

## **HNC (AUSTRALIA) RESOURCES PTY LIMITED**

### **EL 27969**

**Title Holder: Compass Resources  
Operator: HNC Australia Resources**

### **Annual Report**

**From 17<sup>th</sup> August 2013 to 16<sup>th</sup> August 2014**

Bynoe 1:100 000  
Noonamah 1: 100 000  
Darwin 1: 250 000

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Date: 15/10/2014  
Target: Cu,Pb,Co,Ni,Ag,Zn

# CONTENTS

Introduction	3
Location and Access	3
Tenement Details	3
Geological Setting	4
Previous Exploration	5
Work Completed 2013	6
Recommendations and Conclusions	6
Plans for 2014	6
Figure 1: Tenement Location Plan 1:25000	7

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## **INTRODUCTION**

EL27969 was incorporated into the large regional modelling exercise undertaken during the year. All recent geophysical surveys, EM, IP and Gravity are currently being integrated and targets are being generated.

The airborne FALCON gravity survey was received and passed to the department.

This tenement will look to be incorporated into a larger tenement amalgamation exercise for 2014.

The area is considered prospective for uranium, copper, lead, zinc, cobalt and nickel mineralisation.

## **LOCATION AND ACCESS**

The tenement is located approximately 70 kilometres south of Darwin and nearby the original mine sites of the Whites and Intermediate (Rum Jungle) Deposits.

Access from Darwin is via sealed roads to Batchelor and thence northward to the tenement via the start of the Litchfield Road. Access is also possible during the dry season by following the old railway line south from Darwin River, then along local dirt roads.

## **TENEMENT DETAILS**

EL 27969 was granted on the 17th August 2010 for a period of six (6) years. Ownership is Compass Resources Limited 100% and HAR are operators as part of the Joint Venture Agreement.

The tenement is located on the Darwin 1:250,000 map sheet, and consists of 4 sub blocks (2.59 sq km)

## **GEOLOGICAL SETTING**

The Browns deposit lies in the Rum Jungle Mineral Field. The basement geology is dominated by the Archaean Rum Jungle Complex comprising two inliers (the Rum Jungle and Waterhouse domes) of S- and I-type granitoids. These are unconformably overlain by Palaeoproterozoic sedimentary strata forming the base of the Pine Creek Orogen. This sedimentary strata hosts significant deposits of stratiform base metal mineralization and structurally controlled uranium mineralisation.

The Browns Oxide deposit is hosted in weathered Proterozoic Coomalie dolomite and Whites Formation. Beneath the base of oxidation both units dip steeply to the southeast and a large body of stratiform base metal mineralization occurs in the basal shales close to the boundary with the dolomite.

The Proterozoic Zamu Dolerite intrudes both the Whites Formation and base metal mineralization but the majority of the dolerite is to the south of the Oxide Pit.

Close to the base of oxidation the bedding is folded suddenly and becomes almost flat lying. Though some tectonic folding may be involved the majority of this change in bedding dip is in response to preferential weathering and dissolution of dolomite (acid generated from breakdown of sulphides) causing slumping of the shale/dolomite contact and associated base metal gossan.

Erosion in the Tertiary created an uneven topographic surface that has filled with fluvial deposits of Tertiary clays, sands and gravels. These deposits are part of an extensive area of Tertiary valley fill that forms low ridges immediately to the north of the mining leases.

Identification of rock units within the weathered horizon can be problematic. Major element geochemistry often provides a better indication of rock type than geological logging of drill holes and was the primary source of data when developing the geological model.

The Browns-Browns East stratabound base metal sulphide resource occurs at the base of the Whites Formation. Mineralisation extends for 2.5 km along strike essentially from the eastern edge of the historical Whites open cut pit, to the west. Mineralisation occurs on the contact with the Coomalie Dolomite, or through apparent facies change, and away from the contact up to 70 metres within the Whites formation.

(From the former Compass Annual Reports)

## **PREVIOUS EXPLORATION**

During the 2011 reporting period 30 line km of heliborne electromagnetic and magnetic surveys (XTEM) were carried out over EL 27969. A gravity survey was also carried out consisting of 9 stations in total. The gravity was designed to infill existing surveys and the XTEM was flown at 100m line spacings to give a very high resolution survey. This data has been submitted on disc to the Department following some significant data acquisition problems which had to be overcome.

During the 2012 reporting period, EL 27969 was incorporated into the large data reprocessing and geophysical remodelling that took place due to the erroneous data that was previously received. All errors were removed from this data set and the data was effectively remodelled.

Some follow up targets were generated for additional geophysics and potential drilling.

Ground reconnaissance for a potential IP survey was completed.

During 2012 this tenement was subjected to a regional airborne FALCON gravity survey. This survey included not only gravity but also acquired magnetics and LIDAR high resolution elevation data.

The line spacing was approximately 200m and has been processed and divided into individual tenements. The survey data has been submitted to the department. Approximately 14.5 line km of data acquisition fell on this tenement.

## **WORK COMPLETED DURING 2013**

The data for the airborne FALCON gravity survey carried out during the writing of last years' report was received and passed on to the department. The data has been modelled and processed and is being incorporated into a large regional data modelling package at the time of writing this report. The modelling will incorporate all of the previous EM, IP, MAG and gravity data into one complete package.

## **RECOMMENDATIONS AND CONCLUSIONS**

Initial modelling of the geophysical data has shown some encouraging targets and is showing a much higher degree of resolution detail. The gravity processing has generated some very high resolution preliminary images. We will be looking to generate some quality anomaly targets for follow up with infill geophysical surveying and drill hole targeting in the coming year.

## **PLANS FOR 2014**

We are currently incorporating all of the geophysical survey data into a broad regional data set to model suitable targets for exploration drilling. There may be an opportunity to drill some of the targets generated from this exercise later in the year.

It is anticipated expenditure will exceed \$13,500.

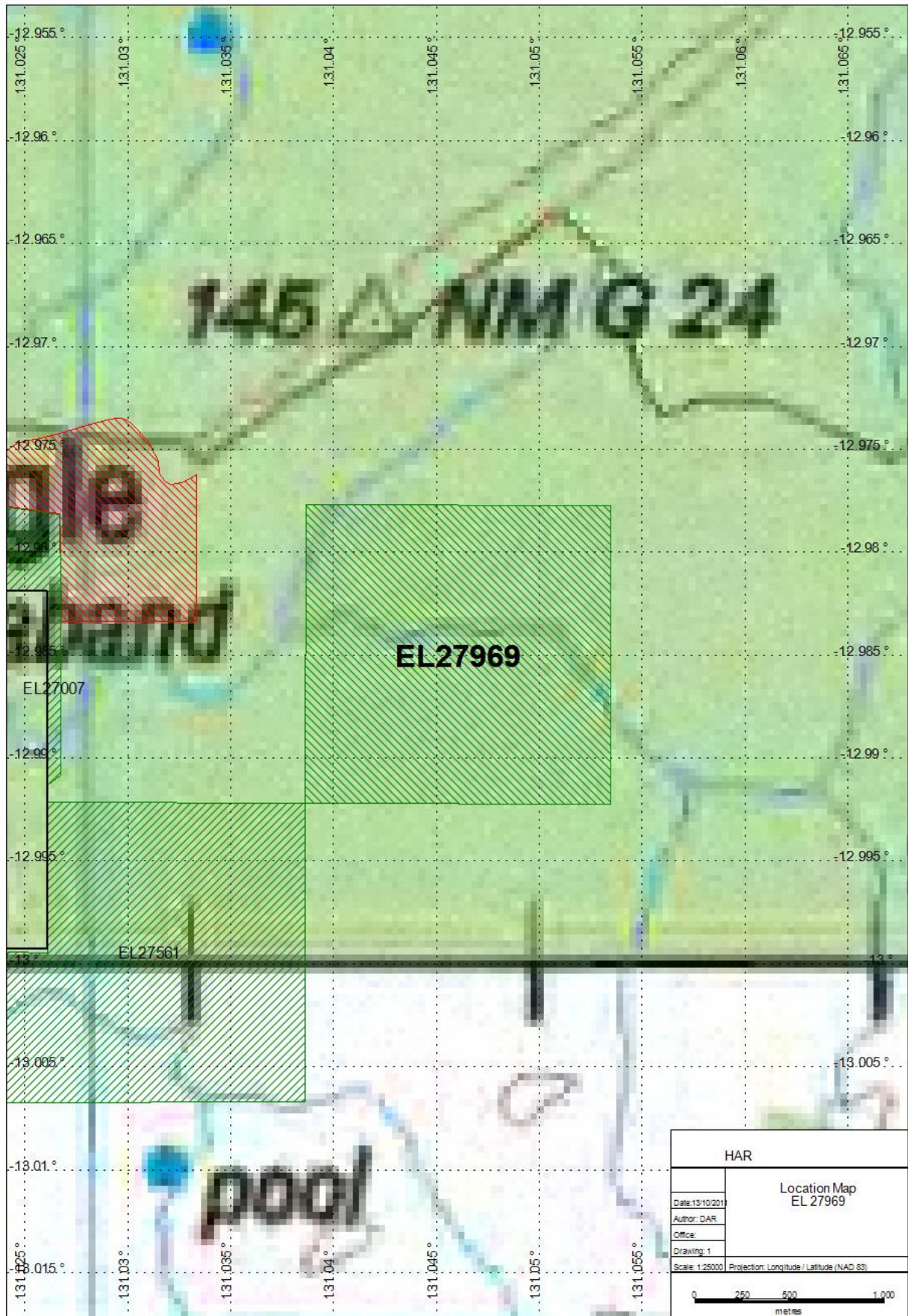


Figure 1: EL27969 Location Map