Compass Resources NL
A.C.N. 010 536 820

EL 4880, RUM JUNGLE
THIRD ANNUAL REPORT TO THE NORTHERN TERRITORY DEPARTMENT OF MINES & ENERGY FOR THE YEAR ENDED 30 OCTOBER, 1992

M. K. Boots

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Suite 1 • 12 Malvern Avenue Chatswood NSW 2067 • Telephone (02) 415 1799 • Facsimile (02) 415 2219

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ABSTRACT

Exploration Licence 4880 has potential for uranium and base metals. The main area of interest for base metal exploration is in the immediate vicinity of the previous mines. Drilling during the previous year has confirmed the presence of base metal sulphides at depth, however grades were of a lower grade than anticipated.

LOCATION AND ACCESS

For the first three years, Exploration Licence 4880 covered an area of approximately 48 square kilometres (21 blocks) and is located on the Noonamah, Bynoe, Batchelor and Reynolds River 1:100,000 sheets, (Figure 1). It is centred approximately 5 kilometres north of the township of Batchelor, with sealed road access from Darwin.

The existing Rum Jungle Mines (Intermediate, White's, Dyson's) are now located within a "Restricted Use Area" administered by the Conservation Commission of the Northern Territory and access to this area is controlled by the Commission.

TENEMENT DETAILS

The original application for this area was made on 1 October, 1985. Exploration Licence 4880 was granted on 31 October 1989 to the Central Electricity Generating Board Exploration (Australia) Pty. Ltd for a period of six years. It covered 21 blocks and totalled 48 square kilometres. Existing leases held by CRA cover the Brown's deposit and are excised from the Exploration Licence.

Application has been made to renew eleven blocks for the next 12 months (Figure 2).

Compass Resources NL was operator of a joint venture covering this and adjoining exploration licences, and has recently applied to have this tenement transferred to the Company.

GEOLOGICAL SETTING

The main zone of prospectivity occurs in "The Embayment". The term "Embayment" appears to have been applied by Territory Enterprises Pty. Ltd and the BMR to describe the structure hosting a line of mineralisation extending from Brown's through Intermediate, White's and on to the Dyson's deposit. The structure of this zone suggests a tight south-westerly plunging syncline with the known mineralisation occurring on the north-western limb.

Within this Exploration Licence rock types include Archaean granitic basement and metasediments of Lower Proterozoic age. The Lower Proterozoic Sediments belong to the Mt. Partridge Group which are reported to unconformably lie on the granitic basement. The oldest of these sediments belong to the Crater Formation which is most commonly present as deformed grits, arkoses and conglomerates.

Conformably overlying the Crater Formation is a major carbonate sequence known as the Coomalie Dolomite. This unit contains dolomites, stromatolitic dolomite, tremolite dolomite and magnesite as the major rock types. Several periods of kastification, silicification and haematitation have resulted in the formation of many collapse zones within the dolomite. These zones are often referred to as "Haematite Quartz Breccias" with a variety of origins being proposed. The author suggests that the precursor rock is most likely to have been chloritised dolomitic breccias.

Overlying the Coomalie Dolomite is the Whites Formation; a sequence of pyritic carbonaceous dololutites and argillites. A transition zone may exist between these two formations. Minor dolerites and calcareous amphibolites are also present within the Whites Formation. It is within the lower parts of this formation and the transition zone that the stratabound and stratiform base metal sulphides occur.

Overlying the Whites Formation are sediments belonging to the "Wildman Siltstone" which is predominantly shale and argillites. In the embayment area a pyritic carbonaceous orthoquartzite belonging to the "Acacia Gap Quartzite Member" is the main outcropping rock assigned

to the Wildman Siltstone.

Intense deformation (up to 4 generations of folding have been reported) and upper greenschist facies of regional metamorphism together with complex faulting and shearing have resulted in a complex pattern of rock type distribution.

The major fault in the area - the Giants Reef Fault limits the southern and south-eastern outcrop pattern of the Lower Proterozoic sequence.

PREVIOUS EXPLORATION

During the 1880s small scale workings in secondary copper ores of the Intermediate deposit were developed.

In 1907, part of the Brown's Deposit was operated as a copper mine by V.V. Brown. Following the discovery, in November 1949 of Uranium mineralisation (torbernite) in the embayment area by prospector J.M. (Jack) White, exploration in the embayment was carried out by the Bureau of Mineral Resources since 1950 and since 1953 by Territory Enterprises Pty. Ltd (TEP).

By the end of 1958 the copper, lead, uranium orebody at White's had been mined as had the uranium deposit at Dyson's. The Brown's base metal occurrence was extensively drilled in the period 1956-58. In 1966 AM & S commenced a vertical shaft at the Brown's Prospect to allow access and bulk testing of the base metal mineralisation.

The Intermediate deposit was extensively drilled in 1963 and 1964 by AM & S, and the oxidised portions and part of the sulphide portion of the Intermediate deposit were mined and heap leached or floated in the period 1964-1965.

CRA undertook additional drill programmes in 1966, 1967, 1970, 1971, 1977 and 1978.

Uranerz undertook exploration in the area in the period 1980-1984, involving RAB, percussion and diamond drilling. They concentrated on

Uranium exploration in an area between White's and Dyson's mine that they named the White's East prospect.

This work included 536 RAB holes, 13 percussion holes and 18 precollared diamond drill holes. Significant uranium mineralisation was intersected in drill holes WE81/04, WE81/07, WE82/10, WE82/12, WE82/18 and WE82/19. Gold mineralisation was located by Uranerz in diamond drill core from the White's East prospect.

BASE METAL MINERALISATION

The base metal mineralisation is hosted in dark grey and graphitic dolomitic shales of the lower portions of the Whites Formation, and is generally considered to be syngenetic in nature. Later deformation and brecciation have caused some redistribution and recrystallisation of the sulphides.

The actual depth limits of the base metal mineralisation has not been fully defined and potential exists to significantly increase the known tonnages of copper, cobalt and lead ores. It was also considered that mineralisation could continue into the keel of the embayment syncline and was also continued into the southern limb of the syncline.

The geology of the area, together with drill hole location data was compiled from a variety of sources including BMR record 1967/150, Uranerz reports and reports by CRA and its associates. Modifications have been made using RAB drill data as outcrop is too poor to allow mapping of the area and waste dumps also obscure many areas of potential outcrop.

WORK COMPLETED DURING THE PREVIOUS YEARS

During the first year of tenure, compilation of data was undertaken, while access and drilling authorisation was negotiated with the Conservation Commission.

In early 1991, Compass Resources took delivery of the Rum Jungle exploration and mining data from the Library of Uranerz. This contained many original plans, sections and drill logs previously

unobtainable. This data was used to correct and modify plans and to aid the planning of a drill hole in the vicinity of White's mine.

Diamond Drilling

Drill hole EMB 1 steepened in the top 6.5 metres and intersected the Whites Formation at 292.6 metres before being abandoned at 321.3 metres.

Redrilling at hole EMB 2 resulted in a 315 metre hole passing through the White's Formation from 226 metres to 302.8 metres.

WORK COMPLETED IN THE THIRD YEAR

Interpretation of the previous year's drilling results was undertaken. In particular it was necessary to reconcile the much lower grades obtained in holes EMB 1 and EMB 2 than inferred from nearby hole 920 drilled by TEP.

Summary of mineralisation intersected:

EMB 1	309-313m	4m of 0.31% Cu, 0.14% Co, 0.09% Ni
	316-321.3m	5.3m of 0.33% Cu, 0.12% Co, 0.07% Ni
EMB 2	282-294m	12m of 0.79% Cu, 16.8 g/t Ag
	294.5-299.5m	5m of 1.74% Cu, 12.5 g/t Ag
	299.5-302m	2.5m of 0.46% Cu, 3.61% Pb, 0.47% Zn, 18.4 g/t Ag

These figures alone indicate that over a short distance significant changes in metal composition has occurred. Hole EMB 2 results indicate that the lower portions of the intersection contains the most lead, something not indicated from assay results from hole 920, located approximately 150 metres along strike.

It therefore seems likely that significant faulting or shearing has significantly reduced the mineralised section obtained in drill hole EMB 2. From an examination of geological plans from the White's open cut mine, there is a possibility that an oblique fault recorded on

those plans, has resulted in the displacement of the copper rich footwall zone stratigraphically below the lead rich zone.

PLANS

Follow up drilling in the vicinity of the Intermediate and White's mine areas is recommended during the next twelve month period.

EL 4880
EXPENDITURE STATEMENT
FOR THE YEAR ENDED 30 OCTOBER, 1992

	$
Salaries, wages, on costs	14,932.28
Travel & accommodation	917.26
Land Services	470.00
Field costs	1,412.14
Drilling/Site preparation/ Rehabilitation	730.60
Motor vehicle costs	1,443.75
Photography, maps, etc	91.02
Overheads	2,999.56
Total	$22,996.61

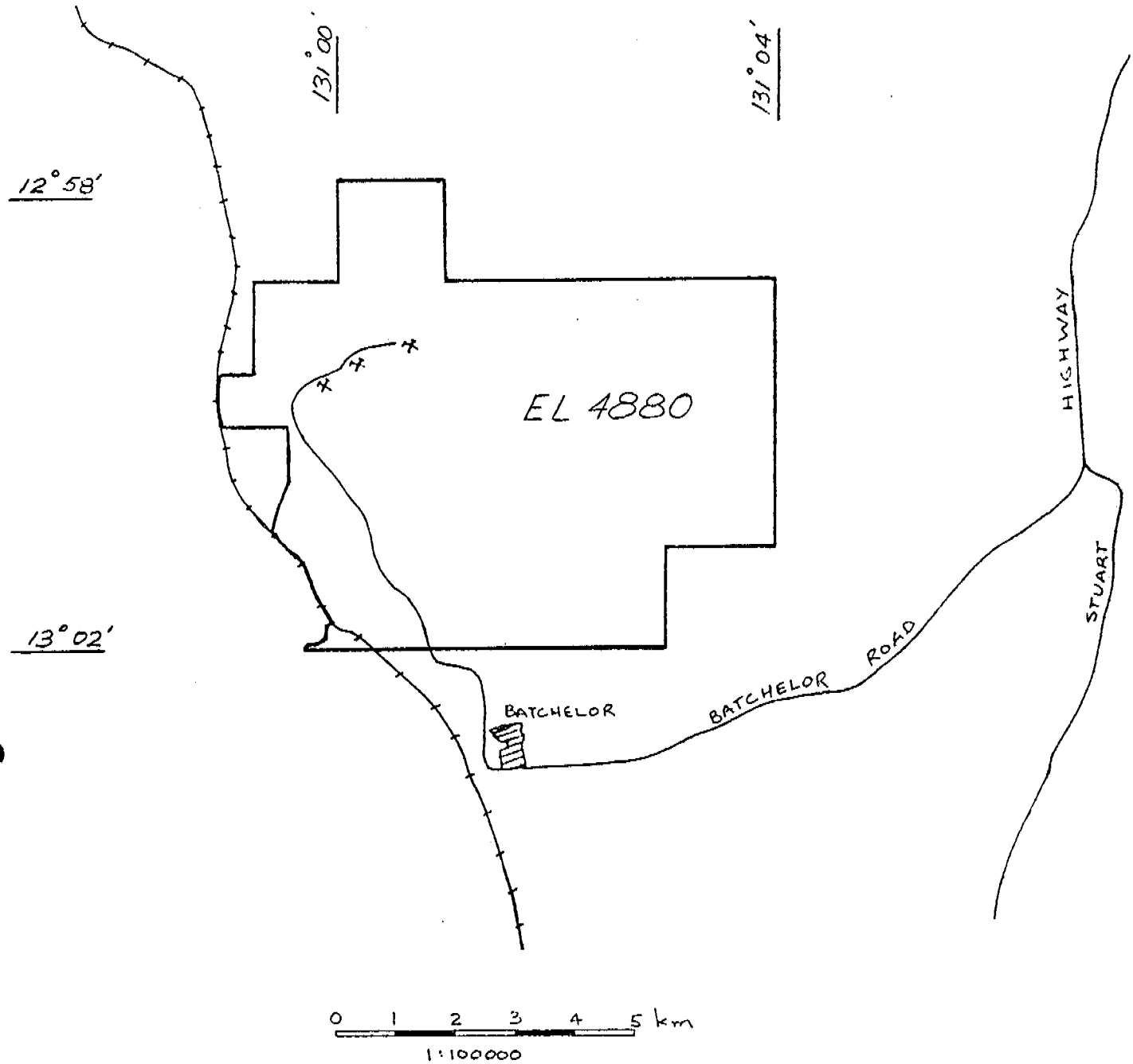

Figure 1
LOCATION PLAN EL4880

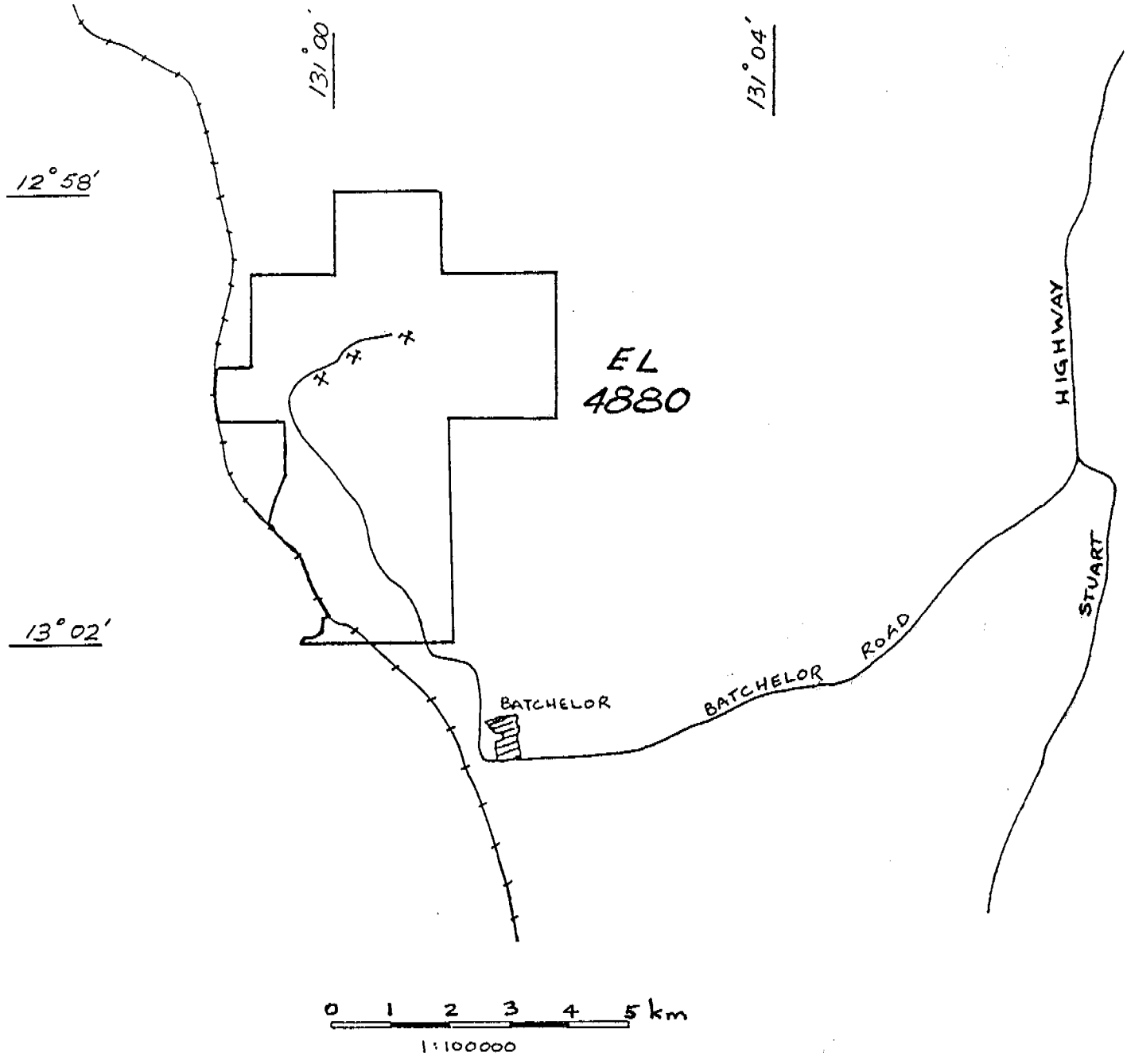

FIGURE 2

Area applied for renewal EL 4880