ACACIA RESOURCES LTD

MINERAL LEASES N51 - N57
CAROLINE LEASES

ANNUAL REPORT FOR THE YEAR ENDING
4 NOVEMBER 1999.

Author: Damien Stephens
Date: December 1999
Report No: 08.10598
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1:250 000 Pine Creek SD52-8
1:100 000 Pine Creek 5270

Distribution:
1 NT Department of Mines & Energy
2 Acacia Resources (Darwin)
3 Acacia Resources (Melbourne)
4 Acacia Resources (URGM)
5 Acacia Resources (Field)
SUMMARY

Mineral Leases N51 - N57 known as the Caroline Leases in the Pine Creek area, NT, are currently being explored by Acacia Resources Limited. Acacia previously explored these leases under a joint venture agreement signed in December 1993 with the titleholders Solomon Pacific Resources NL and Astron Resources NL. In 1995 Acacia purchased Astron Resources share and acquired the right to earn an 82% interest in the Mineral Leases. In June 1996 Acacia completed the successful acquisition of Solomon Pacific Resources NL and assumed all Solomon Pacific’s interests including their stake in Mineral Leases N51 - N57. Acacia now holds 100% of the Caroline leases. The leases are located approximately 4 km south east of Acacia’s Union Reefs Gold Mine and treatment facilities.

No field exploration was carried out on the Caroline leases during the period ending 4th November 1999, however a project review was completed.
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<th>Scale</th>
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<td>1:200,000</td>
</tr>
<tr>
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<td>Caroline Leases MLN’s 51-57 Regional Geology</td>
<td>1:20,000</td>
</tr>
</tbody>
</table>
1 INTRODUCTION

Acacia Resources is exploring Mineral Leases N51 - N57 (the Caroline leases), in the Pine Creek area, Northern Territory, with the view to providing additional feed for its current operation at the Union Reefs Gold Mine. The centre of the leases is located approximately 4km north of the Pine Creek township and 4km southeast of the Union Reefs Gold Mine and treatment facilities.

This report detail all work carried out in MLN’s 51 - 57 for the year ending 4 November 1999.

2 LOCATION AND ACCESS

The leases are located approximately 4km north of the Pine Creek township and 4km Southeast of Acacia Resources’, Union Reefs Gold Mine. Access to the leases is via the Stuart Highway, turning east onto the Kakadu Highway, then turning north onto the Frances Creek Road. An access track into the leases is located on the west side of the Frances Creek Road, about 4km north of the turn-off.

3 TENEMENT STATUS

The tenements originally formed part of the Esmeralda Joint Venture between Astron, Solomon Pacific and Acacia. The Joint venture was comprised of MLN’s 51-57 (Caroline Leases), ERL 130 and EL 8457.

The Caroline Leases comprise seven (7), 17 hectare leases and were purchased by Solomon Pacific Resources NL and Astron Resources NL from Nicron Resources Limited on the 25 August 1992. Under a joint venture agreement between Solomon Pacific Resources and Astron Resources NL, Solomon Pacific retained 60% of equity and Astron 40%. Under a joint venture agreement signed between these parties and Acacia Resources, Acacia could earn up to 70% of the tenement by funding exploration activities.

In 1995 Acacia Resources purchased Astron Resources interest in the joint venture. The joint venture for MLN’s 51 - 57 remained at Acacia Resources 40% and Solomon Pacific 60%, with Acacia Resources earning up to 82% of Solomon Pacific's interest through exploration expenditure. Acacia Resource’s acquired Solomon Pacific Resources on the 24th June 1996 and assumed all Solomon’s interests in the Caroline Leases. Acacia’s current interest in the mineral leases is 100%.

In December 1996 the renewal of the Caroline leases was sought and subsequently granted by the NTDME on the 9 December 1996 for a period of 25 years.
4 GEOLOGY

MLN's 51-57 are located in the central part of the Pine Creek Geosyncline (Figure 2). The geosyncline contains Early Proterozoic metasedimentary rocks overlying gneissic and granitic Archaean basement. The metasediments represent a preserved basinal sequence up to 14km thick (Needham et al., 1980), which were tightly folded and metamorphosed to greenschist facies (in some places' amphibolite) at about 1890 to 1870 Ma (Ferguson, 1980).

The geosynclinal sequence has been intruded by transitional igneous rocks including pre-deformational dolerite lopoliths and dykes, and post-deformational granites. Weakly deformed Middle and Late Proterozoic, Cambro-Ordovician and Mesozoic platform cover unconformably overlie the Pine Creek Geosyncline metasediments.

The MLN's lie in the central part of a narrow corridor metasediments, comprising Burrell Creek and Mt Bonnie Formations (Stuart-Smith et al., 1987), between two lobes of the Cullen Batholith. This corridor contains both the Union Reefs (Au) and Pine Creek (Au) ore bodies as well as numerous historic gold and base metal workings.

The area of the leases is dominated by rocks of Lower Proterozoic Mt Bonnie Formation, a marginal marine sequence consisting of interbedded shale, siltstone, greywacke, chert and tuffaceous units with thin distinctive banded iron formation/cherts beds. The beds have been intruded by a sub-vertical, medium grained dolerite dyke which is deeply weathered and trends north-westerly at 310°. The dyke has intruded the length of the Pine Creek Shear Zone and appears to post date mineralisation.

Structurally the sediments have been tightly folded with north-west trending axial planes. This tight folding has produced steep to sub vertically dipping bedding throughout the area.

Quartz veining is common along ridges within the lease, where veins <2-3m wide may be found in outcropping argillic sediments. There are extensive areas of quartz and silicified sediment cobbles over areas of shallow transported soils which may define underlying quartz veining or merely more resistant transported gravels.

Within the leases linear zones of anomalous gold and lead/zinc mineralisation have been identified, on both sides of the dolerite dyke.
5 PREVIOUS WORK

The Caroline Leases have no recorded history of early mining although several pits and small shafts are evident. The leases previously known as basin six, were explored by Geomin Exploration Pty Limited 1968, who outlined a number of areas of Pb, Zn & Cu anomalism (Cox 1969). Follow up soil sampling confirmed two Pb-Zn anomalies, which were subsequently costeaned, mapped and sampled in 1969.

An Induced Polarisation survey comprising four lines was conducted by Henrichs Geoexploration P/L in 1969. Two lines were surveyed across each of the anomalies located by Geomin Exploration. All four lines showed anomalous IP responses, some correlating with geochemical anomalies (Cox 1969).

MLN’s 51 -57 were originally granted to United Uranium on the 4 November 1971 for a period of twenty (20) years, expiring on the 31 December 1991. United Uranium subsequently went into receivership and the leases were then purchased by Nicron Resources Limited (a wholly owned subsidiary of Aztec Mining Company Ltd) in September 1988.

During Nicron’s tenure detailed soil sampling, rock chip sampling, geological mapping and costeaning were carried out. This work confirmed the known Pb-Ag-Zn mineralisation but did not significantly extend it (Butler 1991). The sampling programs carried out by Nicron did define a separate area of Au-As mineralisation in conformable ferruginous quartz veining.

Solomon Pacific Resources and Astron Resources NL purchased the Mineral Leases in 1992 from Nicron Resources Limited. Under a joint venture agreement Solomon Pacific Resources (60%) and Astron Resources NL (40%) farmed out the leases to Cyprus Gold Australia under an equity earning agreement.

In November 1993 following Cyprus’s withdrawal from the farm-in agreement Acacia Resources Ltd entered into a farm-in agreement with Solomon and Astron Resources.

The seven tenements referred to as the Caroline Leases were renewed on 29 October 1993 until 31 December 1996.

In 1995 Acacia Resources Ltd purchased Astron Resources NL share of the leases. In June 1996 Acacia Resources completed the successful acquisition of Solomon Pacific Resources and all their interests. Current equity in the leases stands Acacia Resources 100%.
Work completed by Acacia since November 1993 includes the following:

5.1 1993-94 Report 08.6671
- Review of previous work and results.

5.2 1994-95 Report 08.7758
- Resurveying and updating of corner pegs of licence boundaries
- The re-establishment of exploration grid baseline through the mineral leases.
- Continued data compilation of previous explorers
- Collection of 4 rockchip samples
- Reverse circulation drilling totalling 330m within MLN 57

5.3 1995-96 Report 08.8741
- Reverse circulation drilling of six (6) holes totalling 444m within MLN 52
- Collar surveying of recent drill holes
- Gradient array induced polarisation surveying of the eastern sides of MLN 56 & 57
- Acquisition of 1:25,000 scale coloured aerial photography covering the MLN group
- Digital elevation modelling vectorised 1:50,000 topographic maps

5.4 1996-97 Report 08.9594
- Data compilation of work completed by previous explorers
- Detailed aeromagnetic survey

5.5 1997-98 Report 08.10041
- 47 rock chips taken along the length of the leases.
- RC drilling of 23 holes for 1926m.
- Aeromagnetic and radiometric data for the area was merged and leveled.
- Regional geophysical interpretation completed.

6 WORK COMPLETED FOR PERIOD ENDING 4TH NOVEMBER 1999

No field work was completed in the Caroline Leases during the reporting period.

6.1 Project Review
In conjunction with work in the adjoining ERL130, a review of the Caroline leases was completed during the reporting period. This included a review of the inhouse compilation completed in the 1997/1998 reporting year, Simon Hewsons' Structural mapping and report, remote sensing data and all available geochemical data. Several RC targets were identified but, due to budget restrictions imposed by the current low gold price, no drilling was completed.
7 ENVIRONMENTAL

No disturbance of the leases was caused. An environmental register is provided in Appendix 1.

8 EXPENDITURE FOR PERIOD ENDING 4TH NOVEMBER 1999

The expenditure for the period ending 4th November, 1999 totalled $2,584. A breakdown of the expenditure is given below:

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing/Support</td>
<td>2,220</td>
</tr>
<tr>
<td>Consumables</td>
<td>27</td>
</tr>
<tr>
<td>Administration</td>
<td>337</td>
</tr>
</tbody>
</table>

Total $2,584

9 PROPOSED EXPENDITURE FOR PERIOD ENDING 4TH NOVEMBER 2000

Further RC drilling and costeaming will be completed to follow up the RC drilling from the 1997/1998 reporting year. This work defined narrow zones of shear and quartz vein hosted mineralisation in shales on either side of the mapped dolerite dyke. Better intercepts were returned from the southern end of the leases, within MLNs’ 51 & 52. These included:

4m @ 1.42 g/t Au in CRLR001
3m @ 3.22 g/t Au in CRLR002
3m @ 4.86 g/t Au in CRLR003
4m @ 1.80 g/t Au in CRLR005

The work planned for the 2000 reporting year will follow up these intercepts down dip and along strike.

Expected expenditure for the period ending 4th November 2000 is $10,000.
10 REFERENCES


Pine Creek, Northern Territory, 1:100,000 map and commentary.
Bureau of Mineral Resources, Canberra.
APPENDIX 1

Environmental Register
## TENEMENT ENVIRONMENTAL MANAGEMENT REGISTER

### LAND STATUS RECORD

<table>
<thead>
<tr>
<th>Project:</th>
<th>Caroline Leases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenement Name:</td>
<td>Caroline Leases</td>
</tr>
<tr>
<td>Loc. Code:</td>
<td>UR23</td>
</tr>
<tr>
<td>Tenement No's:</td>
<td>MLN's 51-57</td>
</tr>
<tr>
<td>Registered Holder(s):</td>
<td>Acacia Resources</td>
</tr>
<tr>
<td>Date Granted:</td>
<td>4th November 1971</td>
</tr>
<tr>
<td>Renewal Granted:</td>
<td>9th December 1996</td>
</tr>
<tr>
<td>Term:</td>
<td>20 yrs</td>
</tr>
<tr>
<td>Area:</td>
<td>119Ha</td>
</tr>
<tr>
<td>Term:</td>
<td>25 yrs</td>
</tr>
<tr>
<td>Area:</td>
<td>119Ha</td>
</tr>
<tr>
<td>Bond/Security:</td>
<td>Nil</td>
</tr>
<tr>
<td>JV Partners (if any):</td>
<td>Nil</td>
</tr>
<tr>
<td>Land Classification:</td>
<td>(Crown, Private, Lease)</td>
</tr>
<tr>
<td>Land Holder/Occupier:</td>
<td>Gary Hamilton (Equest Pty Ltd)</td>
</tr>
<tr>
<td>Station:</td>
<td>Mary River West</td>
</tr>
<tr>
<td>Address:</td>
<td>9 Pall Mall CURRUMBIN QLD</td>
</tr>
<tr>
<td>Phone:</td>
<td>(075) 534 7408</td>
</tr>
<tr>
<td>Contacted By:</td>
<td>Elaine Wakefield</td>
</tr>
<tr>
<td>Date:</td>
<td>Early 1995</td>
</tr>
<tr>
<td>Pastoral Notes:</td>
<td>(Stock, Cultivation, Access, Rainfall)</td>
</tr>
<tr>
<td>Environmental Notes:</td>
<td>(Flora/Fauna, Erosion, Bushfires, Flooding)</td>
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<tr>
<td>Groundwater:</td>
<td>(Bores/Wells/Dams, streams, drainage, test data)</td>
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<tr>
<td>Aboriginal Notes:</td>
<td>(Sacred Sites, Cultural)</td>
</tr>
<tr>
<td>None known according to AAPA clearance C98/149, which expires on December 18th 2000.</td>
<td></td>
</tr>
<tr>
<td>Historic Relic:</td>
<td>(Mine Workings, Equipment, Homesteads etc.)</td>
</tr>
<tr>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Previous Activity:</td>
<td>(Mining, Exploration, Forestry, etc.)</td>
</tr>
<tr>
<td>Costeanning and mapping 1969 Geomin Exploration</td>
<td></td>
</tr>
<tr>
<td>Detailed soil, rock chipping and costeanning 1988 - 1991 Nicron Resources</td>
<td></td>
</tr>
</tbody>
</table>
Caroline Leases MLN's 51-57

**Exploration Activity Area:**
119 Ha

**Shafts/Pits/Dumps:**
No recorded shafts or pits, but several shallow pits evident

**Track/Access:**
Access tracks created by Nicron Resources along 5000E baseline turning NW from Frances Creek Road, east of Pine Creek.

**Line Clearing:**
Line Clearing along 5000E baseline (Nicron Resources) Gridding over entire MLN's at 25m x 100m spaced grid pattern.

**Costeansing:**
6 (Six) costeans constructed under Nicron Resources tenure. Costeans backfilled, however, subsequent subsidence has resulted in 0.5 - 1.0m channels along costean lengths.

**Drill Sites:**
Nil

**Other:**

**Location Data:**
Other Ref: 08.8741, 08.7755, 08.7758, 08.10014

**Compiled by:** Helen Clark

**Date:** 25th February 1998
## TENEMENT ENVIRONMENTAL MANAGEMENT REGISTER

### ACACIA ENVIRONMENTAL IMPACT RECORD

<table>
<thead>
<tr>
<th>Tenement Name:</th>
<th>Caroline Leases</th>
<th>No: MLN's 51-57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Ref No's:</td>
<td>08.8741, 08.7755, 08.7758, 08.9594, 08.10014</td>
<td></td>
</tr>
<tr>
<td>Grids &amp; Traverses:</td>
<td>Pre existing grid used</td>
<td></td>
</tr>
<tr>
<td>Soil Sampling:</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Costeans / Pits:</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Drilling:</td>
<td>Five (5) RC holes constructed in 1995 for 330m Six (6) RC holes constructed in 1996 for 444m Twenty-three (23) RC holes in 1998 for 1926m</td>
<td></td>
</tr>
<tr>
<td>Ground Geophysics:</td>
<td>8 kilometres of gradient array induced polarisation surveying (1996)</td>
<td></td>
</tr>
<tr>
<td>Access Tracks:</td>
<td>Access tracks upgraded along 5000E baseline (1994) Access tracks created from Frances Creek to drill pads from old gravel pit adjacent to road to drill pads (approx. 500m in 1996).</td>
<td></td>
</tr>
<tr>
<td>Camps:</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Compiled by:</td>
<td>Damien Stephens</td>
<td>Date: 6th December 1999.</td>
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</tbody>
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**TENEMENT ENVIRONMENTAL MANAGEMENT REGISTER**

**ACACIA REHABILITATION RECORD**

<table>
<thead>
<tr>
<th>Tenement Name:</th>
<th>Caroline Leases</th>
<th>No(s):</th>
<th>MLN 51-57</th>
</tr>
</thead>
</table>

**Disturbance:** Yes  
**Rehabilitation:** Ongoing  
**Date:** 25<sup>th</sup> Feb. 1998.

**Grids & Traverses:** Nicron grid still in field

**Soil Sampling:** Nil

**Costeans/Pits:** Nil

**Drilling:** Collars capped and buried.

**Drill Pads:** Drill pads ripped and photographed.

**Ground Geophysics:** Rehabilitated.

**Access Tracks:** No rehabilitation of access tracks has been undertaken, still in use.

**Camps:** Nil

**Other:** Nil

**Inspected / Clearance:**

**Bond/Security released:**

**Compiled by:** Damien Stephens  
**Date:** 6<sup>th</sup> December 1999.

**Follow-up Inspection Report:**