

# **EPM 17721 – Marlborough North**

**Second Annual Report for the Period  
7 April 2010 to 6 April 2011**

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## 1.0 SUMMARY

EPM 17721, comprising 10 sub-blocks, was granted to AusNiCo Limited ('AusNiCo') on the 7<sup>th</sup> April 2009 for a term of 2 years. AusNiCo is a publicly listed company, following the successful company float on the ASX in October 2010. The AusNiCo corporate office is located in Brisbane and exploration activities are organised from the field office in Kilkivan.

EPM 17721 is located 7 kilometres west of Marlborough in central Queensland and overlies Permian basaltic volcanics in faulted contact with Neoproterozoic to Lower Palaeozoic serpentinitised ultramafics intruded by Permian gabbroic and granodiorite bodies. The belt of ultramafics extends into a larger mass in the south and southeast where extensive historic exploration has identified significant lateritic nickel, magnesite and subordinate chromite and chrysoprase deposits.

AusNiCo has been implementing an aggressive nickel exploration program in the Black Snake area SE Qld. Results are encouraging with economic gold – copper and nickel sulphide intersections reporting from intrusive-serpentinite proximal zones.

The nickel sulphide mineralisation is very difficult to distinguish from background nickel silicate grades, and it is very likely to have been overlooked in the region, particularly due to a previous focus on lateritic Ni to the south of the tenement. AusNiCo considers that geological similarities exist in the EPM and adjacent application areas, the Black Snake area, and the Avebury Nickel sulphide deposit in Zeehan, Tasmania.

Soil sampling to date by AusNiCo on EPM 17721 has shown zones of elevated Ni-Cr-Co-Pt-Au on the eastern side of the EPM, particularly evident over the serpentinite-granodiorite contact. Infill soil and rock sampling and mapping of these anomalous areas is recommended prior to shallow scout drilling, in addition to completion of the southern soil grid over the ultramafic and gabbroic bodies.

An ENE-trending magnetic high in the northern part of the EPM, occurring beneath an area of Quaternary-Tertiary alluvium warrants further investigation by detailed geological mapping and possibly then by shallow scout drilling.

No field work was able to be carried out in the second year of tenure due to two unavoidable factors. The first involved the preparation of an IPO and a subsequent successful listing on the ASX on 21st October 2010, raising A\$4M. This immediately followed the protracted proposed merger of AusNiCo with Canadian company Lions Gate Metals Inc (announced to the ASX on 3rd September 2009) that dragged on until late April 2010 when the merger was terminated by mutual agreement due to unforeseen problems encountered by the Canadian partners. The second factor was the inability to access the tenement due to the record summer rains and associated flooding in the lowland areas of the EPM.

A full renewal of the EPM has been sought and AusNiCo remains committed to carrying out the above exploration activities in the evaluation of the tenement.

## 2.0 INTRODUCTION

EPM 17721, comprising 10 sub-blocks, was granted to AusNiCo Limited on the 7<sup>th</sup> April 2009 for a term of 2 years. AusNiCo Limited is a publicly listed company, following the successful company float on the ASX in October 2010. The AusNiCo corporate office is located in Brisbane and exploration activities are organised from the field office in Kilkivan.

EPM 17721 is located 7 kilometres west of the township of Marlborough in central Queensland and is bisected by the Bruce Highway and the Northern railway, (Figure 1). Tenement was acquired to assess the gold, platinum and nickel sulphide potential of mapped ultramafic lithologies in the area.

As previously reported, tenure year 1 field activities were severely restricted due to the protracted merger process of AusNiCo Limited with Canadian company Lions Gate Metals Inc, announced to the ASX 3<sup>rd</sup> September 2009. The complex and drawn out matter of due diligence with Canadian regulatory requirement caused several exploration programs within AusNiCo tenements to be put on hold.

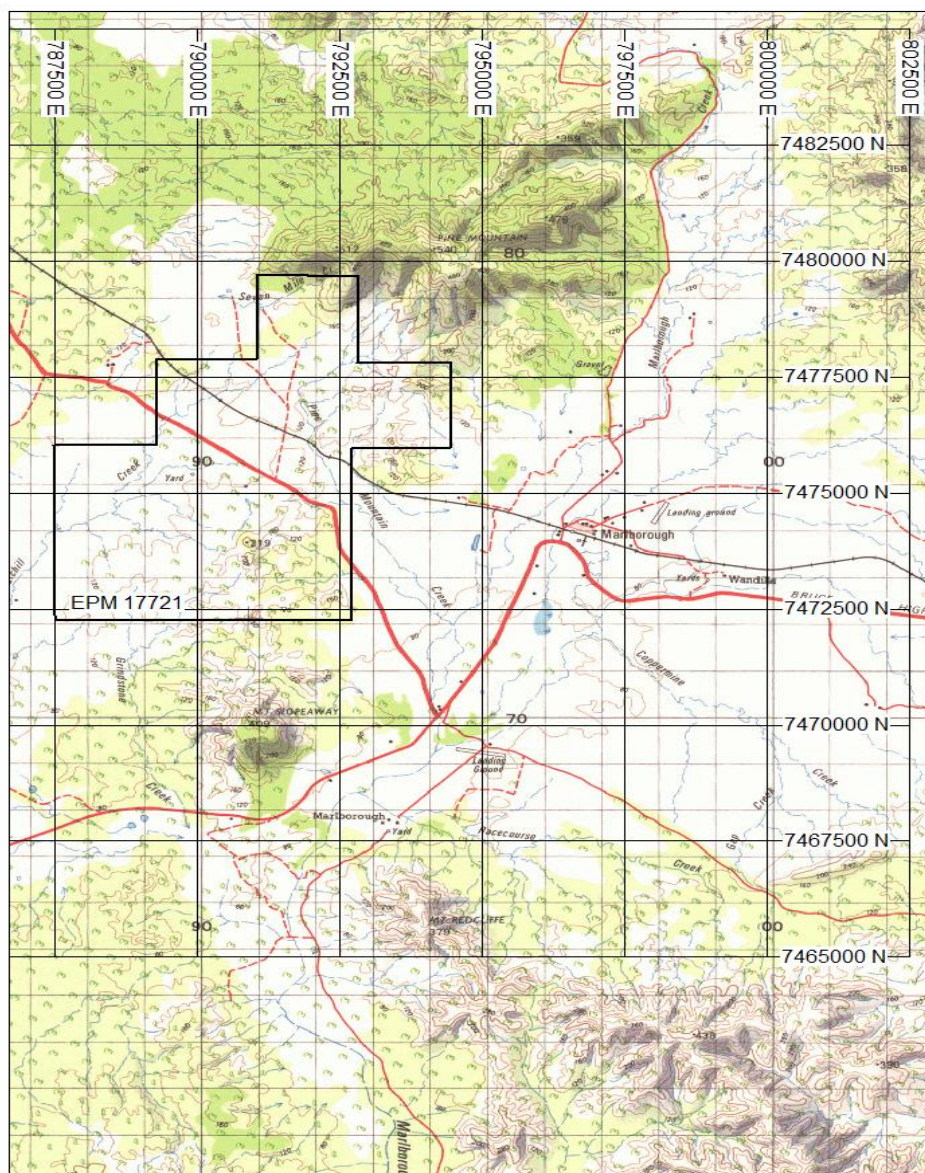
Preliminary exploration within the EPM commenced towards the end of year 1 with the collection of 235 soil samples over mapped serpentinites in the eastern part of the EPM on 200m spaced lines in the northern grid and 200m-400m spaced lines on the southern grid. Full coverage of the southern grid is still to be completed.

The following results were reported:

- Elevated Ni (>1,000ppm; max 3,300ppm), Cr (>2,000ppm; max 4,890ppm) and Co (>100ppm; max 199ppm) assays were returned from soils in the eastern sector of the northern grid and from the southern and eastern half of the southern grid over poorly outcropping serpentinites. Values improve towards the granodiorite-ultramafics contact.
- Sporadic anomalous Au (>5ppb; max 196ppb) report from samples near the granodiorite/serpentine contact and near the contact of a gabbroic intrusion into basaltic volcanics, both in the southern grid.
- Elevated Pt (>5ppb; max 13.5ppb) is clearly associated with magnetic serpentinites in the eastern and southern sectors of both grids.

These preliminary investigations were considered encouraging and completion of the soil surveys together with follow-up rock sampling and mapping to identify drill targets were recommended for Year 2.

This report describes the results of exploration carried out during the second year of tenure ending 6th April 2011 and is presented in fulfilment of the statutory conditions attached to the Permit.



**Figure 1. EPM 17721 Location Plan**

### **3.0 PREVIOUS WORK SUMMARY**

The EPM area has been included in a number of exploration licences since the 1960's but has largely been unexplored due to the principal focus of investigations for nickel oxide deposits in lateritised terrane to the south and southeast.

BHP actively explored the large mass of Princhester Serpentine to the south of Marlborough during the period 1964 to 1973 resulting in discovery of a number of lateritic nickel deposits and numerous small podiform chromite occurrences. BHP and joint venture partner INCO drilled 3,000 rotary holes for a cumulative 100,000m. Marlborough Nickel Project Ltd acquired the properties in 1996 and has subsequently drilled another 58,000m of combined RC, diamond and bucket rig holes. The current owner is Gladstone Pacific Nickel Ltd. The project extends over approximately 850 sq

km and comprises 10 near-surface laterite nickel deposits over a total strike length of 40km. Nickel is reported to occur as a 10-20m thick blanket with cobalt mineralisation towards the top of the nickel zone. The current resource for the nickel project includes the Whereat, Slopeway, Slopeway North, Gumigil North, Coorumburra East, Central and West deposits. The latest published reserves using a 0.7% Ni cut-off comprise:

Measured 11.7Mt grading 1.0% Nickel, 0.1% Cobalt, 8.4% Magnesium, 11.4% Iron;  
Indicated 42.9Mt grading 0.9% Nickel, 0.1% Cobalt, 5.5% Magnesium, 11.9% Iron;  
Inferred 16.3Mt grading 0.9% Nickel, 0.1% Cobalt, 5.6% Magnesium, 10.8% Iron;

Chromite exploration has similarly been undertaken since the mid-1960's under EPM's 904, 1753, 1754, 1829, 3004, 4149, 4150 and 5475. Most of the discoveries occur as small podiform deposits within the ultramafic unit. The largest is the Princhester disseminated chromite deposit, 15km ESE of the EPM which is reported to contain approximately 86,000t @ 28% Cr<sub>2</sub>O<sub>3</sub>.

Extensive exploration for magnesite in the region was conducted in EPM's 2010, 2778, 2919, 3003, 3004, 3448, 4009, 4117, 4121, 4150, 4208, 9728, 9799, 10717 and 13475. While small occurrences of hard rock magnesite were discovered as veins and lenses within weathered serpentinite in the vicinity of local intrusions, the most significant occurrences occur in alluvial sediments. The largest occurrence, Wonjin World Wide Pty Ltd's Herbert Creek Magnesite deposit is 20km NE of the EPM and occurs as high grade cryptocrystalline nodular magnesite hosted by alluvial clays, sands and gravel over an area of 2 sq km. The deposit reportedly contains in excess of 10,000,000 tonnes of magnesite.

Wonjin completed a brief reconnaissance investigation of magnesite potential within the alluvial sequence on the western side of the EPM. 5 shallow holes (cumulative 76m) were drilled adjacent to the Bruce Highway in 2007 with visual inspection of samples. Granitic sediments were encountered with only traces of magnesite or dolomite.

#### **4.0 REGIONAL GEOLOGY**

Regionally EPM 17721 is situated in the Marlborough Block comprising moderate to strongly deformed mafic-ultramafic rocks and upper greenschist facies metasediments intruded by Late Permian to Triassic granitic and gabbroic plutons.

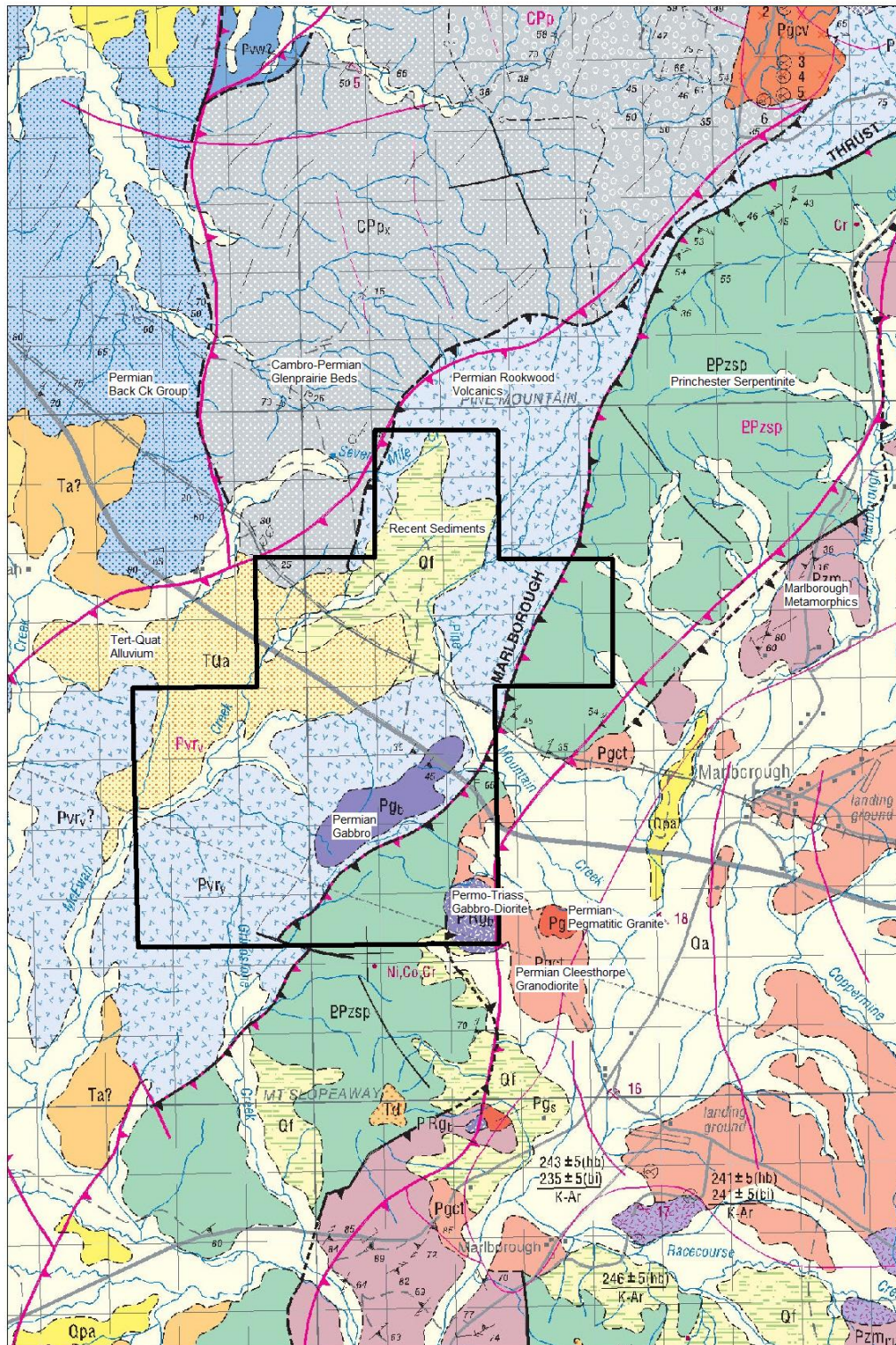
The geology within the EPM comprises a northern portion of an extensive belt of the Mesoproterozoic to lower Palaeozoic Princhester Serpentinite (variably serpentinitised harzburgite, minor dunite, lherzolite and pyroxenite) in the east in fault contact with the Early Permian Rookwood Volcanics dominantly comprising basaltic pillow lava and breccia with minor chert, sandstone and siltstone. (Figure 2)

Exposed in the SE of the EPM is part of the large Late Permian Cleethorpes Granodiorite further intruded by a 1 sq km Late Permian to Early Triassic gabbro. Another elongate Late Permian gabbro-diorite body is mapped within the Rookwood Volcanics near the serpentinite contact.

No mineral deposits are located within the EPM although a small lateritic Ni-Co-



(chrysoprase) occurrence (<250t Ni) lies immediately south of the EPM in the foothills of Mt Slopeaway in serpentinites.



**Figure 2. EPM 17721 Regional Geology (from Marlborough 1:100,000 Geological map by Geological Survey of Qld, 2004)**

## **5.0 EXPLORATION ACTIVITIES 7<sup>th</sup> April 2010 to 6<sup>th</sup> April 2011**

The protracted proposed merger of AusNiCo Limited with Canadian company Lions Gate Metals Inc (announced to the ASX on 3rd September 2009) dragged on until late April 2010 when the merger was terminated by mutual agreement due to unforeseen problems encountered by the Canadian partners.

Following the merger termination, AusNiCo immediately embarked on preparation of an IPO with the Prospectus lodged on 15th July 2010 and a subsequent successful listing on the ASX on 21<sup>st</sup> October 2010 raising A\$4M.

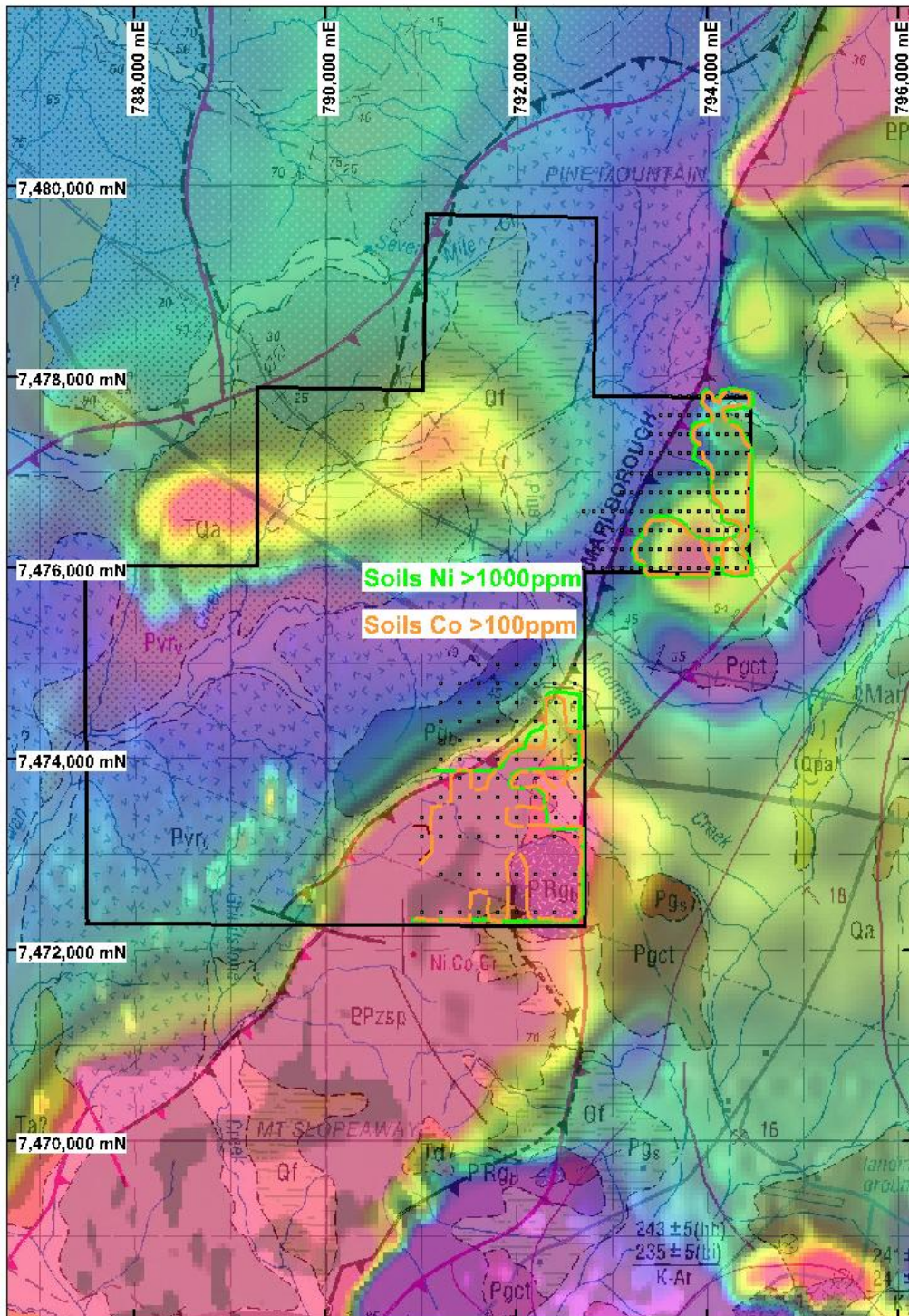
Since 21<sup>st</sup> October 2010, the company has expended over \$1,000,000 on direct exploration and in the process reduced its tenement holding by more than 50%. This is testimony to the company's commitment to comprehensively assess its tenements and surrender non-prospective areas in a timely fashion. Furthermore, AusNiCo, during its time as a subsidiary of D'Aguilar Gold have spent over \$3.4 million on exploration on their active tenements prior to October 2010.

Planned exploration activities during Quarter 1 2011 within EPM 17721 have been impeded by the record summer rains and associated flooding in the lowland areas of the EPM. Following requests by the local landholders to refrain from entering the properties, proposed exploration was held off until after the wet season, necessitating in renewal of the EPM to permit the field work.

These activities were to include completion of the southern soil grid, in-fill soil and rock sampling and mapping of the anomalous Ni-Cr-Co-Pt-Au areas. Shallow scout drilling may then have occurred, testing these areas along with a magnetic high in the northern part of the EPM. This ENE-trending magnetic high occurs over an area of Quaternary-Tertiary alluvium (Figure 3) on the east side of an interpreted thrust fault on the Geological Survey's Marlborough 1:100,000 scale geological map. The magnetic high warrants further investigation by detailed geological mapping to determine if any outcrop exists.

AusNiCo is committed to fully evaluating EPM 17721 and has requested an approval for a non-reduction of tenement at end of tenure year 2.





**Figure 3. EPM 17721 Magnetics (1<sup>st</sup> VD) over Regional Geology, with nickel and cobalt soil anomaly contours**

## **6.0 CONCLUSIONS AND FURTHER WORK**

Soil sampling to date by AusNiCo has shown zones of elevated Ni-Cr-Co-Pt-Au on the eastern and southeastern side of the EPM, particularly evident over the ultramafic-granodiorite contact. Infill soil and rock sampling and mapping of these anomalous areas is recommended prior to shallow scout drilling, in addition to completion of the southern soil grid over the ultramafic and gabbroic bodies.

An ENE-trending magnetic high in the northern part of the EPM, occurring over an area of Quaternary-Tertiary alluvium warrants further investigation by detailed geological mapping to determine if any outcrop exists. A shallow scout hole may be required to determine the nature of the magnetic anomaly and to test for any associated mineralisation.

No field work was able to be carried out in the second year of tenure due to two factors. The first was the preparation of an IPO and a subsequent successful listing on the ASX on 21st October 2010 raising A\$4M. The second was the inability to access the tenement due to the record summer rains and associated flooding in the lowland areas of the EPM.

A full renewal of the EPM has been sought and AusNiCo remains committed to carrying out the above exploration activities in the evaluation of the tenement.