CRA EXPLORATION
EL 4405 - COOMALIE CREEK

FIRST AND FINAL REPORT
FOR YEAR ENDING 1st AUGUST, 1991

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1. SUMMARY AND CONCLUSIONS

This report details exploration completed within EL 4405 Coomalie Creek, during the first and final year of tenure from the 2nd August 1990, to the 1st August 1991.

EL 4405 (3 blocks, 10km²) was granted to CRAE on the 2nd of August 1990. The tenement was relinquished after the first year of tenure. The EL is located approximately 3km east of Batchelor within the Rum Jungle Block. Tenure was acquired to explore for base metals and gold.

Exploration activities completed during the first and final year of tenure include:

- A detailed review of all available literature, including open file reports on previous exploration.

- Statistical re-evaluation of geochemical data from grid percussion drilling carried out by BHP.

- Field inspection of the nearby Sundance gold mine open pit.

The only previous exploration of significance within the EL area was conducted by the BMR in the late 60's, (uranium) and BHP between 1979 and 1983, (magnesite, base metals, uranium).

The following conclusions are drawn from open file literature review of BMR and BHP reports:

- Gold at the Batchelor mine (within EL 4405) occurs in the Crater Formation within quartz tourmaline veins which are known to occur only sparsely throughout the EL area. There is very little potential for a suitably large deposit of this style within the EL.

- It is unlikely that the conglomeratic units within the Crater Formation contain detrital gold. The units are not thick enough to host a large deposit.

- BHP have adequately tested the uranium and base metal potential of the Whites Formation and Coomalie Dolomite/Whites contact. Statistical re-evaluation of the BHP geochemical data has failed to highlight any anomalies of sufficient magnitude to warrant further work.

- Magnesite reserves defined by BHP are of insufficient tonnage to be of economic significance.

Field inspection of the nearby Sundance gold mine suggests the mineralisation is characterized by high grade gold within small irregular pods. The style of mineralisation is unlikely to generate at large enough deposit to be of interest to CRAE.
2. RECOMMENDATIONS

There appears to be little possibility that a deposit of suitably high tonnage could exist within the small EL area. Relinquishment of EL 4405 Coomalie Creek is recommended.

3. INTRODUCTION

Coomalie Creek EL 4405 was granted to CRA Exploration Pty. Ltd. on the 2nd August 1990 for a period of four years. The tenement was relinquished after the first year of tenure. EL 4405 covers 10km² (3 blocks) and is located on the Batchelor Road, 3km east of Batchelor, (see Plan NTD 3141).

The EL is situated on the southeastern margin of the Rum Jungle Complex. Outcrop of the Archean intrusive complex is restricted to the northern portion of the tenement. To the south, Proterozoic sediments of the Bestons Formation and Celia Dolomite unconformably on-lap the intrusive complex. These units are in turn unconformably overlain by the Crater Formation, the Coomalie Dolomite and Whites Formation.

Tenement over Coomalie Creek EL 4405 was initially acquired to test the gold potential of basal conglomerates in the Crater Formation. A small gold show known as the Batchelor Gold Mine is mapped within the Crater Formation inside the EL.

Potential for base metals and uranium at or near the Coomalie Dolomite / Whites Formation contact in the southern portion of the EL has also been recognized.

The Sundance gold mine (13,970 tonnes @ 8.16 g/t) is situated 400m south of EL 4405 within mapped Coomalie Dolomite. The proximity of the mine to similar geology within the southern portion of the EL suggests some potential for "Sundance Style" gold mineralisation in the area.

4. EXPLORATION ACTIVITIES

During the first year of tenure work completed on EL 4405 consisted of open file literature review, statistical re-evaluation of BHP open file geochemical data and field inspection of the Sundance mine workings. Literature review has indicated the Crater Formation and Whites Formation are the primary targets for gold and base metals respectively. Review of open file data has thus concentrated on these Formations.
4.1. Previous Exploration

The only previous exploration of significance within the EL area was conducted by the BMR in the late 60's and BHP between 1979 and 1983.

The BMR's exploration was concentrated on the Crater Formation were a number a radiometric anomalies were known to occur.

Exploration carried out by BHP between 1979 and 1983 within the EL area was concentrated on magnesite within the Coomalie Dolomite and Celia Dolomite, (an uneconomic possible reserve of 10 million tonnes of high density, low silica magnesite was defined with potential for extensions). BHP also explored Whites Formation for base metals and uranium.

Elements of the previous exploration relevant to CRAE's target Formations are discussed in the following two sections.

4.1.1. Crater Formation

The Batchelor gold mine is located in the basal conglomerate of the Crater Formation. The deposit is described by the BMR as a number of quartz-tourmaline veins up to a metre thick which yielded 340g of gold from 600kg of ore. The Crater Formation was mapped in detail (400' to 1") by the BMR in 1969. The mapping indicates quartz veins are sparsely distributed within the EL area. Vein stockworks or thick, continuous veins are unlikely to exist. Despite the apparent high grade of the Batchelor workings the tonnage potential of this style of mineralisation is minimal and a large deposit is unlikely to exist.

The possibility of detrital gold within the conglomerates of the Crater Formation has also been assessed, perhaps unintentionally, by the BMR. During 1969 and 1970 the BMR conducted a detailed study of the Formation in an attempt to define the source of a number of radiometric anomalies. Detailed mapping of the Formation defined three thin conglomeratic horizons within the EL area which were found to correlate with radiometric highs. Testing for the source of the radiometric anomalies involved obtaining three heavy mineral concentrates from weathered conglomerate. No gold was observed in these concentrates. A number of other tests on diamond drill core (core not available) found the radioactive mineral to be an unidentified phosphate of Th, Ca and Fe.

Detailed BMR mapping indicates the conglomeratic units within the Crater Formation are only a few metres thick. The lack of gold in the concentrates indicates the conglomerates are
unlikely to contain economic quantities of gold. Therefore, both grade and tonnage potential for conglomerate hosted gold is poor.

4.1.2. Whites Formation

Whites Formation outcrops in the southeast corner of the EL and is probably present all along the southern edge of the EL under colluvial/elluvial cover. The calcareous, carbonaceous pyritic argillite, dololutite and doloarenite are attractive host lithologies for uranium and base metals. A number of deposits in the Rum Jungle area are hosted by Whites Formation. Mineralisation tends to be fault controlled and is frequently proximal to the brecciated contact with the underlying Coomalie Dolomite.

BHP explored the Whites/Coomalie contact in the south of EL 4405 for uranium and base metals. 251 shallow percussion holes were drilled at 50m intervals on 200m spaced lines. 130 of these holes lie within EL 4405 and effectively test much of the Whites Formation and the contact with the Coomalie Dolomite. Logs were not supplied in the BHP report however the average depth was 7.4m and it is assumed top of bedrock was sampled. Samples were assayed for Cu, Pb, Zn, Co, Ni and selectively for U and Th. Follow-up drilling was carried out by BHP on one radiometric anomaly and three base metal anomalies, without further encouragement.

Statistical re-evaluation of the BHP data has yielded a distinct Cu-Pb-Co additive index anomaly on the southern margin of EL 4405. The anomalous area is 600m long and between 100 and 350m wide. It is situated over the Whites/Coomalie contact with subtle extensions of the anomaly extending along the contact.

Unfortunately raw data from within the anomaly area only ranges from 60 to 100ppm for the three elements. The anomaly could be from a buried source with minimal geochemical leakage to the surface, however the low raw results considerably downgrade its significance. No other results from the BHP grid drilling warrant follow-up and the work appears to have adequately tested the potential of the area.

4.2. Sundance Gold Mine

In order to make a preliminary assessment of the potential for "Sundance Style" gold mineralisation within EL 4405 the Sundance mine (13970 tonnes @ 8.16 g/t), was visited on two occasions with the permission of the owner.

Field evidence suggest the gold occurs in a dense hematitic quartz breccia in irregular high grade pods on the karsted surface of the Coomalie Dolomite. The pit is less than 150m X 50m, emphasising the small, localized nature of the deposit.
The proximity of the mine to similar geology within the southern portion of EL 4405 suggests there is some potential for "Sundance Style" gold mineralisation in the area. BHP never explored for gold but mapped the Coomalie Dolomite within the EL in some detail as well as drill testing magnesite reserves within the Formation. They may well have "stumbled" upon such a deposit if it existed within the small EL area. Regardless of this, the "Sundance Style" of mineralisation is likely to be too small and patchy to be of interest to CRAE, despite the bonanza grades.

5. REFERENCES


Crick, I. H. - 1987, Rum Jungle Uranium Field, N.T, BMR 1:100,000 Geological Map Commentary.


Morlock, J. S. et. al. - 1971 Results or the Crater Formation Drilling, Rum Jungle District, N.T. BMR Record 1971/65.


6. KEY WORDS

Coomalie Dolomite, Whites Formation, Exploration, Percussion Drilling, Gold, Uranium, Base Metals.

7. LOCATION

SD 52-08 Pine Creek 1:250,000 sheet.

5171 Batchelor 1:100,000 sheet.