ANNUAL REPORT ON EL'S 1473 AND 2150

HOLDERS: B. HALL AND C. CLEARY

REPORT BY: M. SAKURAI, CONSULTING GEOLOGIST

NORTHERN TERRITORY GEOLOGICAL SURVEY

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| DISTRIBUTION | 1 | N.T. DEPARTMENT OF MINES AND ENERGY |
|             | 2 | MR. B. HALL AND MR. C. CLEARY       |
|             | 3 | MR. R. B. STEPHENSON                |

**MAPS**

<table>
<thead>
<tr>
<th>TITLE</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL'S 1473 AND 2150, LOCATION MAP</td>
<td>1: 250,000</td>
</tr>
<tr>
<td>EL'S 1473 AND 2150, TOPOGRAPHY AND ALLUVIAL GOLD BEARING AREAS</td>
<td>1: 25,000</td>
</tr>
</tbody>
</table>
1 **INTRODUCTION**

EL's 1473 and 2150 are jointly held by Mr. B. Hall and Mr. C. Ceary. The annual terms on this report are:

EL 1473    third year
EL 2150    first year.

In pursuance of the request of the EL holders and a prospective financier of a future mining project, the writer visited the area on 12th and 13th August and 1st September 1980.

Mr. R.B. Stephenson is a prospective financier of a future mining proposition and has agreed to bear expenditure on this study.

2 **LOCATION AND ACCESS**

The area is situated approximately 90 km due southeast of Darwin. Access to the area is by the Arnhem Highway to a gate of Mount Bundey Station, by an unpaved road connecting between Mount Bundey and Adelaide River and then by a track to the area. The area is shown in the enclosed location map.

3 **GEOLOGY AND MINERALIZATION**

Outcrops are scarce in the area. White, buff and brown weathered ferruginous siltstone and greywacke of the Kapalga Formation (and probably the overlying Burrell Creek Formation) occupy the area. Near the camp, situated at the centre of the EL's area, the siltstone strikes 145 to 150 degrees and dips 40 degrees to the southwest.

Gold mineralization occurs in quartz leaders, a quartz reef and alluvial deposits. The quartz leaders, up to 0.3 metres wide, occur in an irregular manner both in length and in width and generally concordantly with the bedding of the siltstone. A quartz vein, up to 1 metre wide and about 200 metres long, striking 130 degrees, is plotted on the attached map. Eluvial and alluvial deposits are located by the EL holders near the above quartz bodies.
4 **EXPLORATION CARRIED OUT BY THE EL HOLDERS**

The EL holders carried out prospecting by the loaming method (or in the vernacular "looming"). This consists of taking soil samples at intervals, panning each sample, and recording the number of flakes (colors) of gold recorded at each point. A microscope was often used to identify gold flakes. Samples were mainly taken from hand-auger holes and, in some places, a backhoe was used to make trenches. Then, points of any favourable results were flagged. The areas flagged and having gold values detected by such a method are plotted by the writer on the attached map.

5 **GOLD VALUES**

a) **QUARTZ LEADERS**

Some of the quartz leaders are quite rich; the highest assay was 3 ozs gold per ton. The assay results were previously reported.

b) **QUARTZ REEF**

The EL holders tested a quartz reef by panning and detected some gold in the reef. They think gold values are patchy and lack uniformity in the reef.

c) **ALLUVIAL DEPOSITS**

The EL holders and the prospective financier have a desire to commence an alluvial mining on an earlier date. Therefore, the writer tried to appraise alluvial deposits.

The writer and Mr. B. Hall took 5 bulk samples of about 20 to 30 kg each from positions shown on the attached map. Three of them (sample 1, 3 and 5) were tested by the following method.

1) The bulk samples were weighed with a balance of the Material Laboratory, Department of Transport and Works.

2) The samples were carefully panned. The panning was repeated three times.
3) Out of panned concentrates, gold flakes were collected with a point under the microscope of the Geological Survey, Department of Mines and Energy.

4) Accumulated gold flakes were weighed with a balance of the Geological Survey. The finest limit being able to weigh with this balance is 0.001 gr.

The following results were obtained.

<table>
<thead>
<tr>
<th>Gravel quantity</th>
<th>Sample 1</th>
<th>Sample 3</th>
<th>Sample 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold recovered</td>
<td>23.6 kg</td>
<td>19.0 kg</td>
<td>22.3 kg</td>
</tr>
<tr>
<td>Gold values</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gr per ton</td>
<td>0.13</td>
<td>0.16</td>
<td>0.22</td>
</tr>
<tr>
<td>gr per cu. m *</td>
<td>0.22</td>
<td>0.27</td>
<td>0.37</td>
</tr>
</tbody>
</table>

* A specific gravity of the gravel is assumed as 1.7.

d) COMMENT
Gold values on alluvial deposits were leaner than previously expected. A figure of some 2 to 3 gr per cu. metre was anticipated.

A test of a similar manner should be repeated but a larger amount of gravel be collected on each sample (about 100 kg each).

5 QUANTITY OF ALLUVIAL DEPOSITS
The EL holders think eluvial deposits on hill slopes have a depth of about 0.3 metres. Based on information of the EL holders, a quantity of gold-bearing gravel is assumed as follows but this calculation is only provisional.

<table>
<thead>
<tr>
<th>Area</th>
<th>2 km x 2 km x 1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>0.3 metres</td>
</tr>
<tr>
<td>Quantity</td>
<td>(Area x Depth)</td>
</tr>
</tbody>
</table>

This gives roughly 2 year life for a 1,000 cu. metres per day treatment plant.
6 ALLUVIAL MINING OPERATION

A picture of an alluvial mining operation predicted very roughly at this stage is as follows. Subject to more accurate data obtained by exploration, those figures are greatly amended.

- Value of the ground: 0.29 gr per cu. metre
- Gold price assumed: $500.00 per troy oz.
- Value of the gravel (ore) per cu. metre: $4.66
- Ore reserve: 600,000 cu. metres
- Plant capacity: 1,000 cu. metres per day
- Gold recovery per day: 290 gr (9.32 troy ozs)
- Gross receipts:
  - per day: $4,660
  - per week (5 days): $23,300
  - per month (20 days): $193,200
  - per year: $1,118,400
  - 2 years: $2,236,800

7 RECOMMENDATION

Exploration programme should be speeded up. A systematic drilling and sampling programme with a mechanical auger is proposed.
ELS 1473 AND 2150
LOCATION MAP

EL 2150
EL 1473