EXPLORATION LICENCE 23506 ‘McKEDDIES’

NEAR PINE CREEK NT

ANNUAL REPORT FOR YEAR ONE OF THE LICENCE

Prepared by G R Orridge.

19th June 2004.

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1. INTRODUCTION.

Exploration Licence 23506 was approved on 8th May 2003 for a term of six years. It is currently held in the names of G R Orridge, G A Clarke and M D Teelow. The Licence includes 52 one minute square graticular blocks, having a total area of approximately 173 square kilometres. It covers portions of the Mary River and Ban Ban Springs Pastoral Leases, located some 200km southeast of Darwin, and 50km northeast of the small township of Pine Creek (refer Figures 1 & 2). Dry season access is readily obtained from various pastoral and mining tracks, leading either from Mt Wells road to the west, or the Mary River homestead road leading from the sealed Kakadu Highway to the south.

The location is within the McKinlay River (5271) and Pine Creek (5270) 1:100,000 map sheet areas, and the Union Reef (5270-1) and Mount Masson (5271-11) 1:50,000 map sheet areas.

2. GEOLOGICAL FEATURES OF THE AREA AND KNOWN MINERALISATION.

The general geology is illustrated in Figure 3 which reproduces portions of the McKinlay River and Pine Creek 1:100,000 Geological Series maps (BMR 1985). The area is largely underlain by Early Proterozoic metasediments assigned by the BMR to an older Namoona Group (Masson Formation) and a younger Mt Partridge Group (Mundogie Sandstone and Wildman Siltstone). Along the eastern edges of the tenement area the metasediments are in contact with various phases of the Proterozoic Cullen Granite batholith.

The Namoona Group, comprising carbonaceous phyllites and slates, with minor quartzite and carbonate horizons, forms a broad central valley with poor outcrop; it is intruded by large sills(?) of metamorphosed mafic rocks (Zamu Dolerite). The dominantly arenaceous Mundogie Sandstone forms hill ranges, with good outcrop, to the NE and SW of the central valley. The main regional structure is a broad NW-plunging anticlinorium with the axial region running centrally along the belt of Namoona Group. Little is known of the detailed structure.
Work by exploration companies since the 1980's has indicated that significant re-interpretations of the structure and stratigraphy may be required. Detailed mapping along the eastern granite contact has identified a narrow, but continuous, belt of carbonaceous phyllites, calc silicates and carbonate metasediments (now hornfelsed), with thin BIF horizons and ironstone lenses. The metasediments appear to have a largely conformable contact with the granite. Numerous basemetal and radiometric anomalies have been found along this belt. Close analogies are recognised, in stratigraphy, lithology and mineralisation, between this area and the Rum Jungle uranium and basemetal field which lies some 110km to the northwest. It is postulated that the carbonate/black shale sequence, along the granite contact, correlates with the Coomalie Dolomite and Whites Formation at Rum Jungle, which hosts the uranium and basemetal orebodies previously mined, and also the major Co/Cu/Pb/Zn sedimentary-exhalative resource awaiting development at Browns.

On this basis the Mundogie Formation would be correlated with the Acacia Gap Quartzite and the central belt of Masson Formation would equate to the Coomalie Dolomite/Whites Formations at Rum Jungle. The eastern belt of Mundogie Sandstone is then interpreted as occupying a north-plunging syncline (Figure 4).

These re-interpretations substantially up-grade the prospectivity of this portion of the Pine Creek inlier.

No significant mineral production is recorded from the area included in EL23506. Alluvial gold has been worked on a small scale at McKeddies, just outside the NW limits of the EL; the source of the gold appears to be quartz veining along shear zones through Zamu Dolerite. A minor quartz vein and placer tin deposit occurs at Glenys, close to the granite contact in the NE of the area. Massive ironstone bodies in the Dam Paddock area, in the southeast, have had limited testing as potential iron ore resources. A small barite pod in this locality has also been evaluated. Several basemetal prospects, along the granite contact, were investigated in detail, including RC and core drilling, but no commercial mineralisation was discovered.

3. WORK CARRIED OUT DURING YEAR ONE OF THE LICENCE.

3.1 Research of Previous Mineral Exploration.

Since 1980 the area under the current Licence has been the subject of more or less continuous exploration for tin, gold, uranium and base metals, with at least thirty former Exploration Licences having partial overlaps with the current tenement, and more than sixty open file reports relating to this work. A preliminary review has been undertaken of this data, and is summarised in Table 1.
Up to the early 1990’s exploration work was principally directed towards tin, gold and uranium, and produced no encouraging results. The gold exploration appears to have been essentially of a reconnaissance nature and may not be conclusive given the extensive soil cover and poor exposure in the central Masson Formation belt. In particular no detailed exploration appears to have been made of possible extensions of hardrock gold mineralisation northerly from McKeddies alluvial deposits.

The recognition of the stratabound zone of basement mineralisation, with close stratigraphic, lithofacies and geochemical similarities to Rum Jungle, was an important advance, and led to intensive and detailed exploration of the granite margin between 1982 and 1987. This work was mainly done by the Woodcutters Mine group who had close acquaintance with the Rum Jungle field. It was found in soil sampling that anomalous Cu, Pb and Zn values extended along a strike length of some 25 kilometres. Drill testing of the best copper anomalies indicated that the primary mineralisation consisted of pyrite, pyrrhotite and chalcopyrite, of possible syngeneic origins, hosted by finely bedded graphitic hornfels and scarns, sometimes having iron formation (BIF) affinities.

The best drilling results were obtained at Black Bream anomaly, close to an old shaft testing a surface malachite/azurite showing (Hattrick Prospect). Diamond drillhole ASDDH 1 intersected 7.4m @ 0.89% Cu from 74.6m in the primary zone; an adjacent RC hole (ASRC 1), in the oxide section, intersected 42m @ 0.26 % Cu from 8m. Comparable but somewhat lower results were intersected in drill testing both primary and secondary mineralisation at Big Barra, Catfish, Sleepy Cod and Archer Fish anomalies. In total five diamond drillholes and 26 reverse circulation holes were completed.

Zinc and lead values were encountered sporadically in the drilling, ranging up to 3940ppm Zn and 940ppm Pb, while cobalt and nickel were slightly elevated, up to maxima of 240ppm Co and 250ppm Ni. Gold assays mostly reported below detection limits (0.01ppm) with scattered values in the range 0.01 to 0.09ppm. In some intervals there appeared to be a correlation between high copper and other metal values.

The zone of copper mineralisation appears well defined at all prospects, and consists of a bed of graphitic, pelitic hornfels, with a true thickness of about 12m at Black Bream prospect, in contact with a scarn/BIF formation to the west. The formations usually dip steeply to the east. The facings of these strata has not been conclusively established.

Two RC holes were drilled at the Rainbow Fish zinc prospect which is situated close to the eastern margin of the central belt of Masson Formation (Figure 4). Anomalous soils and gossanous outcrops occur over a 1200m strike length, but drilling indicated only low grade discontinuous mineralisation.
3.2 Field Operations.

Field work was concentrated on prospecting for gold in the northwestern portions of the tenement, particularly to the north and northwest of the McKeddies workings. Traversing was undertaken by quadbike, and on foot, using metal detectors. A number of localities were identified showing quartz veining, and gossan/ironstone float, which will be geologically surveyed and sampled during year two. Priority will be given to possible extensions of the auriferous trend northwest of McKeddies where promising quartz veins were detected which do not appear to have been previously explored.

3.3 Expenditures.

Expenditures during year one are estimated to have been as follows:

- Prospectors, with transport and field provisions, 20 days @ $250  
  5,000
- Geological services, 12 days @ $500  
  6,000

Total $11,000

4. PROPOSALS FOR EXPLORATION WORK DURING YEAR TWO.

Work undertaken during year one has highlighted four targets warranting exploration namely:

- Ironstone bodies of the East Frances Creek field (Dam Paddock). Under current global demand, and given recent rail and port infrastructure developments, these are seen to have high potential for early exploitation as iron ores.

- Northwesterly extensions of the McKeddies gold trend where there appears to have been little or no detailed systematic exploration.

- Stratabound basemetal and gold along the eastern granite contact zone. Previous work has clearly defined this as a highly favourable environment for syngenetic exhalative Cu/Pb/Zn/Co deposits (of the Browns model) or more speculatively for Cu/Au deposits of the NW Queensland (eg. Selwyn) model. Given the long strike (+25km), the amount of drilling, and the extent of gold geochemical surveys, has not been sufficient to fully evaluate the potential.
• Similar potential exists in the central belt of Masson Formation, which is relatively poorly exposed, and where repetitions of the favourable strata exposed along the granite margin can be anticipated. So far this possibility is virtually unexplored.

It is proposed in year two to give priority to evaluation of iron ores in the Dam Paddock area. Work will include survey, geological mapping and surface sampling. If results are encouraging preliminary RC drilling will follow.

Other areas having gold and basemetal potential (as noted above) will be advanced by air photo mapping, ground geological survey and rock chip sampling of gossan, ironstone and quartz.

A minimum budget of $25,000 is proposed for this program.

5. SELECTED REFERENCES.


<table>
<thead>
<tr>
<th>Tenement No.</th>
<th>Titleholders/Explorers.</th>
<th>Location</th>
<th>Report Nos.</th>
<th>Exploration Work Carried Out</th>
<th>Results Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP2213</td>
<td>Wanderoo Mining Corp'n.</td>
<td>Dam Paddock area in SE.</td>
<td>70/34</td>
<td>Mapping, costeaving &amp; percussion drilling at one of several ironstone bodies.</td>
<td>Possible 1.5 million tonnes of low grade iron ore at the body tested.</td>
</tr>
<tr>
<td>EL2094</td>
<td>Australia &amp; New Zealand Exploration Company.</td>
<td>Eastern granite contact.</td>
<td>80/166, 81/13</td>
<td>Drainage, soil &amp; rock chip sampling for U, Sn, W, carbone radiometric survey.</td>
<td>Discovered zone of black shales, limestones, and ironstones with anomalous base metals at granite margin.</td>
</tr>
<tr>
<td>EL2996</td>
<td>Greenbushes Exploration.</td>
<td>Covered most of EL23506 area.</td>
<td>83/05</td>
<td>Reconnaisance rock chip sampling for Au in ironstones and Sn/Ta at granite contact.</td>
<td>Discovered anomalous base metals and As in Dam Paddock ironstones.</td>
</tr>
<tr>
<td>EL4279</td>
<td>CSR Limited</td>
<td>Central &amp; western parts of EL23506.</td>
<td>89/683</td>
<td>Airborne geophysics, drainage, soil and rock chip geochemistry, ground magnetics.</td>
<td>Exploration concept of gold mineralisation in Zamu Dolerite proved unproductive.</td>
</tr>
<tr>
<td>EL4414</td>
<td>TOTAL Mining Aust. P/L</td>
<td>Eastern parts of EL23506</td>
<td>86/166, 88/209, 89/151</td>
<td>Helicopter and ground radiometrics, geol. mapping of granite contact zone, drilling at three prospects just outside SE corner of EL23506.</td>
<td>Numerous radiometric anom’s in belt of carbonaceous shale &amp; carbonates along granite contact which correlate with Rum Jungle sequence. Drilling found only narrow zones of U mineralisation.</td>
</tr>
<tr>
<td>EL6010</td>
<td>Woodleigh Nominees.</td>
<td>Central &amp; N parts of EL23506</td>
<td>89/674, 90/673</td>
<td>Auger drilling &amp; panning for alluvial gold and tin.</td>
<td>No results of interest.</td>
</tr>
<tr>
<td>EL's 6154 6164 &amp; 6303</td>
<td>Carpentaria Gold</td>
<td>NW corner EL23506</td>
<td>89/825, 91/026</td>
<td>Drainage BLEG &amp; rock chip sampling.</td>
<td>Only low level anomalies.</td>
</tr>
<tr>
<td>EL6171</td>
<td>Newmont Aust. Ltd.</td>
<td>N &amp; W of McKeddis.</td>
<td>90/037, 90/293</td>
<td>Drainage &amp; rock chip sampling for gold.</td>
<td>Low order anomalies related to known mineralisation or small catchments.</td>
</tr>
<tr>
<td>EL's 6232 &amp; 6233.</td>
<td>Wentwell</td>
<td>Granite contact.</td>
<td>90/207</td>
<td>Literature review and air photo interp'n.</td>
<td>Nothing significant.</td>
</tr>
<tr>
<td>EL's 7192, 7877, 8174, 8949 &amp; 9543.</td>
<td>Corporate Developments.</td>
<td>Western and northwestern parts of EL 23506.</td>
<td>92/280, 93/176, 94/256, 94/635, 95/606, 95/608, 95/609, 96/280, 96/281, 97/055, 98/150, 98/538.</td>
<td>Drainage BLEG and pan concentrates and rock chip sampling for gold.</td>
<td>Main target was small high grade gold/quartz veins as at Touhey's Mine. No significant discoveries.</td>
</tr>
<tr>
<td>EL's 7138 7487, 7684, 7935,8032, 8658.</td>
<td>Dominion, Aztec, Normandy Nicron &amp; Northern Gold &amp; farm-in with Teelow/Day/Earthrowl.</td>
<td>Mainly granite contact &amp; central belt of Masson Formation.</td>
<td>93/293, 93/305, 94/082, 95/168, 95/285, 95/625, 95/691, 96/410, 97/130.</td>
<td>drainage, BLEG, rock chip and soil geochemistry; analysis for Cu, Pb, Zn, Ni, Mn, As, geological mapping of granite contact zone. Diamond drilling of four holes at Black Bream, Catfish &amp; Sleepy Cod anomalies. RC drilling at Rainbow Fish and Archer Fish anomalies; 26 holes testing supergene Cu zone. Petrography of drillcores.</td>
<td>BLEG sampling for gold not anomalous. Metasediment/granite contact mainly conformable with stratabound base metal mineralisation associated with black shale, carbonate and ironstone beds. Min'ln found to be sub-economic, gold-poor with no supergene enrichment where tested.</td>
</tr>
<tr>
<td>9104</td>
<td>Teelow/Earthrowl.</td>
<td>Dam Paddock area.</td>
<td>96/593, 01/207, 02/108.</td>
<td>Mapping, soil sampling &amp; RAB drilling at granite contact, trenching to test lens of barite.</td>
<td>Carbonate rocks at contact anomalous in base metals.</td>
</tr>
<tr>
<td>9026</td>
<td>Northern Gold.</td>
<td>Mainly granite contact.</td>
<td>97/130</td>
<td>Data acquisition and review.</td>
<td>Nothing new.</td>
</tr>
</tbody>
</table>

n.b. report Nos. quoted are NT Department of Mines Open File Company Reports.
FIGURE 1
EXPLORATION LICENCE
LOCALITY MAP
NOTE TO MAP USERS: Mining and Exploration Tenure depicted here are plotted from descriptions supplied by the holders and the Northern Terr
inconsistances may occur between some information.

0  10 km.

TENEMENT MAP

Figure 2

http://150.191.80.53/TIS/OLQ.ASP?WCI=LocalPrintDefine&WCE=setPrint&WCU=
INTERPRETED GEOLOGY & PROSPECT LOCATIONS.

Adapted from I. Butler, 1995.

FIGURE 4