FINAL REPORT
ON
MAUD CREEK EXPLORATION LICENCE
EL 6137

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LIST OF CONTENTS

list of Illustrations

1. INTRODUCTION
   1.1 General
   1.2 Location and Access

2. GEOLOGY
   2.1 General Geology
   2.2 Regional Geology
   2.3 Economic Geology

3. GEOLOGICAL INVESTIGATIONS
   3.1 Previous Investigations
   3.2 Investigations in Year 1 (1988/89)
   3.3 Investigations in Year 2 (1989/90)
   3.4 Investigations in Year 3 (1990/91)

4. CONCLUSIONS

5. REFERENCES
1. INTRODUCTION

1.1 GENERAL

This report outlines the exploration undertaken by Trescabe Pty Ltd on EL 6137 in 1988 – 1990 and RM Biddlecombe and Trescabe Pty Ltd in 1991.

Targets sought in this area were gold and/or gold rich base-metal deposits hosted by brecciated and silicified shear zones in or around the Maud Dolerite.

Whilst the Joint Venture partners located four (4) such shear zones, several of which had elevated gold soil geochemistry, it was decided not to proceed with further exploration due to their low level of anomalism when viewed in the context of the poor soil cover in these areas.
1.2 LOCATION AND ACCESS

Exploration Licence 6137 was located 17 km to the east of Katherine along the Katherine (Nitmiluk) Gorge road and 5 km south of the Maud Creek Station Homestead, and covered land on both Maud Creek and Pandanus Stations.

Access to this area from Katherine was on the Gorge Road thence via Maud Creek Station boundary firebreaks and internal roads.
2. GEOLOGY

2.1 GENERAL GEOLOGY

In general the Project Area contains a variety of rock types of greatly varying ages from the Early Proterozoic Tollis Formation through to the Mesozoic Mullamul Beds as well as their associated younger derivatives.

Rocks of the Tollis Formation occupy a transitional position in the stratigraphic succession since they separate a period of geosynclinal development which culminated in the Top End Orogeny between 1970 and 1780 MY ago and the later period of platform sedimentation.

These rocks were refolded and metamorphosed to lower greenschist facies during the Maud Creek Event, a local tectonic phase of folding and intrusion of irregular mafic bodies of the Maud Dolerite and granitic rocks of the Yeuralba Granite.

The Plum Tree Volcanics form the bulk of the Edith River Group. The unit consists of felsic lava and ignimbrite, minor mafic volcanic rocks and clastic sediments. Isotopic age determinations on the volcanics and their associated intrusives have yielded ages of 1962 and 1943 MY, (Page et al., 1986).

The Kombolgie Formation unconformably overlies the Plum Tree Volcanics in this area and consists of enormous volumes of arenite derived from a northeastern source which were laid down by braided rivers over vast areas in the form of fan deposits.

Two periods of extrusive volcanism occurred during this period of sedimentation and these have been named the McAddens Creek and Henwood Creek Volcanic Members.

Post-Kombolgie magmatic activity took the form of emplacement of northeasterly trending dolerite dykes, mainly along open joints and faults.
2.2 REGIONAL GEOLOGY

The geological structure of the Project Area is dominated by a south plunging anticline called the "Seventeen Mile Anticline".

At its southern extremity where it plunges beneath the flat lying alluvium of the Katherine Plains, the geology is dominated by the intrusive Maud Dolerite. This rock unit has given rise to the small economic gold deposit of the Maud Creek Goldfield. Here the gold is found in hematite rich open pore space fillings in joints contained within the Maud Dolerite.

It has been within and adjacent to this unit that the majority of current exploration has been concentrated.

In the northwest of the goldfield within EL 6137, a graben type structure has been delimited by exploration by CSR. This structure has has intensive exploration conducted upon it by CSR with negligible positive results to date.

The outcropping rocks of the Seventeen Mile Anticline are predominantly composed of the Early Proterozoic Plum Tree Volcanics. Along the core of the anticline outcrops of the underlying Tollis Formation occur. Near the southern extremity of the anticline the core is covered by the Middle Proterozoic Kombolgie Formation which is ringed by the various intrusives of the Maud Dolerite and the Dorothy Basalt Member.

The Dorothy Basalt Member is confined to a number of distinct outcrops in the Carpentaria Valley.

In a regional context, at the closure of the anticline the Maud Dolerite has intruded both the basal part of the Plum Tree Volcanics and the basal unit of the Tollis Formation.
2.3 ECONOMIC GEOLOGY

The mining history of the rocks that surround and form part of the Project Area can be primarily confined to three known areas, these are:

1) The Maud Creek Goldfield
2) The Carpentaria Copper Mine
3) Mount Gates.

Whilst none of these occur within the Project Area they illustrate the types of mineralisation found in the region and so are briefly described below:

1) The Maud Creek Goldfield

The Maud Creek Goldfield consists of quartz hematite lodes in fractures in the Maud Dolerite. These lodes extend for +400m with two distinct lode directions, ie northeast-southwest and northwest-southeast.

The lodes attain a maximum thickness of one metre and contain a gold-copper association.

The Maud Dolerite at this location is largely unaltered except along the walls of the lodes where extensive alteration has taken place, probably at the time of emplacement of the high sulphide bearing fluids. These fluids were emplaced along cold fractures developed during the Cambrian.

The Maud Creek Goldfield was mined during the years 1890/92 and 1933.

The mining that occurred during these periods was of a shallow and cursory nature and according to the records failed because of a lack of suitable milling and recovery machinery rather than a lack of available ore.

2) Carpentaria Copper Mine.

The Carpentaria Copper Mine is a rather optimistic name given to five small open cuts located in the Carpentaria Valley.

The mineralisation consists of secondary copper minerals in sheared basic lava and tuff.

There is no record of production from this area.

3) Mount Gates.

Mount Gates is located along the border of the Katherine Gorge National Park and consists of a small area of workings (1 Ha) located in the major dolerite sill of a swarm of sills intruding rocks of the Tullis Formation along the eastern limb of the Seventeen Mile Anticline.
According to the old records, gold was located in a number of floaters which when dollied gave a grade of 1 oz to the pound of stone. Subsequent mining activity in the area was directed to finding the source of this ore which was located and mined in a small way.

No record of production is known.

4) Others

There are numerous shallow prospecting pits on copper stained out crops located throughout the area. The majority of these are of little value in this exploration program in that they are located in the Plum Tree Volcanics which exhibit common secondary copper showings with no economic value.
3 GEOLOGICAL INVESTIGATIONS

3.1 Previous Investigations

A summary of previous investigations in the area is provided below:

1892 JV Parkes
1912 WG Woolnough "Report on the Geology of Maud Creek"
1937 VM Cottle "The Maud Creek Mining Centre - Pine Creek District"
1969 MR Daly "Report on Visit to A-P 2003 Katherine Area"
1971 "Western Nuclear Prospectus"
1973 Magnum Exploration "Annual Report on EL 147"
1987 CSR Ltd "Annual Report on ELs 4669, 4874, 4913, 1914 and 4716"
1988 Placer Exploration Ltd "Report for relinquished portions of ELs 4669, 4874, 4913, 4914 and 4916"

JV Parkes and WG Woolnough concentrated their work on the Maud Creek Goldfields and Mt Gates areas. VM Cottle's work was done during the AGSSNA program in the Northern Territory and was concentrated on the Maud Creek Goldfield.

MR Daly's work was on the prominent breccias that trend northeast-southwest on EL 6137.

Western Nuclear's work was concentrated on the Carpentaria Copper programs and they did basic exploration that delineated a number of potential targets throughout the entire area.

CSR's annual report in 1987 was directed at two areas - the Chessman Prospect and Nipper's Knob. The Chessman Prospect is adjacent to Trescab's EL 6137 and Nipper's Knob is an extension to the north of the Carpentaria Copper Mine.

Placer Exploration's report covered the relinquished portions of CSR's holdings and provided an valuable database for Trescab to draw on. It was also extremely valuable for the petrographic work on the volcanics of the area and enables positive identification of some of the various rocks that have been named dolerite and diorite in the past.
3.2 INVESTIGATIONS ON EL 6137 IN YEAR 1

Geochemical stream sediment sampling throughout the exploration licence outlined an anomaly that corresponded with a previously elminated by CSR. Sampling was done before the CSR database became available and higher values were obtained by Trescabe by sampling different drainage systems.

Sampling of the prominent hydrobreccia that runs through the region as a postulated graben wall confirmed its background gold levels.

The soil sampling program over the area gave positive results where the later stage Maud Dolerite intruded the hydrobreccia. The soil samples were 2.5kg, -5mm BLEG samples on a 50m x 50m grid.

A total of 94 samples were taken from Grid 1 and indicated that the background gold levels were below 1ppb.
3.3 INVESTIGATIONS ON EL 6137 IN YEAR 2

Work done on this exploration licence in its second year included extending soil grid 1 a further 300m to the northeast to close off an anomaly along the edge of the original soil grid.

Soil grid 10 was another soil grid sited in the northwest corner of EL 6137 along strike from another geological setting very similar to that of the main anomaly in grid 1. The results obtained from this grid suggested that the structure has some gold potential and will be investigated further in the future.
3.4 INVESTIGATIONS ON EL 6137 IN YEAR 3

Work done on EL 6137 consisted of tying up any loose ends around the remaining areas of the exploration licence. This work involved the broad scale mapping of the EL using the knowledge that we had gained over the previous two years in the area.

This work did not result in any new areas of significance being found and the exploration licence subsequently expired.
4.0 CONCLUSIONS

By the third year of exploration we had a good idea of the sort of mineralisation track that we were looking for in this area.

Unfortunately our most promising area had very little soil cover (of the order of 5 to 10 mm) so that the soil values we were obtaining represented fairly close to actual rock chip values.

When the soil samples were followed up with rockchips there were no assays of truly anomalous levels. Two of the other similar structural settings gave similar results.

The joint venture partners pegged one mineral claim in the northwest corner of the EL on a similar structural setting with deep soil cover.

Due to the generally poor results it was decided that tenure over almost all of the area would be allowed to lapse on expiry.
5.0 REFERENCES


