

## HNC (AUSTRALIA) RESOURCES PTY LTD

**EL 27562**

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

### **Annual Report**

**From 3<sup>rd</sup> March 2013 to 2<sup>nd</sup> March 2014**

Noonamah 1: 100 000

Darwin 1: 250 000

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Date: 1/5/2014

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 During 2013	6
Recommendations and Conclusions	6
Plans for 2014	6
Figure 1: Tenement Location Plan 1:12500	7

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## **INTRODUCTION**

EL27562 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 2013.

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 tenements 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**

EL27562 was granted on the 3<sup>rd</sup> March 2010 for a period of 3 years. Ownership is Compass Resources NL 100% and HAR are operators as part of the JV agreement.

The tenement is located on the Darwin 1:250,000 map sheet, and consists only of 2 sub blocks (0.047 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 previous reporting period, EL 27562 was part of a large geophysical survey which included 100m flight line spaced electromagnetics (EM) and infill ground gravity survey points.

EL 27562 contained around 1km of airborne EM and magnetics and no infill gravity stations fell on this tenement.

This survey was initially affected by military radar signals and some minor internal problems, however this was rectified and the corrected data sent to the department.

During the 2011 reporting period, EL 27562 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.

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 was processed and divided into individual tenements. Approximately .22 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.

Expected expenditure is anticipated to exceed \$11,500.



Figure 1: EL27562 Location Map