STOCKDALE PROSPECTING LIMITED

PARTIAL RELINQUISHMENT REPORT

EXPLORATION LICENCE 6810

BULLO RIVER AREA

A.K. BERRYMAN

NOVEMBER, 1991

OPEN FILE
Project Name: BULLO RIVER

Title: Partial Relinquishment Report,
      Exploration Licence 6810
      Bullo River Area

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Keywords: Bullo River, Moonlight Valley Tillite, Stream Sediment Sampling,
          Loam Sampling, Diamond, Chromite, Garnet, Bulk Cyanide Leach.

Abstract: A four phase programme of exploration, from basic reconnaissance
          stream sediment sampling to TM and Airphoto work and close interval
          follow-up, produced diamonds, chromites, gold and a single garnet
          grain.

          The chromites and gold originate from the Moonlight Valley Tillite,
          and the diamonds appear to have been released by a secondary source.
          The garnet was unsuccessfully followed up and remains largely
          unexplained.

          The density of sampling, and the results achieved show that the
          relinquished area has little potential to host a diamondiferous intrusion.

Ref: EL 6810.PAR

Copy to: NTDME, Darwin, IC,

Circulate: RVD, JJ/TRF
SUMMARY

Exploration Licence: 6810

Dated Granted: 17th September, 1990

Area:
   Relinquished: 365 blocks (1175 sq km)
   Retained: 135 blocks (435 sq km)

Occupant: Stockdale Prospecting Limited

Operator: Stockdale Prospecting Limited

Commodities sought: Diamonds

Exploration: A four phase programme of exploration, from basic reconnaissance stream sediment sampling to TM and Airphoto work and close interval follow-up, produced diamonds, chromites, gold and a single garnet grain.

The chromites and gold originate from the Moonlight Valley Tillite, and the diamonds appear to have been released by a secondary source. The garnet was unsuccessfully followed up and remains largely unexplained.

The density of sampling, and the results achieved show that the relinquished area has little potential to host a diamondiferous intrusion.
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1. INTRODUCTION

Exploration Licence 6810 is located on the Auvergne (SD 52-15) 1:250,000 mapsheet, and is situated just to the east of the NT/WA border, and to the north of the Victoria River Highway.

The licence was granted on the 17th of September, 1990 for a period of six years, and covered an area of 500 blocks (1610 sq km). EL 6810 was an amalgamation of 6 separate smaller exploration licences, these being: 6666, 6667, 6696, 6697, 6809, 6810.

A voluntary 73% reduction of EL 6810, from 500 blocks to 135 blocks was made on the 10th of September 1991 (Appendix 1). This reduction decision was made on the basis of a four phase exploration programme described in this report.

2. ACCESS

The Victoria Highway lies just to the south of EL 6810. Road access is available into the Licence via a track linking the highway with Bullo River Homestead. Other subordinate tracks, running roughly north/south exist to the west of the Bullo River track.

As road access is limited, exploration over EL 6810 was carried out with the use of a Bell Jet Ranger 3 helicopter.

3. PHYSIOGRAPHY, VEGETATION AND CLIMATE

The tenement area lies entirely within the Victoria River Plateau physiographic subdivision. This unit has in turn been further subdivided into 5 subdivisions (Paterson, 1970).

Exploration Licence 6810 falls completely within the "Tablelands" subdivision of the Victoria River Plateau. These tablelands consist of rugged dissected plateau, mesas and cuestas up to 150m high. Most of the area is underlain by sandstones which are well drained by deeply incised streams. As a result, stream sample quality during the four phases was generally rated as good to very good.

Vegetation consists of sparse, open woodland, which becomes considerably thicker near major drainages. Vegetation on the sandstone plateaus and over the Moonlight Valley Tillite is sparse, consisting of spinifex grass and the occasional stunted shrub.

Climate is typically monsoonal, with a short hot wet season between November and April, and a warm dry season for the remainder of the year. Rainfall ranges between 750 and 900mm, and falls mainly during the wet season.
4. **LIAISON**

4.1 **Land Holders**

Station managers were consulted prior to the commencement of each of the four phases of exploration. On each occasion where it was necessary, exploration programmes were altered to comply with the wishes of the station managers.

As a small part of EL 6810 falls within the Keep River National Park, the Ranger at the Park was consulted and kept informed of all movements.

4.2 **Aboriginal**

In 1989, a formal site clearance exercise was arranged through the Northern Land Council on behalf of Stockdale Prospecting and the Miriwoong people. A total of 6 exclusion zones were identified and these areas were excised from sampling programmes.

In addition, maps were updated with AAPA registered and recorded sites prior to each phase of sampling.

5. **GEOLOGY**

5.1 **Geological History/Stratigraphy**

The tenement area is made up of rocks from the Victoria Basin. This basin consists of thick sedimentary sequences, layed down on the relatively stable Sturt Block.

A short local geological summary is as follows:

**ARCHAEOAN/LOWER PROTEROZOIC**

Basement in the region probably consists of the low to moderate grade metamorphics of the Halls Creek Group.

**CARPENTARIAN/ARCHAEOAN**

The oldest sediments in the area make up the Fitzmaurice Group. These sediments crop out to the north of the tenement area, and to the north of the Victoria River Fault. They were formed in a relatively shallow water depositional environment. These sediments form what is known as the Fitzmaurice Mobile Zone.

**ADELAIDEAN**

Further shallow conditions laid down both the Bullita Group and the Auvergne Group. The Bullita group represents a period of calcareous precipitation. The Auvergne Group underlies all of the tenement area. It consists of massive quartz sandstones, dolomites and some siltstone. The Auvergne Group unconformably overlies the Bullita Group.

The sea later receded, leading to the deposition of the fluvial Bullo River Sandstone. This sandstone is a massive reddish brown quartz unit, and unconformably overlies the Auvergne Group, and is in turn unconformably overlain by the Duerdin Group.

Following a period of folding and faulting (probably centred at the Victoria River Fault), cooler temperatures led to the deposition of both the Moonlight Valley Tillite and the Fargoo Tillite.
The Moonlight Valley Tillite overlies a large percentage of the Auvergne Group and the Bullo River Sandstone in the tenement area. Other sediments of the Duerdin Group, deposited after the tillites, are possibly lacustrine in origin.

**LOWER CAMBRIAN**

The Antrim Plateau Volcanics is a vesicular basalt with limited extent in the tenement area. When initially extruded, it was thought to have covered much of the Victoria River region.

**PALEozoIC**

Later marine and non marine sedimentation occurred regionally, along with upwarping, erosion and laterization, but this had little bearing on the tenement area.

### 5.2 Tectonic History/Structure

The Victoria River Basin (VRB) consists of a maximum thickness of 3.5km of relatively stable carbonate and ferruginous sequences, covering an area of some 160,000 sq km on the Sturt Block. Folds are generally broad, and faulting is rare. It is believed the VRB has been relatively undeformed since Carpientarian time. Deformation has been less severe with time.

The VRB is bounded to the north west by the Fitzmaurice Mobile Zone, to the south west by the Ord Basin, to the south by the Carpientarian Birrindudu Basin, to the south east by the Paleozoic Wiso Basin, to the north east by the Cambrian/Ordovician Daly River Basin, and to the north by the Fine Creek Geosyncline and Litchfield Block.

The tenement area is dominated by the Spencer Range Fault. This fault runs parallel with the nearby Victoria River Fault, which marks the boundary between the Victoria River Basin, and the Fitzmaurice Mobile Zone. These faults strike roughly northeast, and have many associated minor faults, often running either parallel or perpendicular to the large faults.

6. **EXPLORATION**

### 6.1 General

Exploration within the relinquished portion of this Exploration Licence involved a four phase work programme, from basic reconnaissance to intense follow-up sampling. Each phase of sampling was a separate exercise, the basis of which was controlled by results from previous work.

### 6.2 First Phase Sampling

First phase sampling involved the collection of stream sediment samples in small streams, and larger barrage samples in main drainages. Samples consisted of as much material as could be excavated and screened in a period of approximately 1 1/2 hours. Samples were screened to either -1.0 + 0.4mm or -4.75mm.

A total of 105 samples was collected at the reconnaissance stage, giving an approximate sample density of 1 sample every 11 sq km. Sample numbers used in the relinquished areas were:
V 7780 - 87 (8)
V 7789 - 7820 (32)
V 7825 (1)
V 7827 (1)
V 7829 - 31 (3)
V 7850 - 51 (2)
V 7854 - 59 (6)
V 7865 - 67 (3)
V 7883 (1)
V 7910 (1)
V 6802 (1)
V 6805 - 11 (7)
V 7917 (1)
V 7930 (1)
V 7934 - 39 (6)
V 7941 - 49 (9)
V 7951 - 53 (3)
V 7956 - 57 (2)
V 7959 - 63 (5)
V 7973 - 75 (3)
V 7978 - 81 (4)
V 7983 - 84 (2)
V 7986 (1)
V 7988 (1)
V 7992 (1)

TOTAL: 105

The results of this sampling are listed in Table 1.

**TABLE 1: FIRST PHASE SAMPLE RESULTS**

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>1:100,000 MAPSHEET</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>V 7806</td>
<td>4866</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7807</td>
<td>4866</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7808</td>
<td>4866</td>
<td>2 Chromites</td>
</tr>
<tr>
<td>V 7815</td>
<td>4866</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7882</td>
<td>4766</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7903</td>
<td>4766</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7912</td>
<td>4766</td>
<td>1 Diamond, 0.002 cts</td>
</tr>
<tr>
<td>V 7943</td>
<td>4866</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>V 7957</td>
<td>4866</td>
<td>1 Chromite</td>
</tr>
</tbody>
</table>

(4866 = Pinkerton 1:100,000, 4766 = Keep 1:100,000)

The diamond recovered from V 7912 is described as an irregular fragment of an octahedron, stained with intense green and brown spots.

Only 2 of the chromites (V 7806 and V 7882) are larger than 0.5mm in size. They are
considered possibly kimberlitic, and are predominantly anhedral.

6.3 Second Phase Sampling

While the reconnaissance sampling results were promising, the scattered singleton chromite results did not highlight specific follow-up areas. It was found that the 1:11 sq km sample density was not sufficient to give a full picture of the area. Part of the second phase sampling therefore was to increase the density of sample cover to a more useful 1:5 sq km.

A detailed TM and airphoto study was carried out over the relinquished area, with particular emphasis being placed on positive drainages. A total of 6 TM anomalies was chosen for further investigation.

A total of 21 samples were collected. Four of these samples were direct follow-up to TM and/or airphoto anomalies. Samples consisted of between 50 and 100 litres of material, screened in the field to -1.0 + 0.3mm. Sample numbers were:

BC 7030 - 31 (2)
BC 7066 - 68 (3)
BC 7072 - 75 (4)
BC 7078 - 81 (4)
BC 7096 (1)
BC 7107 - 13 (7)

TOTAL: 21

(* Note TM/airphoto samples - BC 7109 - 12)

Only 1 sample proved to be positive. BC 7068 was found to contain 2 kimberlitic garnets.

It was later found that some of these samples, including BC 7068, were treated at Stockdale's Darwin Treatment Plant, immediately after garnet rich drill samples. Visually, these two grains looked similar to those drill sample grains, and the result was thought to have been a possible result of contamination.

6.4 Third Phase Sampling

Sampling during the third phase of work had 2 aims, these being:

a) Continue to increase the density of sample cover to approximately 1 sample very 5 sq km.

b) Infill positive first and second phase drainages to a density of 1 sample every 1 sq km.

All samples collected during this phase of sampling involved the collection of 100 litres of gravel, screened to -1.0 + 0.3mm in the field.

Follow-up sampling around BC 7068 proved negative with respect to garnet. It was concluded that the original result was as a result of treatment contamination.

The follow-up chromite sampling was divided into 5 different areas. Samples were collected every 800m to 1km of drainage. Sample details are listed in Table 2.
Table 2: Third Phase Chromite Follow-up Details and Results

<table>
<thead>
<tr>
<th>AREA</th>
<th>TARGET SAMPLE</th>
<th>INITIAL RESULT</th>
<th>SAMPLES COLLECTED</th>
<th>SAMPLE DENSITY</th>
<th>SAMPLES USED</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V 7903</td>
<td>1 Chr</td>
<td>6</td>
<td>1:1.4 sq km</td>
<td>BD2231-32 BD2234-37</td>
<td>Negative</td>
</tr>
<tr>
<td>2</td>
<td>V 7906</td>
<td>1 Chr }</td>
<td>21</td>
<td>1:0.9 sq km</td>
<td>BD2238 BD2241 BD2270-73 BD2275-89 BD2322</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V 7907</td>
<td>1 Chr }</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>V 7908</td>
<td>2 Chr }</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>V 7957</td>
<td>1 Chr }</td>
<td>11</td>
<td>1:1 sq km</td>
<td>BD2353-71</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>V 7815</td>
<td>1 Chr</td>
<td>13</td>
<td>1:1.3 sq km</td>
<td>BD2376-86 BD2491-92 BD2388-89</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>V 7943</td>
<td>1 Chr</td>
<td>13</td>
<td>1:0.7 sq km</td>
<td>BD2401-02 BD2407-08 BD2404 BD2413-21 BD2439</td>
<td></td>
</tr>
</tbody>
</table>

Close interval follow-up to diamond sample V 7912 proved negative. In addition to the close interval follow-up work, a total of 160 infill samples were collected over the relinquished area to lower sample density coverage to approximately 1.5 sq km.

Table 3: Third Phase Infill Sample Results

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD 2221</td>
<td>8 Chromites</td>
</tr>
<tr>
<td>BD 2223</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>BD 2229</td>
<td>5 Chromites</td>
</tr>
<tr>
<td>BD 2326</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>BD 2318</td>
<td>2 Chromites</td>
</tr>
<tr>
<td>BD 2342</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>BD 2398</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>BD 2438</td>
<td>3 Chromites</td>
</tr>
<tr>
<td>BD 2451</td>
<td>1 Diamond, 0.0073 cts</td>
</tr>
<tr>
<td>BD 2465</td>
<td>1 Chromite</td>
</tr>
</tbody>
</table>

The diamond from sample BD 2451 is described as a colourless green spotted transparent octahedron.

The garnet recovered in area 4 of the chromite follow-up (BD 2377) was described as a moderate interest eclogitic grain.

The chromite results are predominantly situated either on or very near the Moonlight Valley.
Tillite unit. In fact, only in one or two cases can it be seen that any chromites are found isolated from this unit (ie BD 2438 and BD 2318).

In addition to the kimberlitic indicators mentioned previously, a number of particulate gold grains were also recovered from third phase follow-up. These grains are also found either on, or in stream draining, the Moonlight Valley Tillite. Geochemical samples, collected as standard practice at each stream sample location, failed to confirm the presence of anomalous gold in the streams.

Samples containing particulate gold are as follows:

- **BD 2232**: 1 Grain (0.009gm)
- **BD 2314**: 1 Grain (0.007gm)
- **BD 2432**: 1 Grain (0.009gm)
- **BD 2492**: 1 Grain (0.003gm)

### 6.5 Final Phase Sampling

From information gathered in the third phase of sampling, the following aims for further work were established:

a) Follow-up individual and unexplained chromite grains away from the Moonlight Valley Tillite.

b) Confirm or refute the premise that the tillite in the source of the chromites.

c) Close interval sampling of diamonds and the single garnet grain.

d) Follow-up particulate gold results with Bulk Cyanide Leach (BCL) sample.

Close interval follow-up sampling involved the collection of 100 litres of gravel, screened to either -2.0mm or -12.0mm, every 200 metres. This sampling continued upstream to either the top of the drainage, or to a negative upstream cutoff sample.

Three sample traverses were made on known positive drainages, from lower Proterozoic sediments up into the Moonlight Valley Tillite at the headwaters of the drainage. Samples chosen for follow-up traversing were: BD 2238, BD 2272 and BD 2276. A total of 22 samples were collected, these being: BD 2512-15, BD 5301-13, BD 5371, BD 5379-82.

A total of 48 samples were collected following up individual chromite results away from areas of mapped tillite. Sample details are as follows:

<table>
<thead>
<tr>
<th>Trigger Sample</th>
<th>Samples collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD 2388</td>
<td>BD 5346 - 47, BD 5355 - 58, BD 2561</td>
</tr>
<tr>
<td>BD 2438</td>
<td>BD 4661 - 65, BD 5040 - 52, BD 4673 - 75</td>
</tr>
<tr>
<td>BD 2318</td>
<td>BD 5053 - 59, BD 4666 - 72, BD 4676 - 77, BD 4683 - 86</td>
</tr>
</tbody>
</table>

Garnet and diamond trigger sample follow-up details are found in Table 4.
### TABLE 4: GARNET AND DIAMOND FOLLOW-UP DETAILS

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>ORIGINAL RESULT</th>
<th>FOLLOW-UP NUMBERS</th>
<th>FOLLOW-UP SAMPLES COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD 2377</td>
<td>1 Garnet</td>
<td>27</td>
<td>BD 2556 - 60, BD 2562 - 65, BD 5341 - 45, BD 5348 - 54, BD 5359 - 60, BD 5362 - 65</td>
</tr>
<tr>
<td>BD 2367</td>
<td>1 Diamond</td>
<td>12</td>
<td>BD 2566 - 70, BD 5372 - 78</td>
</tr>
<tr>
<td>BD 2451</td>
<td>1 Diamond</td>
<td>6</td>
<td>BD 5361, BD 5366 - 70</td>
</tr>
</tbody>
</table>

BD 2232 was chosen as the best gold sample to follow-up. A total of 37 samples was collected. Each sample consisted of 5kg of -2.00mm material, collected every 200m up and downstream. 100 grams of -80# material was removed from BCL samples as a comparison exercise. Sample numbers used were: BD 5019 - 39, BD 5398 - 5400, BD 4648 - 60.

Results of heavy mineral sampling are found in Table 5.

### TABLE 5: FINAL PHASE SAMPLE RESULTS

<table>
<thead>
<tr>
<th>FOLLOW-UP TARGET</th>
<th>ORIGINAL RESULT</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD 2377</td>
<td>1 Garnet</td>
<td>BD 5362 = 1 Chromite, BD 5363 = 1 Chromite</td>
</tr>
<tr>
<td>BD 2367</td>
<td>1 Diamond</td>
<td>BD 5377 = 1 Chromite</td>
</tr>
<tr>
<td>BD 2451</td>
<td>1 Diamond</td>
<td>Negative</td>
</tr>
<tr>
<td>BD 2388</td>
<td>1 Chromite</td>
<td>Negative</td>
</tr>
<tr>
<td>BD 2438</td>
<td>3 Chromites</td>
<td>BD 4667 = 1 Chromite, BD 4668 = 1 Chromite, BD 4676 = 3 Chromites</td>
</tr>
<tr>
<td>BD 2318</td>
<td>2 Chromites</td>
<td>BD 4667 = 1 Chromite, BD 4685 = 1 Chromite</td>
</tr>
<tr>
<td>BD 2272 Traverse</td>
<td>1 Chromite</td>
<td>BD 5301 = 1 Chromite, BD 5304 = 4 Chromites</td>
</tr>
<tr>
<td>BD 2238 Traverse</td>
<td>1 Chromite</td>
<td>BD 5306 = 2 Chromites, BD 5309 = 8 Chromites, BD 5310 = 1 Chromite</td>
</tr>
<tr>
<td>BD 2276 Traverse</td>
<td>8 Chromites</td>
<td>BD 5371 = 22 Chromites, BD 5380 = 1 Chromite, BD 5381 = 1 Chromite, BD 5382 = 2 Chromites</td>
</tr>
</tbody>
</table>
Table 6 lists results of the BD 2232 BCL gold follow-up.

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>Au - 80#</th>
<th>Au BLEG</th>
<th>SAMPLE NO.</th>
<th>Au - 80#</th>
<th>Au BLEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD 4648</td>
<td>1</td>
<td>0.2</td>
<td>BD 5022</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4649</td>
<td>1</td>
<td>0.2</td>
<td>BD 5023</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4650</td>
<td>1</td>
<td>0.2</td>
<td>BD 5024</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4651</td>
<td>1</td>
<td>0.5</td>
<td>BD 5025</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4652</td>
<td>1</td>
<td>2.4</td>
<td>BD 5026</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4653</td>
<td>1</td>
<td>0.2</td>
<td>BD 5027</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4654</td>
<td>1</td>
<td>0.2</td>
<td>BD 5028</td>
<td>20</td>
<td>0.5</td>
</tr>
<tr>
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<td>0.2</td>
<td>BD 5029</td>
<td>9</td>
<td>0.2</td>
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<tr>
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<td>BD 5030</td>
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<td>0.3</td>
</tr>
<tr>
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<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4658</td>
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<td>0.2</td>
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<td>0.6</td>
</tr>
<tr>
<td>BD 4659</td>
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<td>0.2</td>
<td>BD 5033</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 4660</td>
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<td>0.2</td>
<td>BD 5034</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 5398</td>
<td>1</td>
<td>0.2</td>
<td>BD 5035</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>BD 5399</td>
<td>1</td>
<td>0.2</td>
<td>BD 5036</td>
<td>1</td>
<td>0.2</td>
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</table>

6.6 Discussion

Heavy mineral follow-up of individual chromites, the two diamonds and the garnet were largely unsuccessful. Although the occasional chromite was recovered, close interval sampling failed to delineate a primary source.

Traverse sampling within the Moonlight Valley Tillite recovered chromites along the length of the minor drainages, well within the tillite itself. There appears little doubt that most, if not all the chromites found within the relinquished area originate from this unit.

The gold results show little correlation with each other, and the fact that the drainages in question sit within the tillite suggests that this too is the source of the particulate gold from third phase sampling.

7. CONCLUSIONS

The four phases of exploration within the relinquished area have shown that the region contains chromite, garnet, diamond and particulate gold.

Sampling suggests that most, if not all the chromites are being released by the Moonlight Valley Tillite, as would appear to be the case for the particulate gold.

Follow-up sampling of the diamonds proved inconclusive. Surface features indicate that the diamonds most probably have spent some time in a secondary sedimentary host. The garnet recovered was of high interest, but as it was not repeated in follow-up sampling, its presence remains unexplained.
It appears very unlikely that a primary diamondiferous source exists in the relinquished area.

8. **PERSONNEL**

Field staff involved in the four phases of work is as follows:

<table>
<thead>
<tr>
<th></th>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>PHASE 3</th>
<th>PHASE 4</th>
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<tbody>
<tr>
<td>Geologists</td>
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<td>Prospecting Hands</td>
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<tr>
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<td>Helicopter Engineer</td>
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<td>1</td>
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<td>9</td>
<td>6</td>
<td>7</td>
<td>2 = 31</td>
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10. **EXPENDITURE**

Expenditure on the relinquished tenement area totals $421,484, as allocated in Table 7.

**TABLE 7: EXPENDITURE, RELINQUISHMENT AREA**

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<thead>
<tr>
<th></th>
<th>1ST PHASE</th>
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<td>202000</td>
<td>140672</td>
<td>421484</td>
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</table>
10. **SUMMARY**

A four-phase programme of exploration, from basic reconnaissance stream sediment sampling to TM and Airphoto work and close interval follow-up, produced diamonds, chromites, gold and a single garnet grain.

The chromites and gold originate from the Moonlight Valley Tillite, and the diamonds appear to have been released by a secondary source. The garnet was unsuccessfully followed up and remains largely unexplained.

The density of sampling, and the results achieved show that the relinquished area has little potential to host a diamondiferous intrusion.

A.K. BERRYMAN
PROJECT GEOLOGIST
DARWIN, N.T.
APPENDIX 1

APPLICATION FOR PARTIAL SURRENDER OF EXPLORATION LICENCE 6810
10 September 1991

The Secretary
Dept. of Mines and Energy
P O Box 2901
DARWIN  N.T.  0801

Dear Sir

Re: Exploration Licence No. 6810

Please find enclosed a Partial Surrender of the above Exploration Licence. Also enclosed is our cheque for $1350.00, being rental on the retained area for the year ending 16 September 1992.

Yours faithfully

STOCKDALE PROSPECTING LIMITED

I. J. GORDON
Titles Officer

encl.

JB:IJG1398
MINING ACT (1982)

PARTIAL SURRENDER

STOCKDALE PROSPECTING LIMITED
60 WILSON STREET
SOUTH YARRA VICTORIA 3141
A.C.N. 004 912 172

Being the holder of Exploration Licence No. 6810 in the Bullo River area NT, do hereby surrender that portion of the licence shown on the reverse hereof and bordered blue.

The COMMON SEAL of STOCKDALE PROSPECTING LIMITED was hereunto affixed by authority of the Directors in the presence of;

[Signatures]
Director
Secretary
EL6810
500 BLOCKS
1610 sq kms

AREA RETAINED
AREA SURRENDERED