



# Quarterly Activities Report

January to March 2011

## SUMMARY JANUARY TO MARCH 2011

- Extensive tenements in QLD and additional tenement applications in NSW on Koonenberry Belt north of Broken Hill;
- Additional drilling at Pembroke returns long nickel sulphide intersections 78m @ 0.27% Ni. (PEMD3) & 116m @ 0.29% Ni. (PEMD4);
- Drilling at Silver Valley returns high grade silver-copper mineralisation;
- Geophysics at Pembroke (core, down hole and ground induced polarization surveys);
- Metallurgical testing on nickel sulphide mineralised drill core;
- Major RC drilling campaign to start at Pembroke, Silver Valley, Mt. Cobalt and Mt. Clara;
- Regional Advancement at Kilkivan East, Boyne, Poperima.

## CRITICAL ACHIEVEMENTS

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> Diamond Drilling at Pembroke and Silver Valley has generated a number of potentially economic intersections.

### **Pembroke Nickel.**

- (74-152m) 78m @ 0.27% Ni. (PEMD3);
- (34-150m) 116m @ 0.29% Ni. (PEMD4);
- (39-132m) 93m @ 0.29% Ni. (PEMD1) (previously reported);

### **Copper, Gold, Silver.**

- (26-33m) 7m @ 0.7% Cu, 2.2g/t Au, 4.8g/t Ag. (PEMD4);
- (29-50m) 21.0m @ 1.0% Cu, 99g/t Ag. (SVGD1);
- (50-58m) 8.0m @ 89g/t Ag. (SVGD2)
- (18-39m) 21m @ 1.04% Cu, 2.1g/t Au. (PEMD1) (previously reported);

> Preliminary metallurgical recoveries by flotation tests, better than 70% nickel.

> Induced Polarization "IP" survey identifying numerous new sulphide targets in close proximity to Shamrock Mill.

> 2,500 m RC drill program commenced to test high tonnage sulphide targets.

## EXTENSIVE TENEMENTS HOLDING WITH NICKEL FOCUS

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Leveraging off the discovery of disseminated nickel sulphide in drill core at Pembroke, AusNiCo has applied for additional exploration areas in Queensland "QLD" and New South Wales "NSW".

Four areas in NSW (5,013 sq.km) and two new areas in QLD (840 sq.km) have been identified as areas containing favourable criteria for nickel sulphide deposits.

EPM 17817 (Mt. Slopea) located in SW QLD was granted to AusNiCo during the quarter. Nickel mineralisation has been recorded in this gabbro intrusive which lies on the north east margin of the Surat Basin.

AusNiCo will conduct refined magnetic and IP surveys to define disseminated sulphide targets prior to drilling.

142°E

# AusNiCo Tenement Plan

**LEGEND**

- New England Fold Belt
- Lachlan Fold Belt
- Other Fold Belts
- Basins
- Precambrian Basement

**AusNiCo Tenements**

- Granted
- Applications

SOUTH

Townsville

PACIFIC

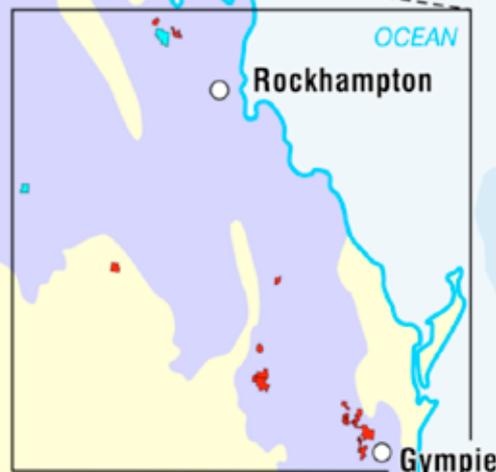
Cloncurry  
Mt Isa

EPMA 19060  
Dum Creek

EPMA 19057  
Cloncurry River

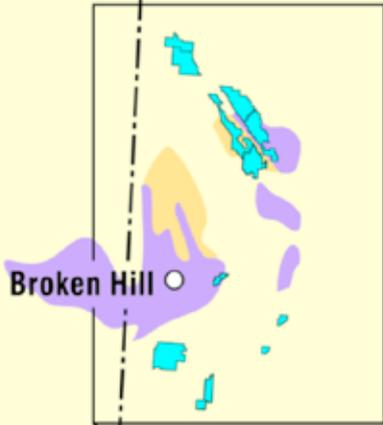
EPMA 19059  
Charcoal Creek

## QUEENSLAND



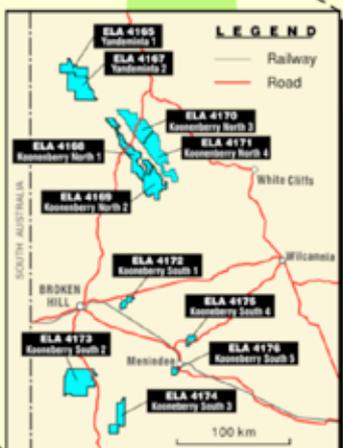
29°S  
**SOUTH AUSTRALIA**

BRISBANE



## NEW SOUTH WALES

Armidale  
Coffs Harbour



SYDNEY

200 Km

## VICTORIA

142°E

March 2011



## ADDITIONAL DRILLING AT PEMBROKE

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High grade gold, copper and disseminated nickel sulphide intersections have been recorded along strike from the Dec 2010 quarter drilling at Pembroke

Two orientated diamond holes were completed (PEMD1 and PEMD2) during the December 2010 quarter. PEMD1 returned 20.9m (18.1-39m) @ 1.04% Cu, 2.09g/t Au and 26m (39-65m) @ 0.44% Ni and 224 ppm Co.

Further shallow drilling, has been completed at Pembroke returning high grade gold-copper intersections and nickel intersections. These intercepts are from the third (PEMD3) and fourth (PEMD4) diamond hole "PEMD3 and PEMD4" drilled to further delineate potential open pit nickel, copper and gold resources in the highly anomalous area.

### PEMD3 Highlights

**74-152m: 78m @ 0.27% Ni, 147ppm Co,**  
incl: 78-82m: 4m @ 0.32% Ni; 205ppm Co,  
and 126-152m: 26m @ 0.35% Ni; 174ppm Co,  
incl: 132-138m: 6m @ 0.64% Ni; 324ppm Co.

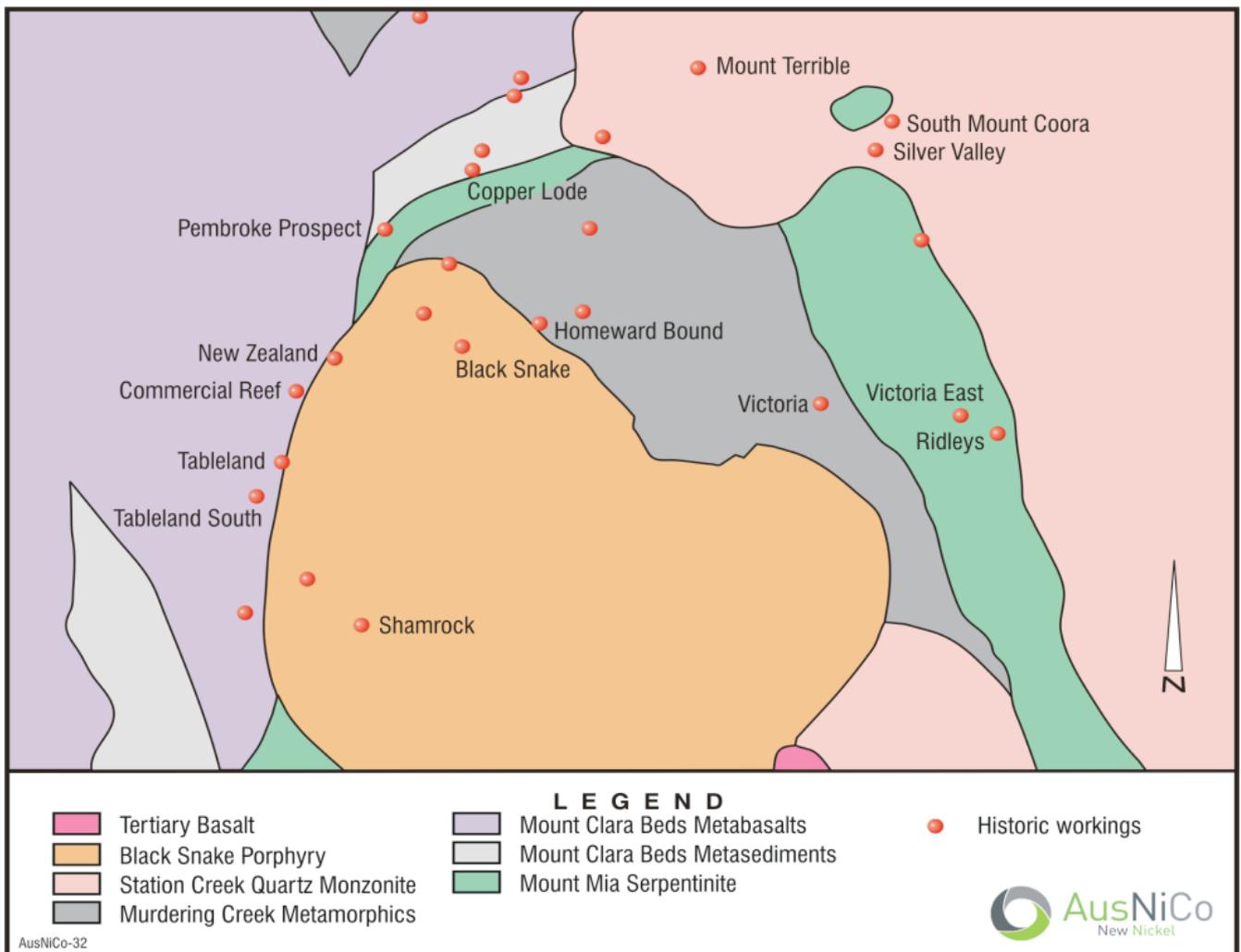
### PEMD4 Highlights

**Cu-Au-Ag Zone**  
**26-33m: 7m @ 2.1g/t Au, 0.68% Cu, 4.8g/t Ag,**  
Incl:- 26-29m: 3m @ 4.1g/t Au, 1.13% Cu, 8.1g/t Au.

### Ni Zone

34-150m: 116m @ 0.26% Ni, 144ppm Co,  
Incl:- **69-100m: 31m @ 0.37% Ni, 207ppm Co,**  
and **71-82m: 11m @ 0.55% Ni, 308ppm Co,**  
and **71-75m 4m @ 1.1% Ni, 620ppm Co.**

This latest drilling has provided new information which is being used to refine the mineralisation model at Pembroke East and the Mt. Clara, Mt. Cobalt, Pembroke target areas generally.



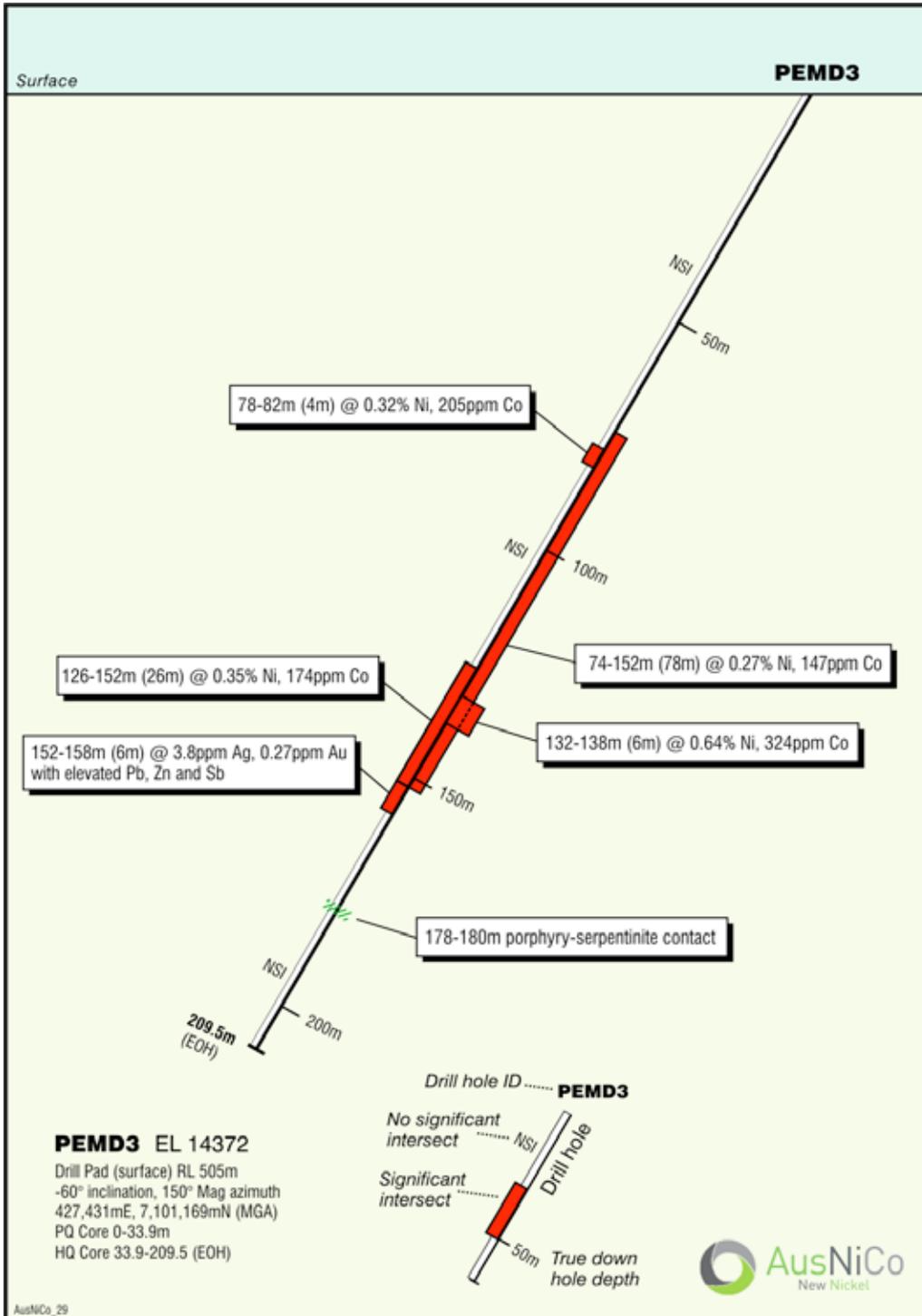
**Fig 1: Pembroke Area Geology Setting showing location of historic workings**

The diamond drilling campaign will now be followed by Reverse Circulation "RC" percussion drilling, to define the full extent of the mineralisation at Pembroke.

PEMD3 was drilled to test the mineralisation from the opposite direction approximately 90m NNW of PEMD1, intersecting 78m @ 0.27% Ni (74-152m). This hole confirmed the depth extent of the disseminated nickel sulphide intercept of 93m @ 0.29% Ni (39-132m) encountered in PEMD1.

Significantly PEMD3 intersected the serpentinite - Black Snake Porphyry contact at 178m down the hole.

Refer to figure 2. Early interpretations suggest that a mineralised zonation from Cu-Au-Ag to Ni-sulphide exists near to the contact, providing AusNiCo with immediate target zones around the northern and NW margins of the intrusive contact in which to focus exploration in this area. Detailed soil sampling highlights consistently anomalous Cu-Au-Ag extending to the SW from PEMD1 towards the historic Pembroke line of Au-Cu workings and further south towards the Tableland Mine. Refer to figure 1.



**Fig 2: PEMD3 Diamond Drill Hole Intersections**

PEMD4 was a parallel 35m ENE stepout to PEMD1 with assays suggesting that the hole has encountered the upper portions of the Cu-Au-Ag zone (7m @ 2.2g/t Au, 0.68% Cu and 4.8g/t Ag from 26m) underlain by the expected Ni zone which intersected 116m @ 0.26% Ni from 34m. Refer to figure 3. Extensive RC drilling is planned now the diamond drilling program is complete and this will better define the structure, orientation and extent of the mineralised zone at Pembroke.

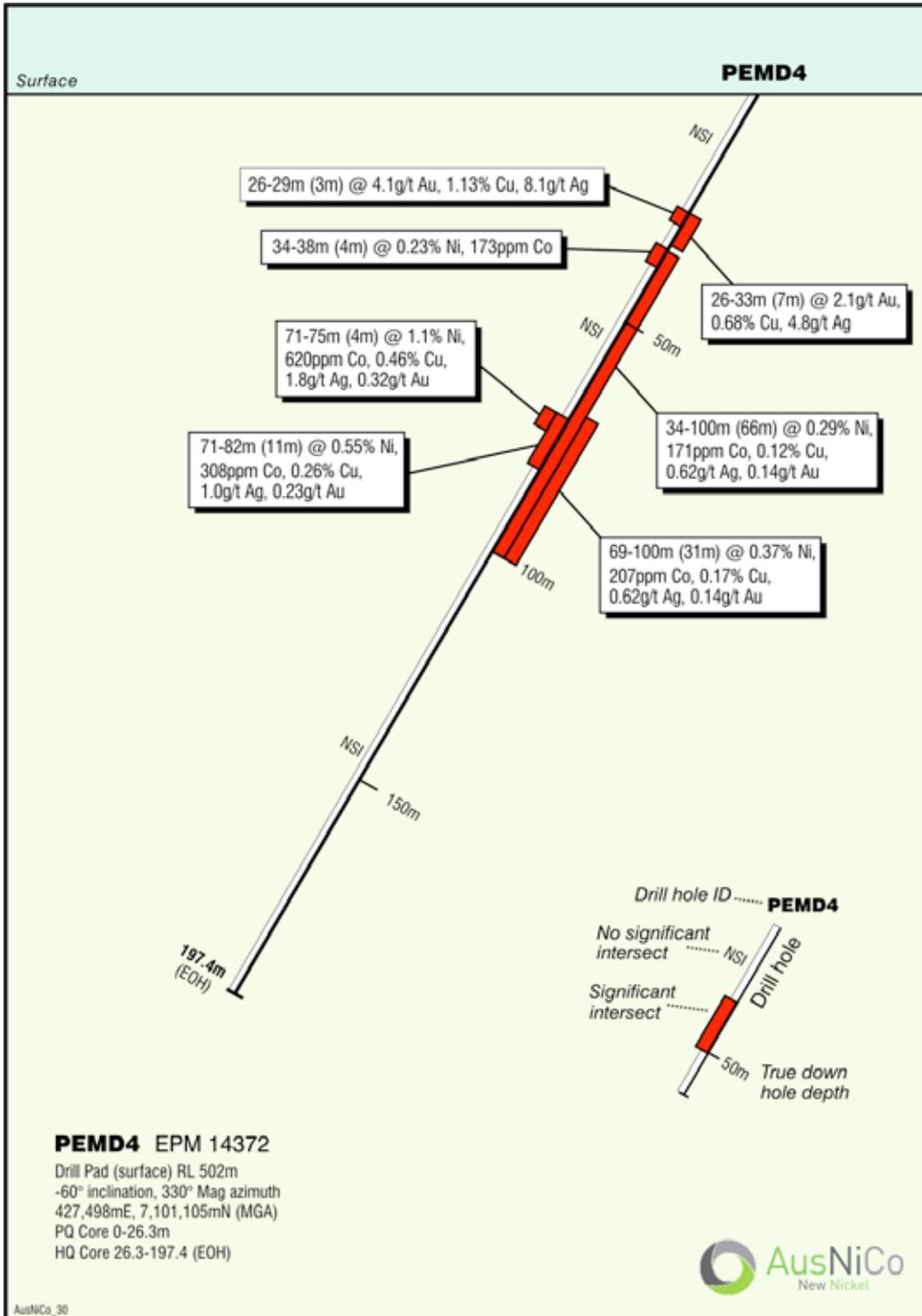


Fig 3: PEMD4 Diamond Drill Hole Intersections

Recent IP anomalies at Pembroke, approximately 200m north of current drilling, suggests the presence of additional sulphide targets which will be drill tested in the next quarter.

## DRILLING COMMENCED AT SILVER VALLEY PROSPECT.

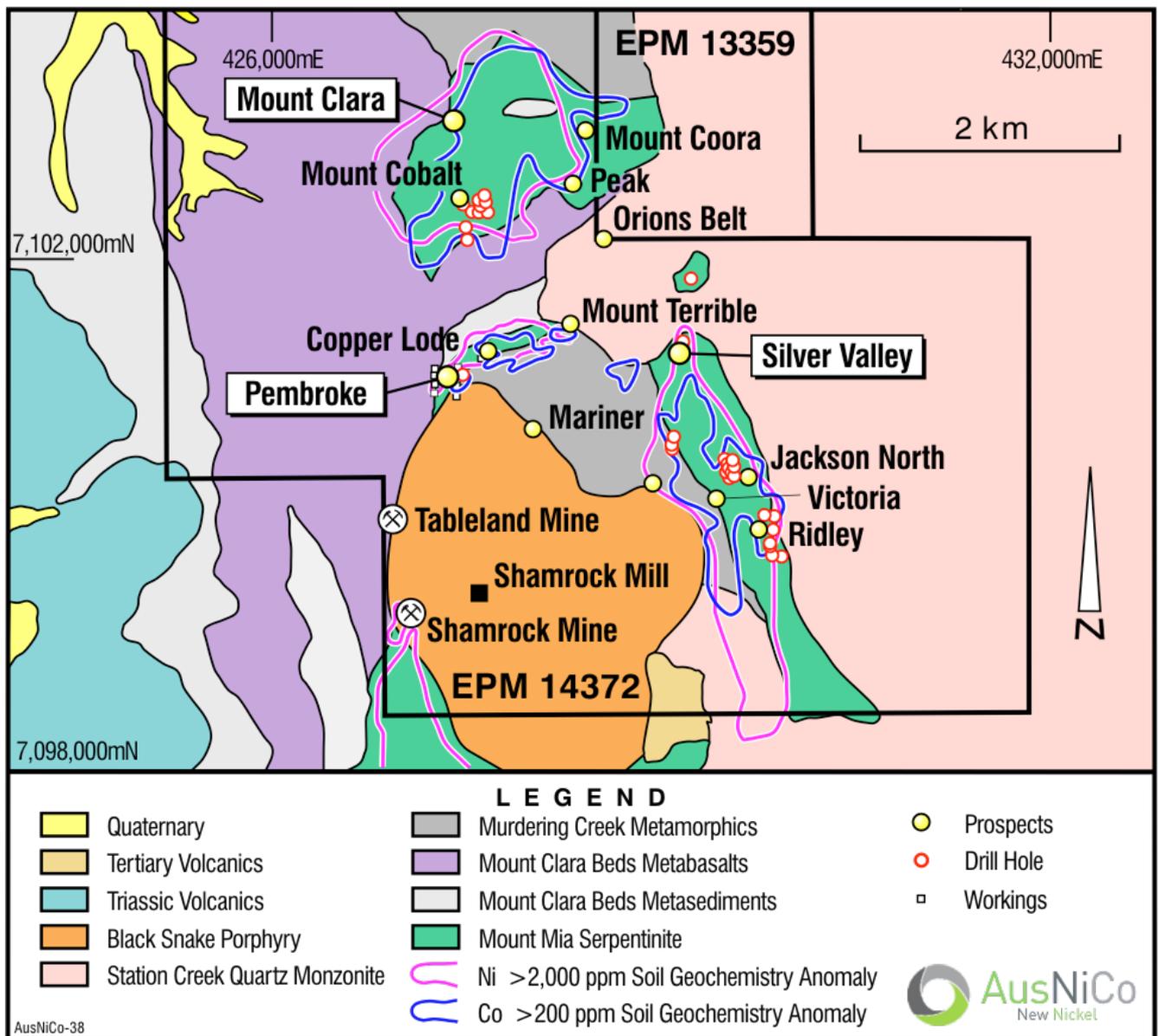


Fig 4: Location of AusNiCo's main areas of exploration activity on the Black Snake Plateau.

## HIGHLIGHTS

- > High grade near surface silver and copper intersections, in first two diamond drill holes.
- > Significant tonnage targeted with mapped surface gossan outcrop over a length of 500 metres.
- > SVGD1 returned 21.0m @ 1.0% Cu, 99 g/t Ag; including 1.5m @ 6.2% Cu and 582 g/t Ag.
- > SVGD2 returned 8.0m @ 89 g/t Ag; including 2m @ 202 g/t Ag and 1 g/t Au.

During the quarter diamond drilling on AusNiCo's 100% owned Black Snake Project has been focused on the Silver Valley region (where intersections of over 105 g/t Ag and 1.2% Cu have been previously reported by AusNiCo). A total of four diamond holes have been drilled in the initial program to determine the strike extension and tonnage potential of the high grade copper and nickel zone.

The first diamond hole SVGD1 has confirmed a potentially economic intersection of 21m of Cu and Ag. Refer to figure 5. The high copper and silver intersection encountered in SVGD1 extends to SVGD2 (50m along strike). Mapping has located intermittent outcrops of gossan over a distance of 500 metres, and along with the copper and silver soil anomalies have provided encouragement that Silver Valley could yield a significant tonnage of copper and silver mineralisation. Refer to figure 7. The SVGD 2 intersection along with the intersection in SVGD1, confirms that the mineralization extends along strike. The full extent of the depth and strike will be confirmed with additional percussion drilling, starting in April.

Samples from drill hole **SVGD1** returned assays in the **Copper and Silver** zone of:

- > **2.0 m** (10-12m) @ 1.14% Cu, 27g/t Ag.
- > 21.0m (29-50m) @ **1.0% Cu, 99g/t Ag**, including:
  - **13m** (32.0-45.0m) @ **1.51% Cu, 147g/t Ag**; including
  - **3.7m** (32.8-36.5m) @ **1.60% Cu, 112g/t Ag**, and including
  - **1.5m** (39.0-40.5m) @ **6.2g/t Cu, 582g/t Ag**.

Samples from drill hole **SVGD2** returned assays in the Copper/Silver zone of:

- > **8.0m** (50-58m) @ **0.1% Cu, 89g/t Ag, 0.34g/t Au** including:
  - **4m** (52-56m) @ **0.14% Cu, 124g/t Ag, 0.5g/t Au**; and including
  - **2m** (54-56m) @ **0.27%Cu, 202 g/t Ag, 1.0g/t Au**.

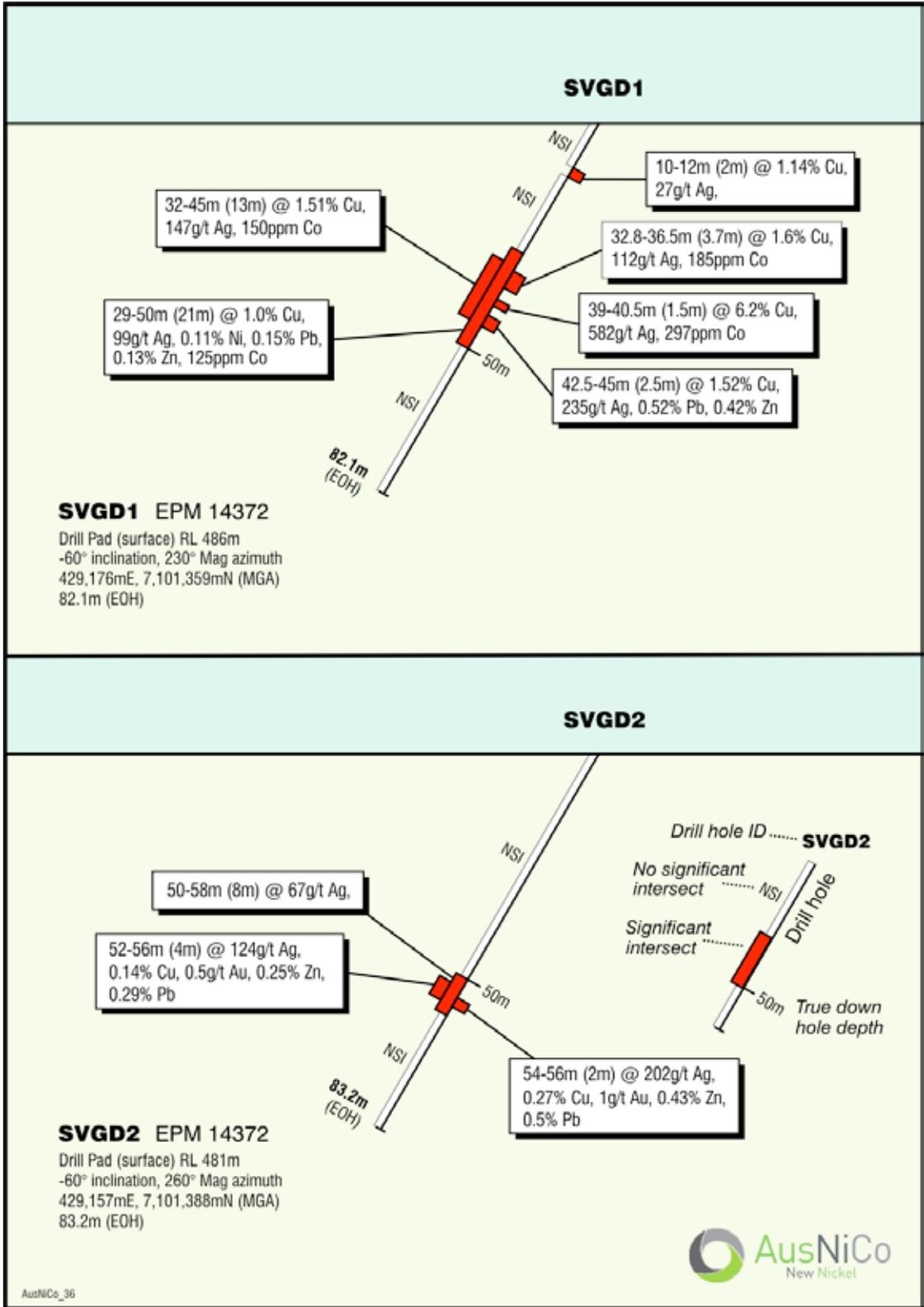


Fig 5: Drill sections for Silver Valley diamond hole 1 and 2.

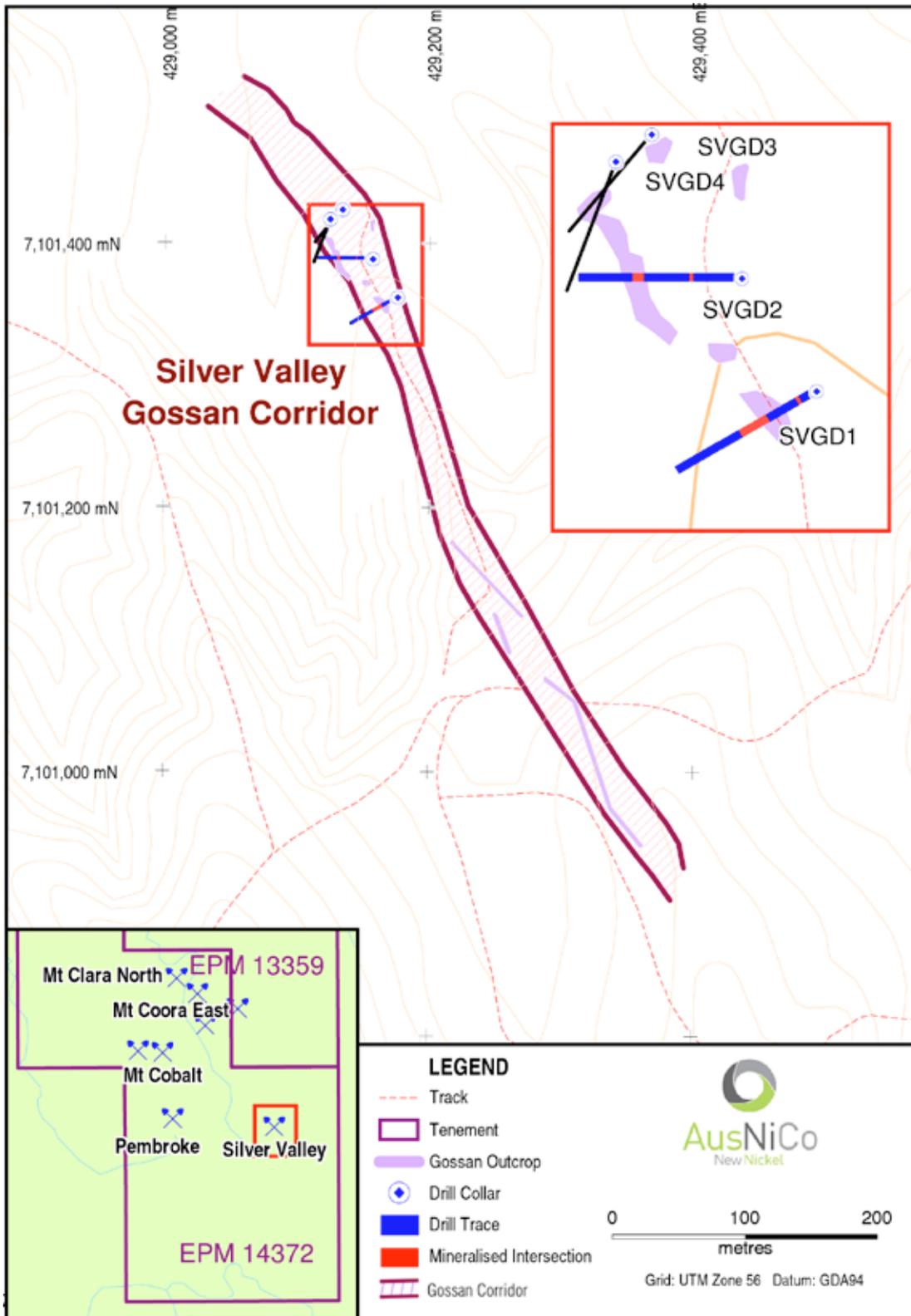


Fig 6: Shows location of drill holes and potential strike extension at Silver Valley.

The diamond drilling program will be followed by an in-fill and step out RC program in order to better define the extent of the Ore zone at Pembroke and Silver Valley. A number of other soil geochemical anomalies coincident with IP anomalies have been identified as drill targets for second quarter 2011.

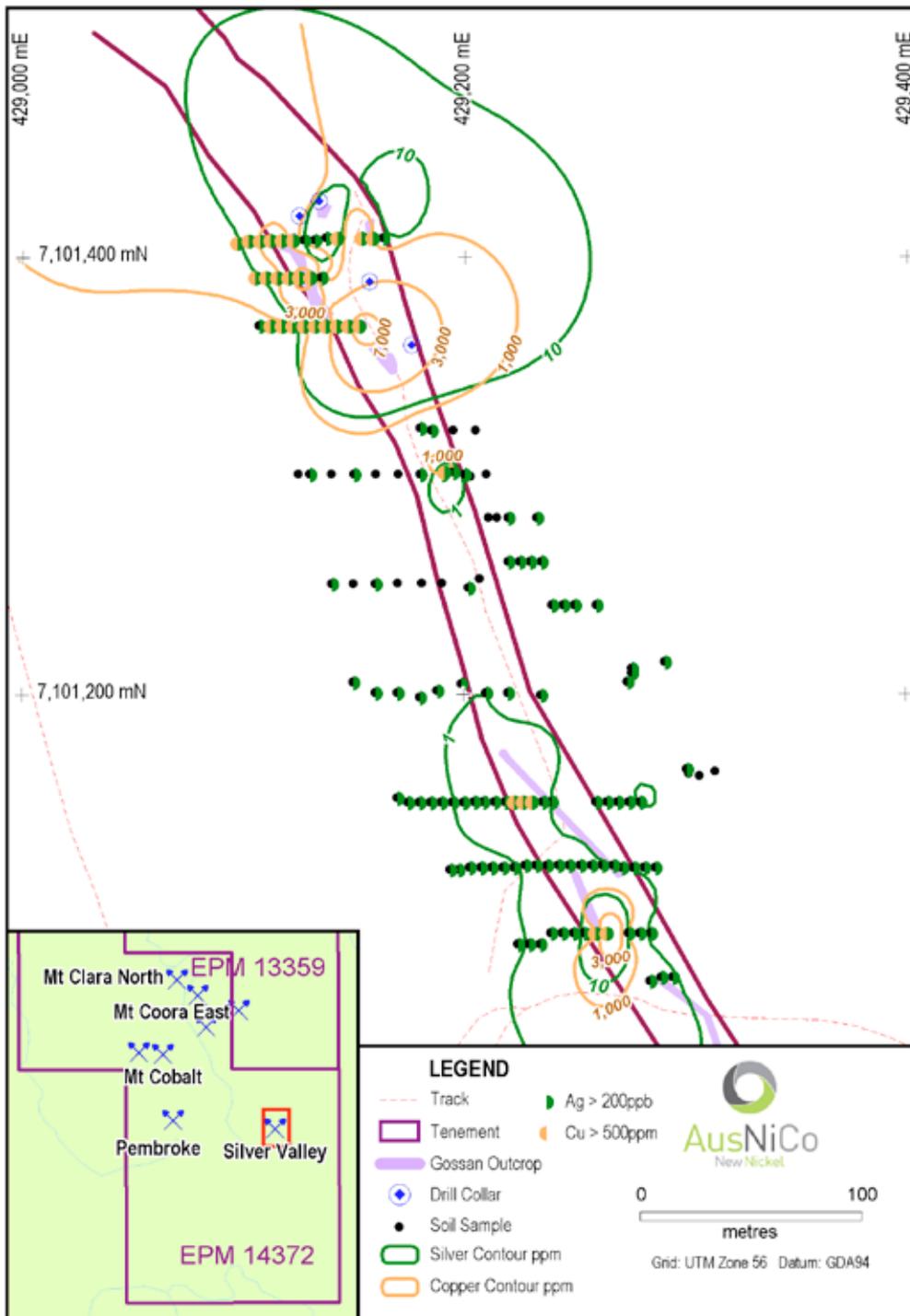


Fig 7: Shows soil Cu, Ag anomalies in the Silver Valley Gossan Corridor (geochemistry

## METALLURGICAL TEST-WORK ON NICKEL SULPHIDE MINERALISATION.

Samples of Pembroke drill core have been independently tested and returned very encouraging results with preliminary nickel recovery of 72.6% and a concentrate containing 11.8% nickel.

A 10kg sample of quartered drill core was supplied to independent consultants for flotation testwork. The sample was from PEMD1 drill core taken from a depth of 53 m to 59 m down the hole. The composite head grade of the sample was 0.7% nickel

A sighter flotation test has been completed and although the grind size, reagent dosage and flow sheet had not been optimised, a very positive and encouraging result was achieved.

Nickel recovery to the initial rougher concentrate was 72.6% and the concentrate contained 11.8% nickel.

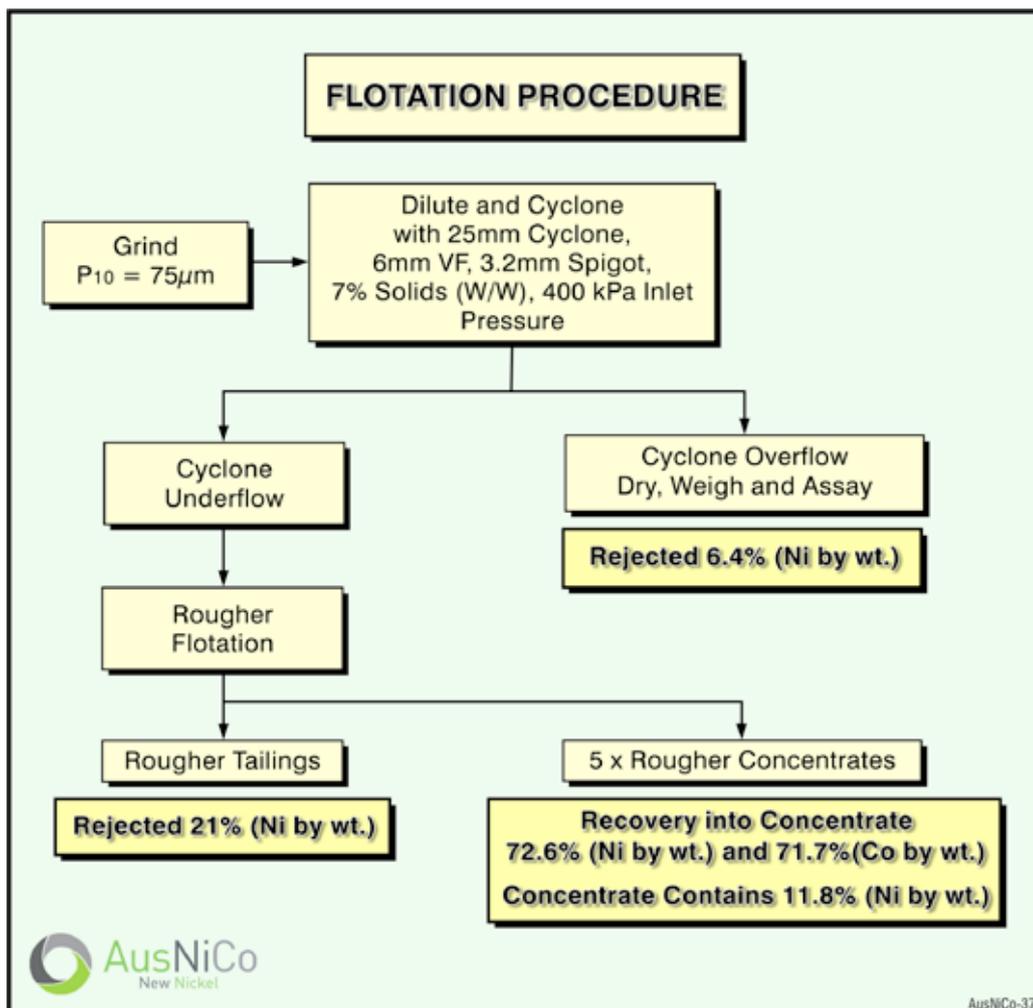


Fig 8: The flow sheet used by SGS for the preliminary metallurgical recovery estimate.

Additional testing of mineralised cores, taken to date, has been commissioned. AusNiCo expects to be able to demonstrate the application of simple flotation processes to the recovery of Nickel Sulphides from a high tonnage disseminated Ore body.

## APPLICATION OF GEOPHYSICAL TECHNIQUES

Geophysical techniques utilising Induced Polarization “IP” have been successfully applied at Pembroke, Silver Valley and Mt. Clara to identify zones of disseminated Sulphide mineralisation.

Geophysical techniques have played a major role in defining the mineralisation at the Pembroke prospect. The previously completed airborne electromagnetic survey was followed up early this year with laboratory test-work on core samples and then field based down-hole IP (chargeability) measurements. A ground IP survey covering a broad area was completed in March at Pembroke and the results of the first five lines are shown in figure 9. The results demonstrate that the IP technique is a useful targeting strategy for Nickel Sulphides in the project area.

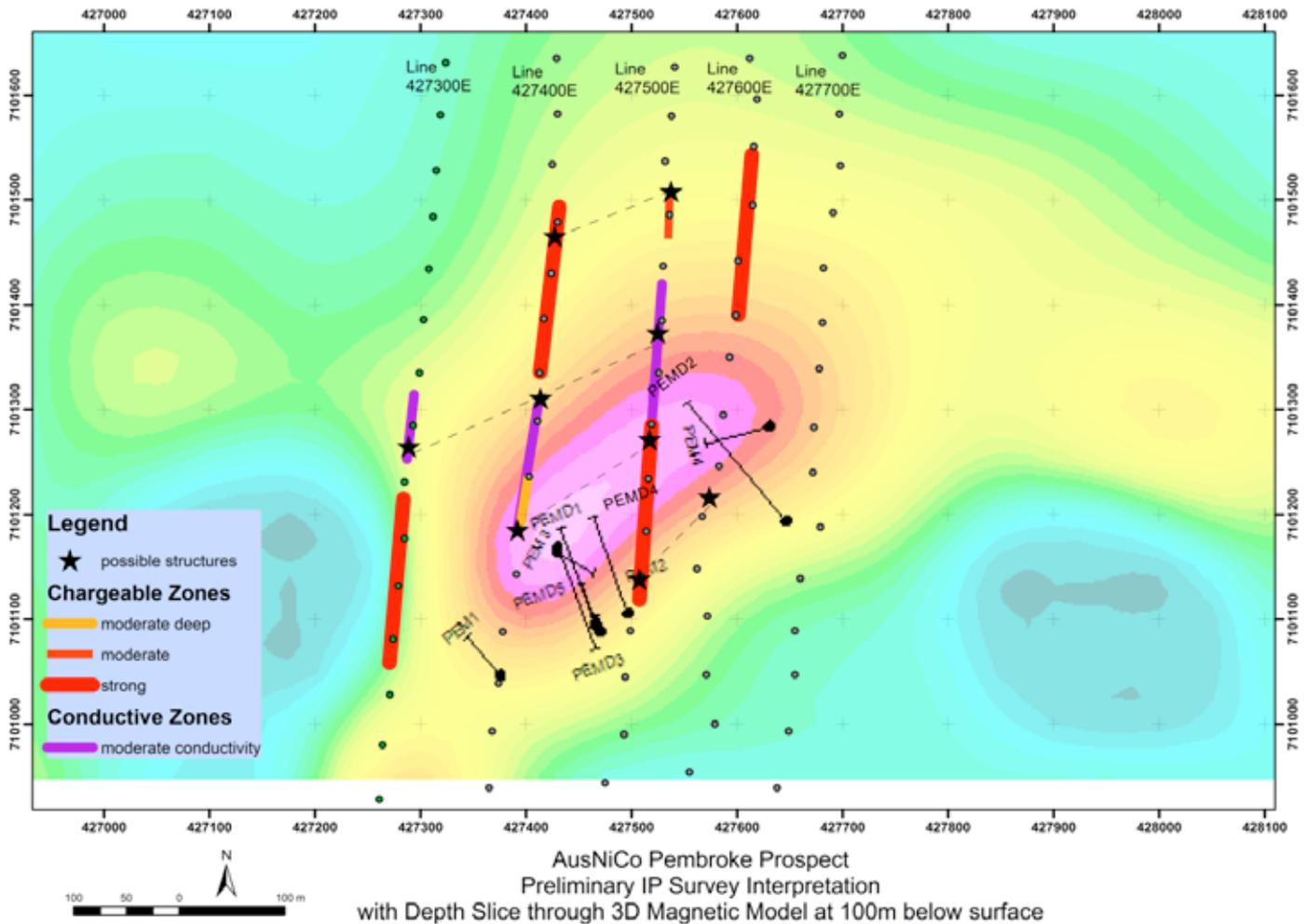


Fig 9: Plan view of IP Survey lines at Pembroke showing IP Anomalies.

A more detailed analysis of the survey data at Pembroke provides confidence that this technique can be used effectively to identify drill targets.

The Pembroke survey line shown in figure 10 displays a strong chargeable (sharp boundaries / shears) and a moderately resistive zone at around 60m depth between 7101100 – 7101290mN and underlies a moderately conductive overburden zone. Diamond core holes PEMD1 and PEMD4 appear to have intersected the southern end of this chargeable zone. The shear zone may have been the conduit which enhanced the mineralisation that was intersected in bore holes through the primary Ore zone.

The northern end between 7101230 – 7101290mN displays an even higher conductivity, which is also likely to be associated with a shear zone. This zone (identified as 427500-A) will be drilled in the second quarter as a high priority target.

A moderately conductive zone also occurs further north between 7101350 – 7101450mN (possible shear zone likely to be related to the conductive feature seen on previous line). This conductive zone is flanked on the northern side by a moderately resistive and chargeable feature between 7101400 – 7101580mN.

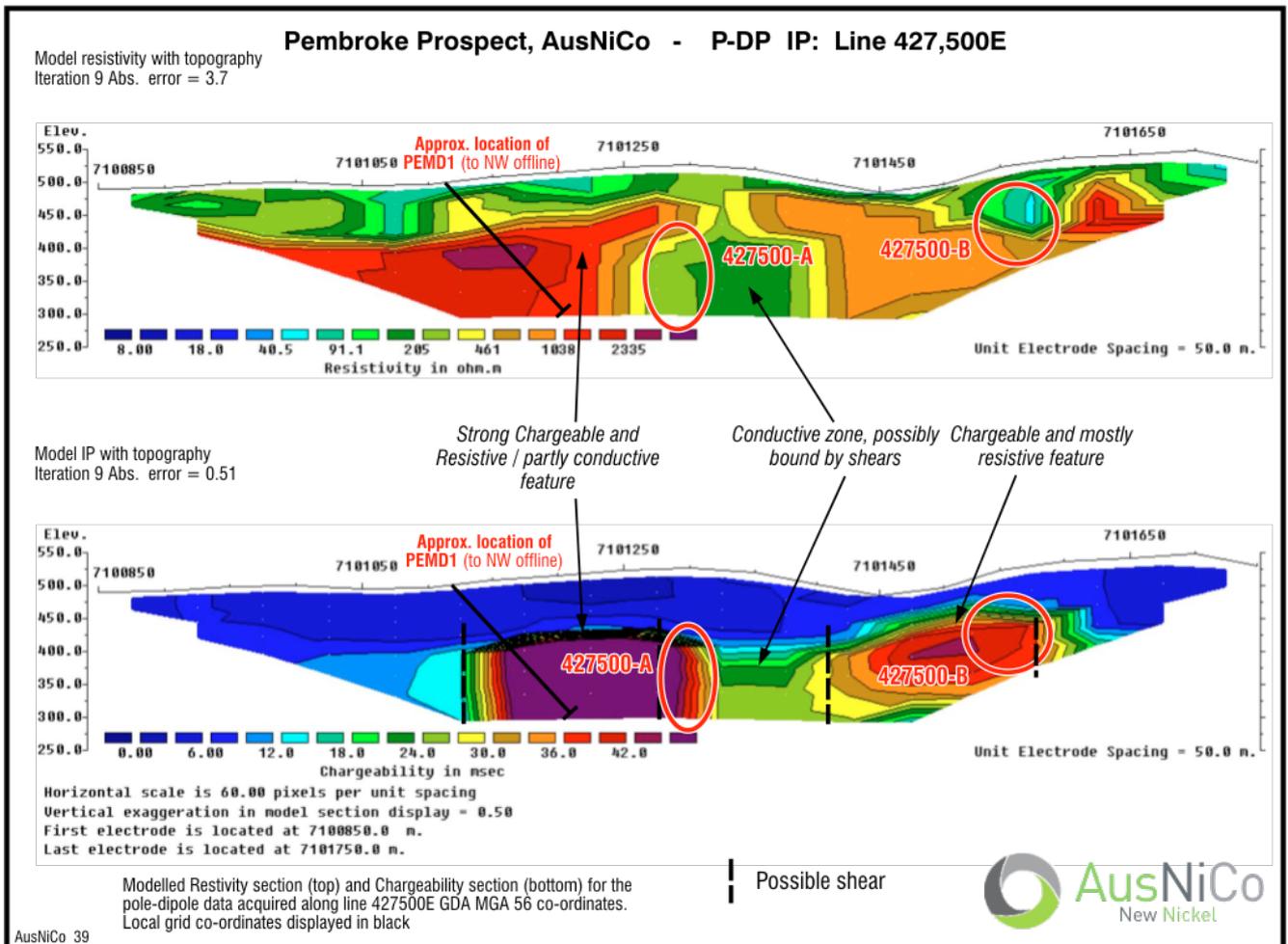


Fig 10: Modelled Resistivity section (top) and Chargeability section (bottom) from survey at Pembroke.

The Silver Valley IP survey line, as shown in figure 11, was completed to further confirm the effectiveness of the technique to display the location of known mineralised zones previously intersected in SVGD1. A second, parallel IP survey line at 100m south (along strike) displays a strong chargeability zone at around 30m below surface.

This result provides additional confidence that the Silver Valley intersection extends to the south as predicted from the Gossan corridor and soil anomalies previously reported. Additional IP survey lines will be completed in Q2 2011 along with a drilling program to confirm the strike extension and depth of the high-grade zone.

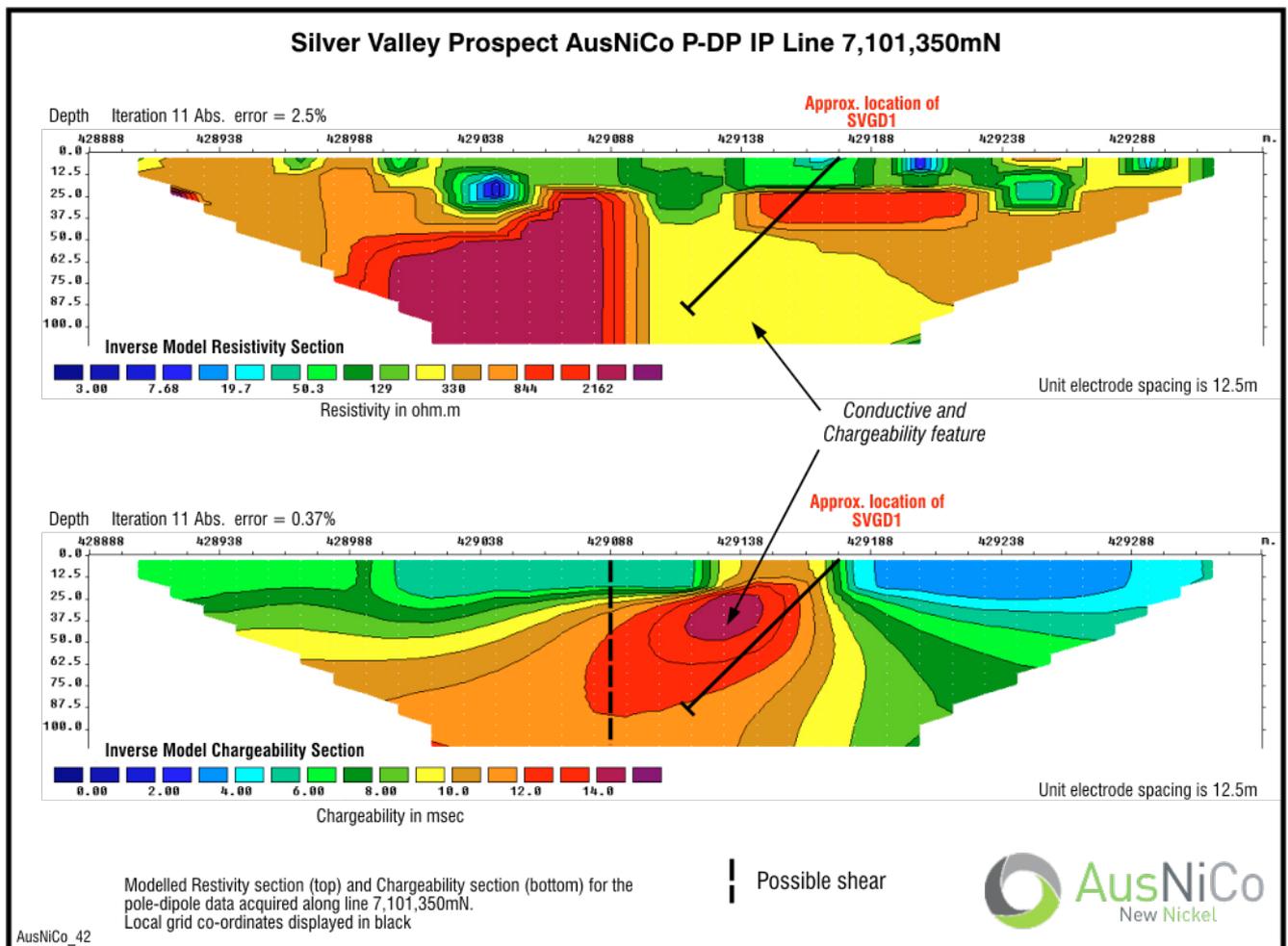


Fig 11: Modelled Resistivity section (top) and Chargeability section (bottom) from survey at Silver Valley.

AusNiCo has postulated the existence of a shell of Disseminated Sulphide mineralisation around the magnetic features at Mt. Cobalt, Mt. Clara and Mt. Coora and believes that the IP survey will define zones of consistent disseminated sulphides such as were intersected in PEMD1, PEMD3 and PEMD4. A large area gradient array survey will be completed over the Mt. Cobalt, Mt. Clara and Mt. Coora area in the Q2 2011. The IP response is clearly successful in reflecting total sulphide content including pyrite, pyrrhotite.

There is an observable difference between disseminated Magnetite Dominant Serpentinite and Disseminated Magnetite-(Fe-Cu-Ni-Co) sulphide (+/-Au) mineralised serpentinite so IP can be effective as a remote mapping and targetting tool.

The detailed analysis of the IP survey data at Pembroke and Silver Valley provides confidence that this technique can be used effectively to identify drill targets that have a high probability of hosting mineralisation, and **significantly improving the effectiveness of the AusNiCo drilling programs.**

## REGIONAL ADVANCEMENT

Drill testing of regional prospects (Boyne River, Kilkivan East and Poperima Creek) will proceed in Q2 2011 and ground reconnaissance and geophysical surveys on the recently granted Mt. Slopea will commence.

### Kilkivan East EPM 13359

Concurrent reviews of completed regional sampling within the Company's EPM's have highlighted very significant Gold soil anomalism (max soil assay of 15.7g/t Au ) and Platinum (max soil assay of 47ppb Pt.) within NE striking zones in serpentinites east of Kilkivan (refer Fig 12). Follow-up mapping and sampling programs will be conducted in Q2 2011 to define drill targets in this area.

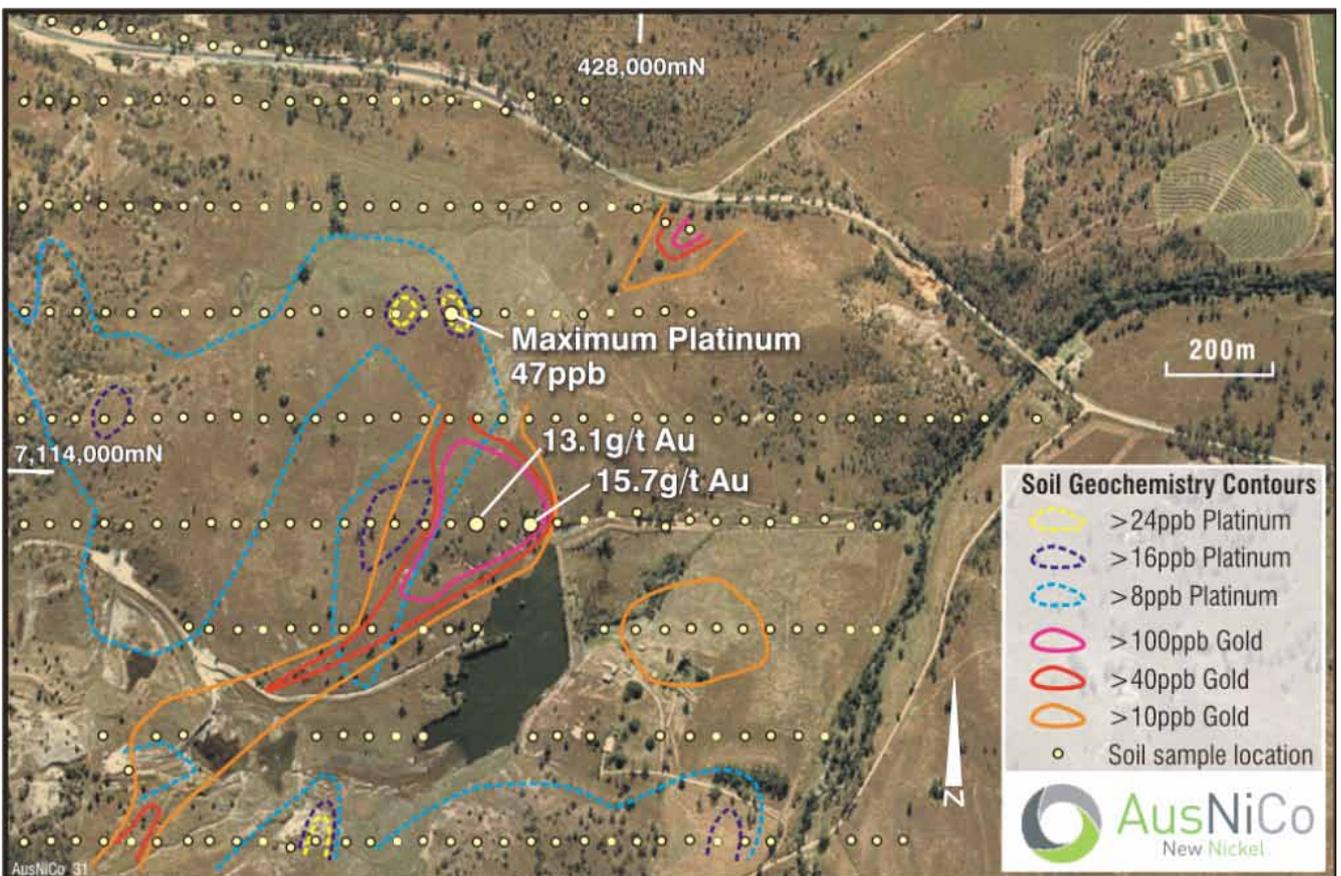


Fig 12: Soil Geochemistry EPM13359 Kilkivan East

### Boyne River (North and South) EPM 16077

At the Boyne North Prospect a discrete Pt (max 28.8ppb) anomaly of dimensions 450m by 180m is evident in the central grid area coincident with anomalous (max 54ppb Au) and locally elevated >200ppm Cu. Several linear NE and SE trending >10ppb Au anomalies can be observed marginal to the central anomaly and may represent mineralised structures. Elevated Ni (max 1,600ppm) manifests immediately to the east of the central anomaly. Shallow drilling will be completed in the second quarter to determine the source of the anomalism.

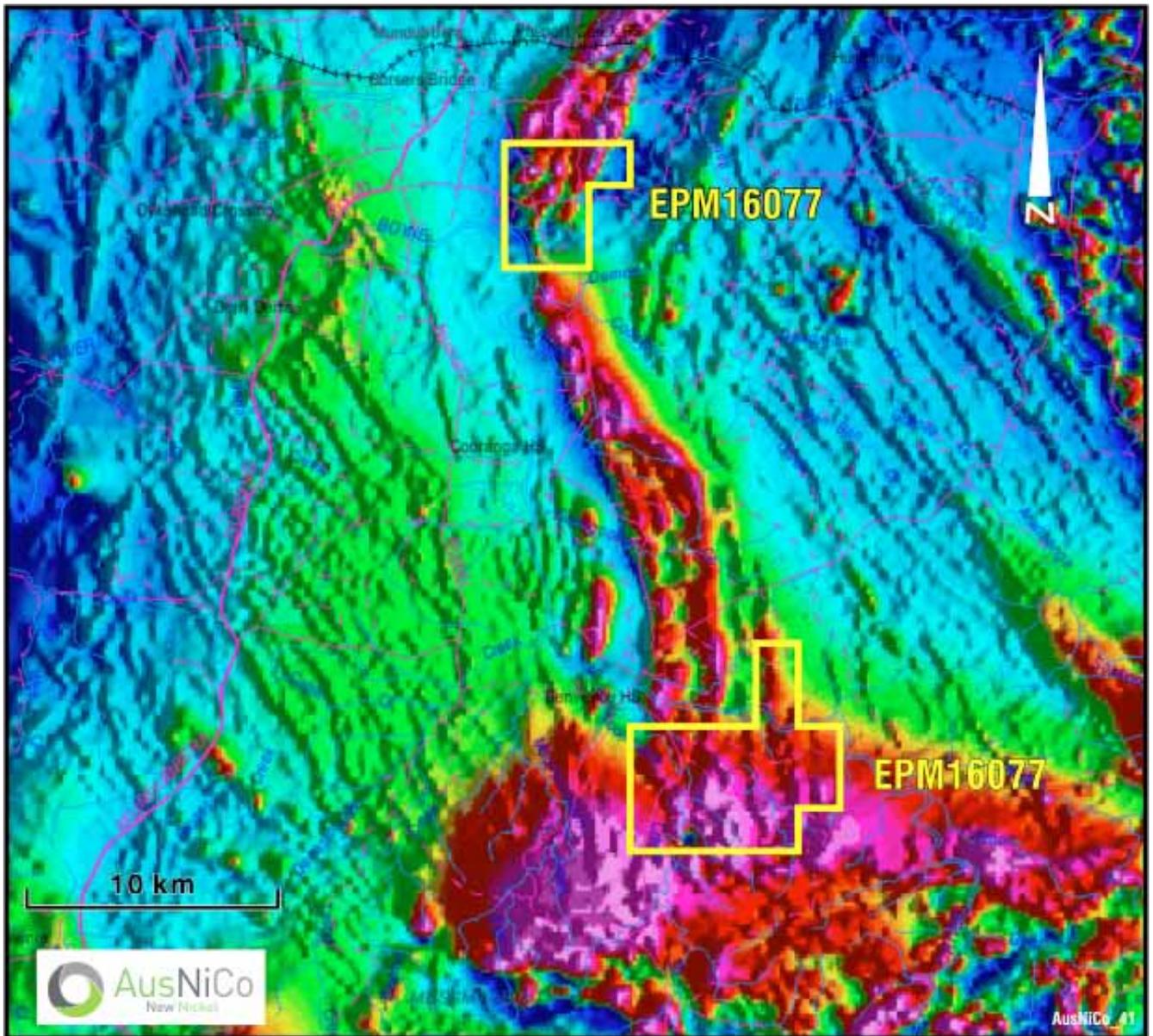


Fig 13: EPM 16077 Boyne River location map showing areas of Total Magnetic Intensity

**Poperima Creek EPM15457**

A drill target has been defined at Poperima Creek and RC drilling will be completed in the second quarter. There is potential of extending the known resources at Yarrol into the AusNiCo EPM. Historical results and the Gold fertility of the Mt. Perry district provide confidence that viable deposits can be discovered. There are potentially several undiscovered deposits under 20 – 70m of hanging wall to the east, in a large area that extends into the AusNiCo EPM. The Bismuth and Gold soil anomalism demonstrates that mineralised structures trend through these areas.

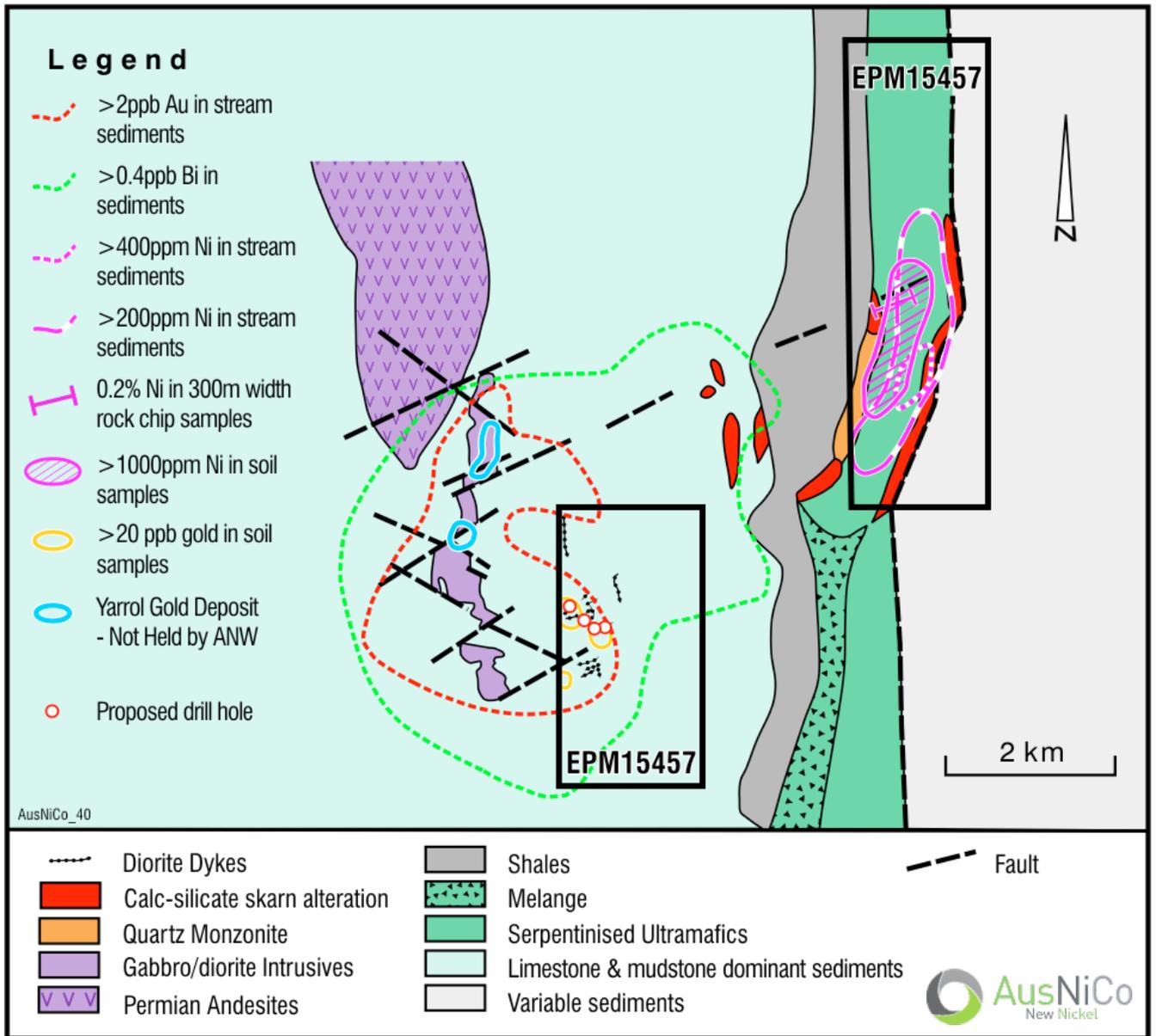


Fig 14: EPM 15457 location map showing soil anomalies and proximity to the Yarrol Gold deposit.

## COMPETENT PERSONS STATEMENT

The information herein that relates to Exploration Results is based on information compiled by Nicholas Mather B.Sc (Hons) Geol., who is a Member of The Australian Institute of Mining and Metallurgy. Mr Mather is employed by Samuel Holdings Pty Ltd which provides certain consultancy services including the provision of Mr Mather as the Managing Director of D'Aguilar Gold Ltd (and a director of D'Aguilar Gold Ltd's subsidiaries).

Mr Mather has more than five years' experience which is relevant to the style of mineralisation and type of deposit being reported and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves' (the JORC Code). This public report is issued with the prior written consent of the Competent Person(s) as to the form and context in which it appears.

## ABOUT AUSNICO

AusNiCo is focusing on the continued exploration and development of its nickel sulphide discovery at Pembroke, Silver Valley and Mt. Cobalt, which has already returned an exploration drilling result of 50m @ 0.34% Ni, including 4m @ 1.1% Ni.

AusNiCo offers the opportunity for exposure to:

- multiple commodities including nickel, gold, silver, copper, cobalt and platinum group metals;
- an extensive package of tenements with encouraging mineralisation in an area of continuing industrial growth and established infrastructure;
- advanced targets with the prospect of rapid drilling results;
- accomplished Board and Management with substantial experience; and
- discovery of significant disseminated nickel sulphide mineralised zones in greenstone belts, initially in south east Queensland.

Full details of the exploration programs are contained in the Company's Replacement Prospectus dated 4th August 2010.

AusNiCo has 110,160,000 shares on issue.

**Email: [info@ausnico.com.au](mailto:info@ausnico.com.au)**

Electronic copies and more information are available on the Company website: [www.ausnico.com.au](http://www.ausnico.com.au)

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