



**COMPASS RESOURCES NL**

ABN 51 010 536 820

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Level 5,  
384 Eastern Valley Way  
Roseville NSW 2069  
Telephone: 02 9417 3588  
Facsimile: 02 9417 8750  
email: [admin@compassnl.com.au](mailto:admin@compassnl.com.au)  
website: [www.compassnl.com.au](http://www.compassnl.com.au)

**ANNUAL REPORT**

**MT FITCH PROJECT**

**ERL 125 and MCN 984**

**FOR THE YEAR ENDING 22 AUGUST 2007**

**T.Major & J Fabray**

**September 2007**

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## **SUMMARY**

A major programme of RC percussion drilling was undertaken during the period under review. This work consisted of 123 RC percussion holes totalling 10,336m of drilling plus 2 metallurgical PQ core holes for 120.2m of drilling. The aim of the programme was to follow-up on intersections from previous drilling and also to infill gaps in the drill pattern, both at the Mt. Fitch copper and the Mt. Fitch uranium prospects.

## **TENEMENT STATUS**

ERL 125 was granted to Cameco Australia Pty. Ltd. on 23 August 1993 for a period of five years (Figure 1). It covered most of EL 4879 which was being evaluated by Compass Resources NL and Guardian Resources NL. On 8 September 1993 ERL 125 was transferred from Cameco Australia Pty. Ltd. to Compass Resources NL. The ERL was joint ventured with Billiton Australia Gold Pty. Ltd. (later Acacia Resources Limited) on 4 August 1993. Acacia Resources were the managers of the Mt. Fitch Joint Venture until Compass resumed management of the project on 16 June 1997. Until mid 2006, Compass Resources with 90% equity managed the tenement, with Guardian Resources NL having a 10% equity. Compass Resources NL now has a 100% equity in the tenement.

In 2003 ERL 125 was renewed for a further period of 5 years, to 22 August 2008.

MCN 984 was originally held by Donald Hanna Mount-Burton. Compass Resources signed an Option Agreement over this tenement with the Public Trustee of the Northern Territory on the 24<sup>th</sup> April 1992. The claim was renewed for a further ten years on 17 November 2005.

In 2006 the tenement was purchased and transferred to Compass Resources NL (90%) and Guardian Resources Pty Ltd (10%). Following the acquisition of Guardian by Compass, the tenement is now effectively 100% owned by Compass Resources N L .

## **LOCATION AND ACCESS**

ERL 125 is situated approximately 15 kilometres north-northwest of the Batchelor township, approximately 70 kilometres south of Darwin. MCN 984 occurs in the northern portion of the tenement covering the Mt. Fitch uranium deposit and part of the Mt. Fitch copper prospect.

Access to the tenements from Darwin is by sealed roads to Batchelor and Rum Jungle, and thence by unsealed roads along the abandoned North Australia Railway. Access within the tenement is good, with a number of four wheel drive tracks remaining from previous exploration in the area. Access is also possible during the dry season by travelling south along the old railway line from the Darwin River Dam area.

## **REGIONAL GEOLOGY**

ERL 125 and MCN 984 are situated in the Rum Jungle Region of the Pine Creek Geosyncline on the western side of the Archaean Rum Jungle Complex. The complex consists of I and S –type granites which were intruded about 2530 Ma, and these rocks are unconformably overlain by Early Proterozoic sediments of the Mount Partridge Group.

The Crater Formation, up to 600 metres thick, forms a basal arenaceous sequence over the older granites. The Coomalie Dolomite conformably overlies the Crater Formation and has a reported maximum thickness of 1,000 metres although it is much thinner in the Mt Fitch area. The unit consists of stromatolitic magnesite, dolomitic marble and minor calcareous meta-amphibolite.

The Whites Formation, which overlies the Coomalie Dolomite, consists of a sequence of dolomitic, pyritic and carbonaceous argillites. Overlying the Whites Formation are the sediments of the Wildman Siltstone, which include the Acacia Gap Quartzite Member and the Mount Dean Volcanic Member. The Wildman Siltstone comprises shales and siltstones, quartz sandstone and minor felsic to intermediate volcanics.

Most of the uranium, lead-zinc-silver and copper deposits in the Rum Jungle Region are situated in the transitional zone between the Coomalie Dolomite and overlying Whites Formation. They appear to be stratiform in nature, predating the deformation of the host strata.

The Early Proterozoic sequence of the Rum Jungle Region underwent deformation during the peak of the Barramundi Orogeny, and subsequently during granitoid intrusion; resulting in tight to isoclinal folding, faulting and shearing (Lally 2002). Later movement during the Middle Proterozoic and Phanerozoic mainly caused reactivation of older faults and minor tilting. The Giants Reef Fault is the major structure in the region and is interpreted as a post-Early Proterozoic expression of the Western Fault Zone which extends over 200 kilometres and is part of the laterally extensive faults of the Halls Creek and Fitzmaurice Mobile Zones (Ahmad et al., 1993).

## **LOCAL GEOLOGY**

Outcrop in ERL 125 is sparse, silicified and poorly preserved. The tenement is situated along the contact between the Archaean granite basement and the Crater Formation, and includes the overlying Coomalie Dolomite and Whites Formation. The Coomalie Dolomite is present in the eastern portion of the tenement, and comprises stromatolitic, tremolitic, silicified and saccharoidal dolomite. Minor cherty quartz units (most likely secondary), are interbedded with the dolomite and occasionally exhibit intense small scale folding. Zones of sericite alteration have been logged in various drill holes within the dolomite (Coles, 1988).

Graphitic and pyritic shales of the Whites Formation have been mapped throughout the tenement, increasing in thickness towards the central part of the tenement.

The presence of domal, stratiform and conical stromatolites have been observed elsewhere within the Coomalie Dolomite (Crick and Muir, 1980; Squire, 1995). Crick (1987) suggests the Whites Formation represents a facies change from the intertidal to supratidal evaporitic conditions of the Coomalie Dolomite to an intertidal to subtidal environment, and this change is therefore a typical transgressive sequence.

Transported soil and sand blankets much of the tenement and may be separated into two distinctly different types. The Cretaceous transported cover comprises fine to moderately coarse quartzose sands, silts and clays. The colour is generally pale cream, though colloidal iron staining has been observed near surface. The Tertiary transported cover is the most commonly observed transported material and may overlie the Cretaceous cover. It comprises ferruginous clays and sand with minor silicified scree.

## **PREVIOUS WORK**

Copper was initially discovered in 1913 by E. T. Tamblyn, a Mine Manager from Pine Creek, resulting in the development of the small Tamblyn Shaft located within MCN 984 (Boots, 1990). In 1950 two geologists from the Bureau of Mineral Resources, Geology and Geophysics (BMR) discovered yellow, secondary uranium mineralisation, possibly uranophane, nearby. Mapping and radiometric surveys of the area soon followed together with the sinking of two shallow shafts and the drilling of 3 shallow diamond drill holes. In 1952 low level airborne scintillometer surveys identified several anomalies. Territory Enterprises Pty. Ltd. (TEP) drilled 4 diamond holes and numerous rotary, churn and wagon holes in 1953 and also commenced a major costeaning programme. This work resulted in the identification of a copper anomaly extending along the Whites Formation – Coomalie Dolomite contact.

A low level airborne scintillometer survey confirmed the radiometric anomalies in 1954, however it was not until 1958 that a follow-up geochemical survey successfully outlined a large copper anomaly near BMR No. 2 shaft (Haldane and Debnam, 1958). This shows some similarities to the zonation observed in the Rum Jungle-Browns Mine area (i.e. Pb to Cu to Cu/U to U). During the late 1950s and the 1960s many diamond, rotary and auger holes were drilled, though mainly testing for uranium mineralisation. A major structural study of the area was also conducted by Williams of TEP.

In 1969 a major drill project was undertaken by TEP to evaluate the Mt. Fitch uranium-copper prospect, with trial mining removing 920 tonnes of dolomite ore and 5 tonnes of shale ore. A resource of 3.5 million tonnes at 0.042%  $U_3O_8$  (and 290,000 tonnes at 0.6% copper) was calculated for this area.

Uranerz and CEGBEA conducted several programmes in the 1980s, mainly exploring for uranium, resulting in many of the grids used today. Their work concentrated on the Mt. Fitch copper-uranium prospect, where a total of twenty-two drill holes were completed (12 by Uranerz and 10 by CEGBEA). Little assaying for base metals was completed on this core; with later sampling by Acacia Resources locating some good base metal values.

In 1998/1999 follow-up drilling consisting of 8 RC holes at Blueys Magnesite Prospect (located between Browns and Mt. Burton), was undertaken. This prospect is located at or near the stratigraphic top of the Coomalie Dolomite. In late 2001, six RC drill holes were completed at this prospect to try and establish extensions to the high quality magnesite previously located. These were located to the east of the previous holes and failed to locate any magnesite.

Two RC drill holes were completed at the Mt. Fitch South prospect in late 2001; these intersected very encouraging base metal values that required follow up evaluation.

Although airborne EM surveying was proposed for 2003, it was not undertaken as modelling of ground EM data suggested that the power of the airborne system was insufficient. Two RC holes were completed at the Mt Fitch South prospect in 2003, both intersected significant base metal mineralisation. In late 2004, a series of 8 angled reverse circulation percussion holes was completed at the Mount Fitch Copper prospect. These holes were drilled to acquire oxide copper-cobalt-nickel material for metallurgical test work. In early 2005, five lines of Sirotem EM surveying were completed at the Mount Fitch South base metal prospect in an attempt to more fully define the conductivity character of the area.

RC drilling at the Mount Fitch South prospect and the Mount Fitch Copper prospect was undertaken during 2005. Until the 23rd August 2005, 24 holes at the Mt Fitch Copper prospect and 18 holes at the Mt Fitch South prospect had been drilled. In addition, two vertical RC holes were drilled at the Mt Fitch Uranium prospect.

During the 2006 reporting period twenty RC holes were drilled over the Mt Fitch uranium prospect (holes 05MF03-022) and sixty nine RC holes were drilled at the Mt Fitch copper prospect (holes 05MFC25-72 and 06MFC01-021). In addition three diamond holes were drilled at the Mt Fitch South prospect (05MFS019-021) plus six RC holes (05MFS022-027)

## **WORK COMPLETED DURING THE YEAR 2006/2007**

All drilling undertaken during the period was carried out by the Adelaide-based drill contractors Underdale Drillers Pty Ltd. Drilling during the 2006 field season was from mid July to mid December and utilised an Investigator Mk10-1 drilling rig with 900/350 onboard air. During the 2007 field season drilling was between mid May and early August and the rig used was an Investigator Mk10-2 drilling rig with 900/350 onboard air. A booster compressor was used in both years to provide dry samples where possible.

All sampling was carried out using a cyclone and sample splitter. Wet samples which could not be split were treated by hand. The samples were sent to ALS Chemex for analysis. They were pulverised to 85% passing 75 microns or better. A four acid “near-



total” digest was used followed by ICP-AES (OG62) analysis for Cu, Pb, Zn, Co, Ni, Ag, Mn, Fe, S, Mg, Ca, and U. Samples with higher uranium values (>150ppm U) were re-analysed by XRF for U and Ti. Radioactivity was measured for each sample with a GR 110 scintillometer or a SPP2 scintillometer on site.

The collar co-ordinates and surveys for the holes completed during the period are tabulated in Appendix 1. All of the hole collars were located using a DGPS instrument and the co-ordinates are based on GDA.

At the Mt. Fitch Uranium prospect, 44 RC percussion holes (06MF01 to 06MF44) were completed in 2006 for a total of 4934 metres and infill drilling was continued over the deposit during 2007 with a further 34 holes drilled (07MF01 to 07MF34) for a total of 4038 metres. Two metallurgical holes (M07MF01 and M07MF02) for 120.2 metres of PQ sized core were also drilled in 2006. The majority of the holes were probed for radioactivity with an Auslog slimline natural gamma probe within the drill rods. Figure 2 shows the location of the holes drilled in 2006/2007 and the boundaries of the 1970’s trial open pit and waste dump.

Due to the backlog of samples awaiting analysis at Australian assay laboratories during 2007, assay results have only been received for drill holes 07MF01-07MF08 and 07MF16-07MF21.

The assay data are in Appendix 2, the lithology logs for these holes are in Appendix 3 and the downhole radiometric logs are in Appendix 4

At the Mt. Fitch Copper prospect, 24 RC percussion drill holes (06MFC22 to 06MFC45) were drilled during the reporting period for 1364 metres with drilling being completed on 12 December. The assay data for these holes are in Appendix 5 and the lithology logs are in Appendix 6. Appendix 7 has the few radiometric logs taken within holes at the Horehound prospect that gave an initial hand held scintillometer anomaly. Figure 3 and Figure 4 show the locations of the drill holes for the 2007 reporting period at the Mt. Fitch Copper and the Horehound prospects.

Drilling on the trend of Mt Fitch Copper prospect was primarily to infill gaps within the drill database and to investigate the extent of known low grade copper-cobalt-nickel mineralisation in the clay zone that overlies the Coomalie Dolomite (at the contact with the underlying Crater formation) over a strike length of about 1000 metres.

The drill hole logging codes used during the 2006/2007drilling program are detailed in Appendix 8.

## **PLANS FOR NEXT PERIOD**

Follow up drilling at the Mt. Fitch South, Mt Fitch Copper (including Horehound) and a small amount of infill drilling at Mt Fitch Uranium prospects will continue in the 2007 and 2008 field seasons.

At the Mt Fitch Uranium prospect enough drilling has now been completed to undertake an updated resource calculation. At the Mt Fitch Copper prospect additional drilling is required before another resource calculation is warranted.

Entering of data into a GIS database will continue.

An expenditure exceeding \$50,000 is proposed for this work.

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ERL 125 EXPENDITURE REPORT  
TO 22 AUGUST 2007

Diamond Drilling costs	45,846.70
RC Drilling costs	247,992.32
Downhole surveying	2,100.00
Ground geophysics	2,748.00
Assay costs	81,601.86
Site preparation	10,920.00
Site rehabilitation	6,465.00
Geological consultants	44,622.92
Geological contractors	15,106.32
Salaries/wages/on costs	123,842.27
Field costs	8,917.68
Other	1,607.11
Overheads	88,765.98
<b>Total Expenditure</b>	<b>\$680,536.16</b>

