CR 73/134A

FINAL REPORT ON E.L. 29
RYANS CREEK
BY: EURALBA MINING N.L.
LOCATION:
The triangular shaped twenty four square miles area is located about eight miles north of Howley Siding on the Darwin-Katherine Railway Line. The area is subject to a high rainfall during the wet season, from December to May. It is within the Ban Ban Pastoral Lease No. 631.

ACCESS:
There are no major roads in the area and bush tracks made by the Pastoral Lessees when fencing are the only means of access. The steeply incised tributaries of Howley Creek with precipitous banks and the pastoral fencing seriously restrict vehicle movement in the dry season. Very few parts of Howley Creek can be crossed even by four wheel drive vehicles.

GEOLOGY:
The area consists of Lower Proterozoic Golden Dyke and Burrel Creek formations. Form low steep sided hills on the fringe of the Burnside Granite on the south eastern sectors, extensive alluvial flats along Howley Creek and further low hills of Burrel Creek Formation in the northern and western sectors.

These formations are good host rocks for mineralization, and copper, lead, gold and uranium deposits are known to occur within these formations.

PREVIOUS EXPLORATION:
Previous exploration when the area was explored under an Authority to Prospect title No. A.P. 2404 had revealed the existence of a number of old workings of copper in the southern and eastern outcrop areas. The occurrences were mainly narrow quartz veins and appeared to be of minor significance. A large area of anomalous radioactivity was also located in alluvial flats on the drainage system of Howley Creek in the southern sector. These were tested by auger drilling to six feet in depth and a marked fall off in radioactivity was noted. It was earlier intended to drill a line of holes across the flats to bedrock by a rotary rig.

EXPLORATION DURING THE PERIOD
Access to the area was not possible until late June. In the meantime, a complete revaluation of the area was carried out to ascertain if the potential was great enough to warrant expensive drilling and continued exploration throughout the years. As a result it was decided that a close survey be made of the Burnside Granite upstream on the Howley Creek and then downstream to the anomalous area of radioactivity.

This work was carried out in June and disclosed that the Burnside Granite upstream was highly radioactive giving over three times background counts on a Harwell Scintillometer. The anomalous radioactivity was traced down the creek declining a little until the anomalous zone was reached. The counts were higher on the alluvial flats, up to four times background. When small pits were dug up to 2 feet in depth, radioactivity dropped considerably.
It appeared to be associated with the granite sands carried downstream and distributed on the alluvial flats during periods of flood.

With this conclusion the decision to drill the flats by rotary rig was cancelled.

While in the area numerous quartz reefs occupying the crests of many of the small steep hills were chipped and examined. Many minor showings of copper were found in a number of reefs and even some sulphides in the form of pyrites. In no instances were these reefs found to contain significant gossanous outcrops indicating possible leaching of sulphides. Most showings of copper in the form of small blebs of chalcopyrite, chalcoite and malachite were contained in small vugs in white dog tooth quartz.

As a result of this work, the area was surrendered.

Exploration costs amounted to $567.00 as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of previous information</td>
<td>$136</td>
</tr>
<tr>
<td>Ground examination</td>
<td>$431</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$567</strong></td>
</tr>
</tbody>
</table>

W. J. Fisher

for EURALBA MINING N.L.
(Resident Director)
The Director of Mines,
Mines Branch,
Department of the Northern Territory,
P.O. Box 231,
DARWIN. N.T. 5794.

Dear Sir,

E.L. 29 SURRENDERED 21ST JUNE, 1972
SUPPLEMENT TO FINAL REPORT 1/2/72

With reference to your letter of 14th February, 1973, we are enclosing a plan showing:-

(1) The anomalous radioactive zone on Howley Creek with pit locations;

(11) Approximate locations of quartz reefs chipped and examined.

The evaluation of previous information mentioned in the final report was carried out as follows:-

**Uranium**

1. Several radiometric anomalies shown on Bureau of Mineral Resources Radiometric maps of this area dated 1951 could not be located or pinpointed during the aerial survey or by ground walking.

2. A large low intensity anomaly approximately twice background was located extending from Howley Creek to a northern tributary as shown on the attached plan. The anomalous area extends over a mile in length and over half a mile in width. It covers partly swampy flats and slightly higher better drained areas.

3. A number of small shallow pits up to 2 ft. in depth disclosed that surface radioactivity sometimes up to 4 to 5 times background did not increase with depth but tended to decrease.

Material excavated from these small pits consisted...
Mainly of coarse partly cemented sand in which pink felspah
was plentiful and some clayey material.

4. Six only 6 ft. hand auger holes were drilled at approximately
30 ft. intervals across a zone of about 4 times background
surface radioactivity. Radiation declined to less than twice
background about 18 inches below the surface. Material from
the auger holes consisted of coarse poorly cemented sand with
abundant felspar becoming more clayey at depth with coarse
and small pebbles.

**Evaluation or Conclusions**

Because much of the material from the pits and boreholes
appeared to be decomposed granite, it was considered that a
nearby source of a hot or radioactive granite could deposit
sand build up to a sizeable low grade anomaly over a large
area especially when the very flat anomaly area could receive
excessive layers of granite sand during peak wet season flood
conditions. Most radioactive granites contribute to building
up anomalous areas on creek and river systems, particularly if
there is a small thorium content in the granite; e.g. a strong
radioactive anomaly in the bend of the South Alligator River
just west of Coronation Hill was found to result from a
concentration of thorium from weathering of the Dinner Creek
Granite on a tributary of the South Alligator River.

With this in mind, the nearby Burnside Granite outcropping
barely two miles upstream was examined and found to contain
radioactivity with up to three times the nearby Golden Dyke
Formation. This was also noticeable in the sand in one large
tributary draining into the Howley Creek.

Bearing these factors in mind, the proposed deep auger
drilling of the anomaly was abandoned as the chance of success
was slight.

**Base Metals**

During helicopter and ground surveys, old workings were
located on three scattered copper lodes.
Cu Lode No. 1

The most northerly consisted of a shallow shaft, a small open cut and several trenches on a small steeply dipping copper lode transgressing shales and siltstones. Width of lode at best section 24 inches.

Cu Lode No. 2

This consisted of a small pit 10 ft. long by 7 ft. 6 inches wide and about 4 ft. 6 inches deep. A quartz lode about 18 inches wide was exposed in both ends of the pit and scattered veinlets of copper sulphides were observed in nearby shales. Copper mineralisation was exposed in another small pit about 50 ft. away on strike. Country rock appeared to be carbonaceous shales.

Cu Lode No. 3

A small pit was found in alluvium in a small valley where there was a very small outcrop. No mineralisation evident. A pyritic quartz lode on a nearby hill projected across the flat intersected this pit. A small pod of high grade chalcopyrite was found where this lode disappeared under the alluvium. No other copper mineralisation was found but knapping quartz on top of the ridge disclosed pyrite mineralisation. The width of this lode was difficult to determine and probably was about two to three feet.

Numerous quartz reefs outcropped throughout the area generally on the crown and slopes of long narrow ridges, most were narrow, the widest being about three feet. A number of these reefs were walked over and knapped with occasional small blebs of malachite and sometimes chalcocite showing in the quartz, most were white quartz reefs and only a few small patches of gossan were found.

Evaluation

The largest workings on No. 1 copper lode appeared to be no more than a gougers show and the lode could not be traced beyond the workings. Production must have been limited.

All of the other occurrences appeared too small and unsuitable for developing, even a small sized operation, certainly not one of company size.
The E.L. is not far from the Mt. Ellison copper mine that was a large copper producer around the turn of the century so it is most probable that the area is well prospected for mineralised surface outcrops.

Taking all of these factors into consideration indicated the potential for locating a large base metal deposit but was small and therefore it was decided to relinquish the area.

Yours faithfully,

EURALBA MINING N.L.

W. J. Fisher
Resident Director

Enclosures: 1. Plan, Reconnaissance Scintillometer Survey showing pits, auger holes and approximate locations of copper bearing quartz reefs.

2. Sketches of No. 1 and No. 2 Copper Lodes.
RYANS CREEK AREA
Reconnaissance Scintillometer Survey
BY AUSTRAL AIR SERVICES P/L.

A.P. 2404

LOCATIONS CU LODES, PITS & AUGER HOLES
SCALE 1" = 1M. DRAWN BY W.J. FISHER. 11-7-73