2ND ANNUAL REPORT

EL 8620

TUMBLING WATERS

Distribution
NT Department of Mines & Energy
Guardian Resources NL
Compass Resources NL

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INTRODUCTION

Exploration Licence 8620 was granted to Acacia Resources Limited on the 29th of August 1995 for a period of six years (Figure 1). The tenement now forms part of the Joint Venture between Compass Resources N.L. and Guardian Resources N.L. Compass is the current manager of the joint venture. The tenement was acquired to allow further exploration of the area for base metal mineralisation of the style located at the Browns Deposit and the Mt Fitch prospect.

LOCATION AND ACCESS

EL 8620 is situated approximately 15 km NNW of the Batchelor township, approximately 90 km south of Darwin.

Access to the tenement is via sealed roads to Batchelor and then via sealed roads to Browns Shaft and 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. It is also possible to access the area during the dry by following the old railway line south from the Darwin River Dam.

PHYSIOGRAPHY

The EL consists mainly of an undulating flat landscape which drains into the Finniss River. Vegetation consists mainly of medium sized gums and a grassy understorey. Small patches of rain forest occur around semi-permanent water holes in major drainage systems.

Average rainfall for the area is 1456 mm/year, nearly all of which falls between the months of November and March. The area is largely inaccessible during these months, due to large water flows in the East Finniss River.
REGIONAL GEOLOGY

Exploration Licence 8620 is situated in the Rum Jungle Region of the Pine Creek Geosyncline on the southwestern edge of the Waterhouse Complex. The oval shaped complex consists predominantly of granite, granodiorite, quartz-monzonite, quartz-monzodiorite and rare tonalite and monzonite, and are unconformably overlain by the Early Proterozoic Geosynclinal Sequence.

The Crater Formation (up to 600 metres thick) forms the basal sequence with the Coomalie Dolomite conformably overlying the Crater Formation with a reported maximum thickness of 1,000 metres. The Coomalie Dolomite comprises stromatolitic magnesite, dolomitic marble and minor calcareous para-amphibolite.

The Whites Formation, which overlies the Coomalie Dolomite, consists of a sequence of calcareous, 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 lutites, 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.

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

LOCAL GEOLOGY

Outcrop in EL 8620 is sparse, silicified and poorly preserved. However, detailed mapping of the scant outcrop indicates the EL is situated along the contact between the basement and Crater and up stratigraphy into the Coomalie Dolomite.

The Coomalie Dolomite is present to the west, 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.

Graphitic to pyritic shales of the Whites Formation have been mapped along the southern and western boundaries, increasing in thickness to the west.

The presence of domal, stratiform and conical stromatolites have been observed elsewhere within the Coomalie Dolomite (Crick and Muir, 1980; Squire, 1995b). 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.

Transported cover blankets much of the tenement and may be separated into two distinctly different types. The Cretaceous transported cover is up to 26 metres thick and comprises pale coloured fine to moderately coarse quartzose sands, slits and clays. The Tertiary transported cover is the most commonly observed cover material and may overlie the Cretaceous cover. It comprises red-brown ferruginous clays and sand with minor silicified scree.
Folding has been observed in the outcropping of cherty quartz units with wavelengths ranging from 5 mm to several metres. The folding is interpreted to result from a contrast in competency between the surrounding rocks. Strong hydrothermal brecciation has been observed and appears closely associated to the mineralisation, which is incongruent with the ductile deformation.

**PREVIOUS EXPLORATION**

Previous exploration in the area has been undertaken by the Bureau of Mineral Resources Territory Enterprises, Uranerz Australia and the Central Electricity Generating Board Exploration (Australia) Pty Ltd.

This work involved airborne magnetic/radiometric surveys and mapping at various scales.

The only drilling which appears to have been undertaken in the area was used to evaluate the significant laterite development from iron ore. This work was undertaken by one of the Theiss companies.

**EXPLORATION COMPLETED THIS YEAR**

Prior to Compass taking over management of the tenement on 16th June 1997, it appears that little field or office work was undertaken.

Compass has since reviewed available in order to plan the exploration programme for the coming year.
PLANS AND BUDGET

Interpretation of both recent mapping and the recently acquired airborne geophysical survey data has located an unexplored area located in the southern portion of the tenement where an apparent syncline structure contains the Whites Formation.

It is planned to explore this area for base metal mineralisation during the next year of tenure.

A budget of $10000 has been set to undertake this work.
REFERENCES


EXPENDITURE REPORT
EL 8620 - TUMBLING WATERS

Acacia Resources Limited Expenditure to 18 June 1997 817.00
Compass Resources N.L. Expenditure 19 June - 31 July 1997 241.50
TOTAL $1058.50