver, 0.7% lead
- 29.0g/t gold, **49g/t silver**, 0.5% lead
- 4.9g/t gold, 7g/t silver, **1.1% lead**

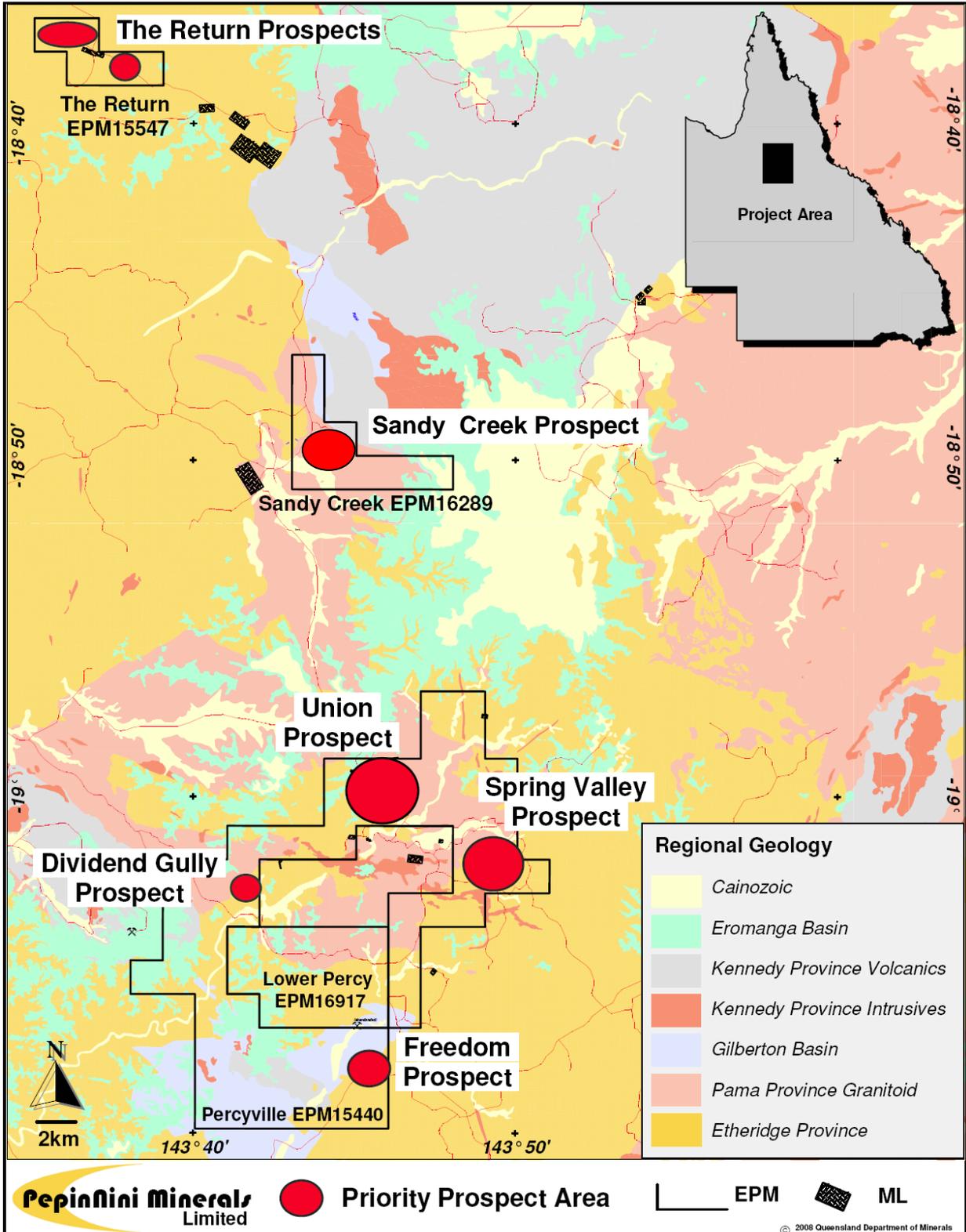
EPM 16289 Sandy Creek and EPM 16917 Lower Percy were granted on 10th February, 2009. Results from a recently completed surface sampling program have confirmed polymetallic mineralization within the Sandy Creek EPM.

EPM 16289 Sandy Creek

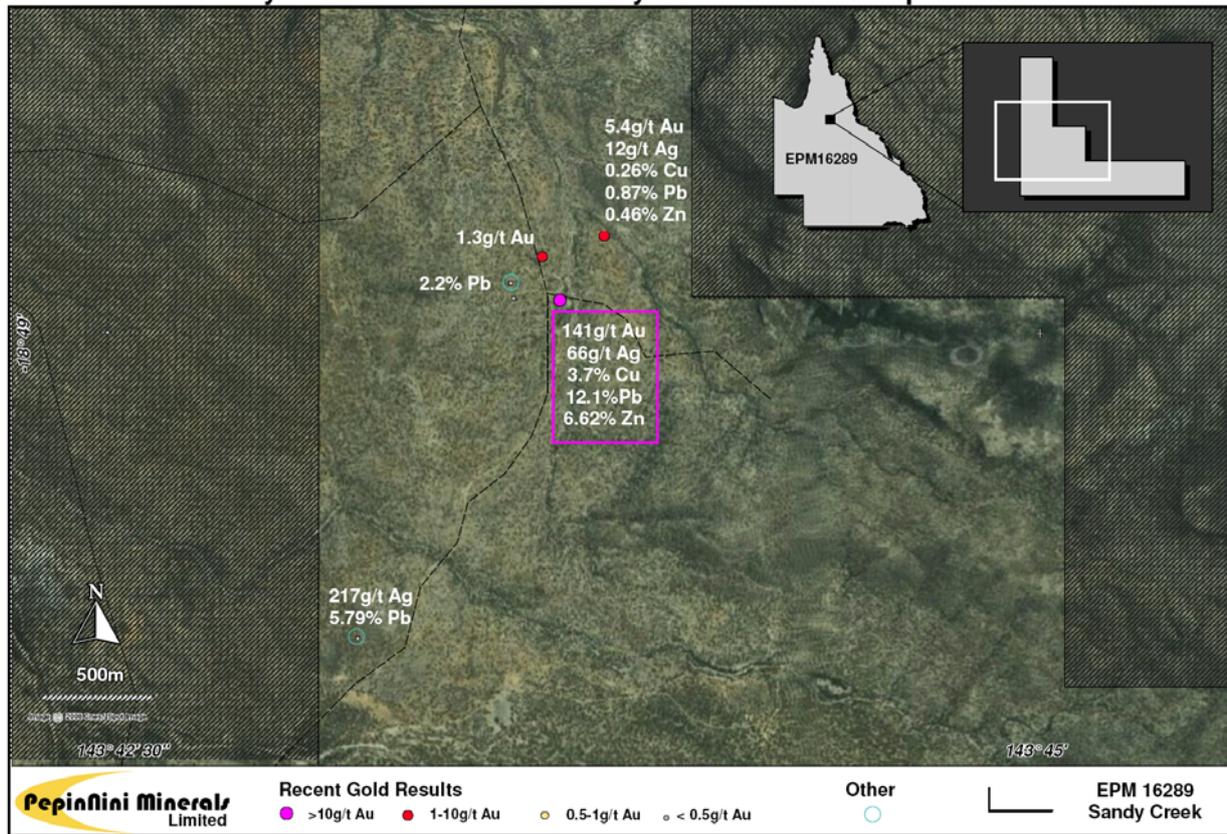
- **141g/t gold**, 66g/t silver, **3.7% copper**, **12.1% lead**, **6.6% zinc**

Soil sampling is planned within the Percyville project tenements to assist in defining drilling targets. Recent mapping on EPM 15440 has defined extensive surface gossans at the Union prospect and detailed mapping is about to commence within at the Spring Valley and Dividend Gully Prospects as well as within EPM 15547 and EPM 16289 to follow-up previously reported gold and base metal anomalism. IP surveys will be undertaken at the Union and Spring Valley Prospects to assist in defining drilling targets.

Percyville Project - Prospect Locations



Sandy Creek EPM - Recent Polymetallic Rock Sample Results



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.

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

www.pepinnini.com.au