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### HNC (AUSTRALIA) RESOURCES PTY LTD

# **MA364**

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

## **Annual Report**

From 2<sup>nd</sup> July 2013 to 1<sup>st</sup> July 2014 Bynoe 1:100 000

Darwin 1: 250 000

D.Rosewall david.rosewall@harresources.com.au Date: 1/9/2014 Target: Cu,Pb,Co,Ni,Ag,Zn

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Figure .1: Tenement Location Plan 1:25000

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#### **INTRODUCTION**

MA364 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 80 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**

Mineral Authority 364 (357.8 hectares) was granted to Compass Resources NL (now Compass Resources Limited) for five years on 2 July, 1993. The tenement was joint-ventured with Billiton Australia Gold Pty. Ltd. (later Acacia Resources Limited) on 4 August, 1993. Acacia managed the joint venture until mid-June 1997 when Compass Resources resumed management.

A request for waiver of reduction of MA 364 was granted on 9 August 1995 for 12 months. A waiver of reduction of MA 364 was again granted on 12 July 1996 for 24 months enabling the retention of the total area until 1 July 1998. A small portion of the south-eastern section of the tenement, which was on Aboriginal Freehold land, was relinquished in July 1998 when the tenement was renewed for a further two years. A series of renewals have been granted in the interim years and currently a Mines Dept renewal has been granted for exploration activities to cover work by Compass Resources until 1<sup>st</sup> of July 2012.

The tenement now covers an area of 357.8 hectares.

MA 364 is situated approximately 15 kilometres north-northwest of the Batchelor township, approximately 80 kilometres south of Darwin (Figure 1).

#### **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 fluviatile 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, MA 364 was part of a large geophysical survey which included 100m flight line spaced electromagnetics (EM) and infill ground gravity survey points.

MA364 contained around 43 line km of airborne EM and magnetics and 14 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, MA 364 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 has been processed and divided into individual tenements. The survey data has been submitted to the department. Approximately 18.1 line km of data acquisition fell on this tenement.

A ground IP (Induced Polarisation) survey line of approximately 900m was acquired on MA364 during the 2012 reporting period. This data has also been submitted to the department.

#### 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 \$12,000.

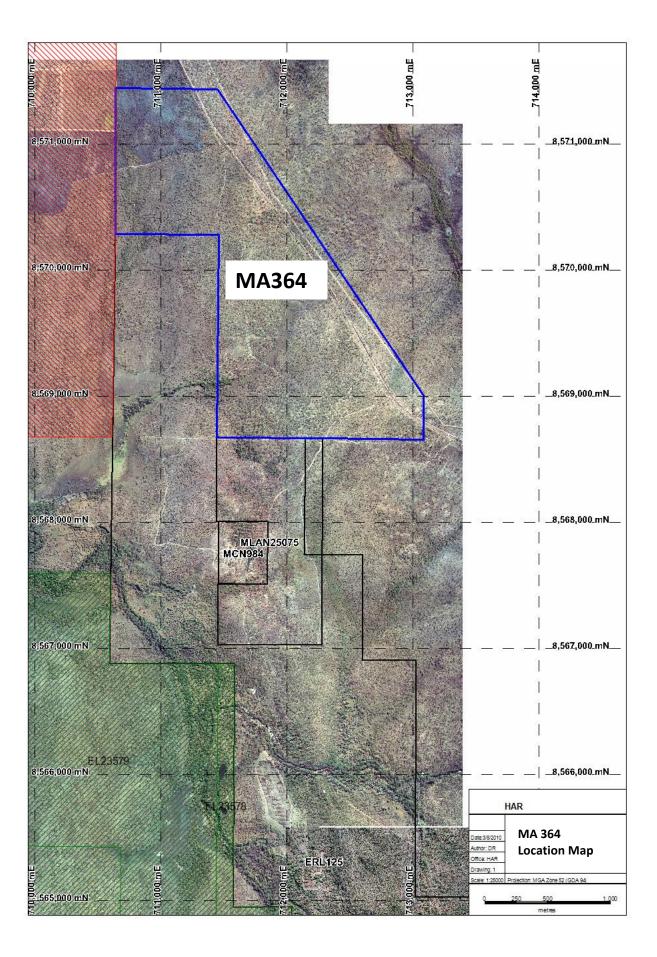


Figure 1 : MA 364 Location Map