EL 6940

HARTS RANGE REGION, N.T.
NORTHEAST CORNER - ALICE SPRINGS [SF 53-14] 1:250,000
NORTHEAST CORNER - RIDDOCH [5851] 1:100,000

ANNUAL REPORT
TO N.T.D.M.E
for period to 12/8/1995

LICENCE HOLDER:
CLARENCE RIVER FINANCE GROUP PTY LTD

REPORT COMPiled BY:
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14-10-1995
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LOCATION OF EL 6940 SHOWING RETAINED AND RELINQUISHED BLOCKS Appendix A

1:1 LASER COLOUR COPY OF PART OF THE ARLTUNGA-HARTS RANGE 1:100,000 GEOLOGICAL MAP SHOWING THE BOUNDARIES OF EL 6940 Appendix B

1:50,000 PHOTOCOPY OF THE ARLTUNGA-HARTS RANGE GEOLOGICAL MAP SHOWING THE LOCATION OF CREEKS AND SAMPLING SITES Appendix C

SPEADSHEET OF SAMPLING SITE LOCATIONS, USEABLE CREEK WIDTHS AND AVERAGE DEPTHS, AND GARNET GRADES Appendix D
1 SUMMARY

Previous work has indicated that the alluvial garnet in Florence and Maud Creeks has the desirable properties required for abrasive applications, and is likely to meet market criteria if processed commercially. Exploration in the 1994-1995 reporting period was centred on the headwaters of Florence Creek and its feeders, aimed at determining garnet grades, resource volumes, and an initial appraisal of access and other extraction-related parameters.

Garnet grades in the grainsize range 1,200-180 μm varied from 3.15 to 7.25% by weight in composite samples taken at 9 locations in the western part of the EL, and all are sub-economic. Although small localised patches of higher garnet grades do occur, these are generally more difficult of access, and due to higher projected extraction costs, would not yield significantly better returns.

The sub-180 micron fractions contain significant garnet and smaller amounts of zircon, but also contain sufficient monazite to register radiation counts significantly above background. On-site processing constraints require dry separation methods, and under these conditions, the recovery of zircon and garnet, sufficiently free of monazite, is not economically feasible. The high-magnetic fraction contains significant composite grains and would require additional processing to separate magnetite; and would only become worthwhile if magnetite prices were substantially higher. Consequently, the resource grade as a whole is sub-economic.

Furthermore, the total resource volume is too low to warrant extraction, and the cost of setting up a plant on-site, coupled with difficult access, would be prohibitive. For these reasons, the six western blocks have been relinquished.

Work projected in the six remaining blocks will be similar to what has been carried out, but centred on the headwaters and feeders of Maud Creek, to determine grades and resource volumes.
2 INTRODUCTION

EL6940 was initially taken up to prospect for industrial minerals and base metal deposits. The principal focus for exploration was garnet, in both alluvial and hard-rock deposits, and to a lesser extent, the Oonagalbi Cu-Zn-Ag prospect. Other surface and near-surface deposits were also considered, as the exploitation of these is in synergy with the operations of the Clarence River Finance Group Pty Ltd [CRFG].

EL6940 was taken out by the CRFG on 13/8/90, and comprised 92 graticular blocks. This EL was reduced to 46 blocks on 20/10/92, reduced to 23 blocks on 10/12/93, reduced to 12 blocks on 29/7/94, and further reduced to 6 blocks on 26/6/95. CRFG has no applications for mineral leases in the blocks relinquished.

3 LOCATION AND ACCESS

EL6940 is situated approximately 175km northeast of Alice Springs, in the Harts Range area; it lies some 16km southwest of the Harts Range Police Station. EL6940 lies entirely within the northeast corner of the Riddoch 1:100,000 sheet, and similarly, on the Arltunga-Harts Range Region 1:100,000 Geological Special [1st edition, 1984]. These maps comprise the northeastern quadrant of the Alice Springs [SF53-14] 1:250,000 geological map [2nd edition, 1983].

The precise location of the 12 blocks which comprised EL6940 is depicted in Appendix A, which also depicts the 6 blocks retained [ unhatched].

Access to the EL from Alice Springs is north via the Stuart Highway [70km] then east along the Plenty Highway; take the Mt. Riddock Station track, thence turn south and take the track to the Virginia Prospect via New Dam, thence east to the Oonagalabi prospect.
The northern arm of the EL is most easily accessed from the Stones Bore to Stones Mine via the “mica road”, which bifurcates northeast to the Harts Range Police Station and southeast to the Mount Palmer mica mines.

4 GEOLOGY OF EL6940

The geological-lithological distribution of rocks within the EL are shown in Appendix B, a part of the Arltunga-Harts Range 1:100,000 special geological map, [1984]. The older rock sequence in the EL area comprises the Division One Bungitina Metamorphics [Strangways Metamorphic Complex] of the Oonagalabi Dome [and a small sliver of the White Lady Block to the northwest]. The remainder of the EL comprises outcrops of the Division Two Irindina Gneiss, and its Riddock Amphibolite and Naringa Calcareous Members [Harts Range Group]. The nomenclature, and lithological and structural subdivisions, follow those of Shaw, R.D., Stewart, A.J., and Rickard, M.J., 1984 Arltunga-Harts Range Region - 1:100,000 Geological Map Commentary, Bureau of Mineral Resources, Geology and Geophysics.

No purely geological mapping was carried out in any part of the EL in this reporting period, nor do the various geological sections of previous EL reports contain any new purely geological data. These previous geological syntheses and summaries are, in any case, taken directly from the abovementioned reference, and so are not repeated here.

5 EXPLORATION PROGRAM

Exploration was focussed solely on evaluating the nature of the alluvial garnet resource in the headwaters and upper feeders of Florence Creek, since the parageneses and physical properties of the garnet in this area had previously been found suitable for
commercial exploitation.

There being no existing tracks, access to most of the creek sections examined is quite difficult for front end loaders without serious bush bashing. Consequently, at each site, 3 to 5 holes were dug by hand across the creek section, the sands composited, and a representative subsample of some 2.5 kg taken for processing in Brisbane. In digging the various sampling holes along the creek edges, it became apparent that most of the edges were either too contaminated with debris and/or large boulders, or too shallow for commercially viable exploitation; as a result, the creek widths listed in the sampling table (Appendix D) record “useful” creek widths, rather than absolute widths. Somewhat similarly, the average depths recorded represent on-site assessments of useable garnet-bearing sand depths, the sampling hole locations effectively weighting the shallower edges of the creeks; all holes dug were dry.

The sample processing was carried out at the Julius Kruttschnitt Mineral Research Centre, University of Queensland. Each sample was dried and sieved - the >1,200 μm fraction contained negligible garnet (and that in rather “dirty” composite grains), and was consequently ignored, and the < 180 μm fraction, while containing significant garnet, also carries significant monazite, which is impractical to separate commercially in a dry process, and is thus of no commercial value. The garnet in the remaining two fractions (1,220 to 600, and 600 to 180 μm) were separated magnetically; the purity of the separates was determined to be of the order of 90-92% by selective grain counting under a stereo microscope - the grade figures in Appendix D have been corrected to account for the contamination of garnet, chiefly by amphibole, biotite and pyroxene.

Note that at a number of places throughout this creek system, small local patches of higher garnet grades do occur; these however are frequently in the lee of large boulders, or resistant bars, or between boulders or bars, and would generally require disproportionate time to extract for processing due to restricted access. Consequently, these areas were not sampled, since despite their grade, they would not yield higher returns, and the inclusion of their grades would have skewed the figures used to determine the viability of the resource.
Both the relatively low volumes of garnet resource per kilometre of creek, and the disappointingly low garnet grades, coupled with restricted access, indicate that this resource is commercially not viable for alluvial garnet, as foreshadowed in the previous report. The zircon, for which a market is readily available, is all contained within the <180 µm fraction, and it is not commercially viable to separate this due to potential monazite contamination. The high-magnetic fraction contains too many composite grains, and is in any case of too low a grade to be a significant resource of magnetite for coal washing. Consequently, the other accessory minerals for which a current market exists cannot enrich the resource sufficiently for any foreseen viability. As a result, the western portions of this EL were relinquished.

6 PROPOSED WORK FOR 1995-1996

The work proposed comprises a repeat of the work carried out in this reporting period, but in the upper reaches of Maud Creek, in the six remaining blocks. If grades and resource volume are sufficiently high, both detailed mineralogical work and a time/motion/processing study will be carried out to determine the viability of the resource. If grades and/or tonnages prove too low, then the remaining blocks will be relinquished, unless other mineralisation is found in the interim, warranting further exploration.

7 EXPENDITURE 13-8-94 TO 12-8-95

- Consultants \$2,500
- Travel and accommodation \$2,417
- Laboratory fees \$300
- Vehicle hire \$1,452
- Equipment hire \$175
- Freight \$179
- Field supplies \$293
Salaries & wages       $1,450
Administration       $1,400

Total               $10,166

8 PROPOSED EXPENDITURE 13-8-95 TO 12-8-96

Consultants          $2,500
Travel and accommodation $1,200
Vehicle costs         $900
Equipment hire        $100
Freight               $50
Field supplies         $100
Salaries & wages      $1,200
Administration        $1,000

Total               $7,050

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EL 6940

6 RETAINED BLOCKS COMPRISING 19.3 km²

OCTOBER 1995

Appendix A
1:1 COLOUR LASERCOPY

OF PART OF

ARLTUNGA-HARTS RANGE

1:100,000 GEOLOGICAL SPECIAL

(1984)

SHOWING EL 6940 FOR THE PERIOD

13/8/1994 TO 12/8/1995

APPENDIX B

(over)
<table>
<thead>
<tr>
<th>SAMPLE SITE</th>
<th>LATITUDE deg min sec S</th>
<th>LONGITUDE deg min sec E</th>
<th>USEFUL CK. WIDTH m.</th>
<th>AVERAGE DEPTH m.</th>
<th>GARNET GRADE 1200 - 600 µm</th>
<th>GARNET GRADE 600 - 180 µm</th>
<th>GARNET GRADE 1200 - 180 µm</th>
<th>Σ GARNET GRADE</th>
<th>HIGH MAGNETICS</th>
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<tr>
<td>1</td>
<td>23 07 32</td>
<td>134 50 55</td>
<td>2.9</td>
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<td>2.56</td>
<td>2.84</td>
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<tr>
<td>2</td>
<td>23 07 42</td>
<td>134 51 02</td>
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<td>0.6</td>
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<td>4</td>
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<td>5</td>
<td>23 07 50</td>
<td>134 50 26</td>
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<td>3.21</td>
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<tr>
<td>6</td>
<td>23 08 01</td>
<td>134 50 23</td>
<td>4.8</td>
<td>0.6</td>
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<td>2.86</td>
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<td>1.97</td>
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Garnet grades in weight % have been multiplied by 0.90 to allow for impurities in the separates
High magnetics include discrete magnetite grains and composite grains containing magnetite