GEOLOGICAL AND GEOCHEMICAL
REPORT ON THE
RAIN CLAIM GROUP #1 to #24
Grant Numbers Y85462 - Y85485 inclusive
CORN CREEK
BONNET PLUME RIVER AREA
MAYO MINING DISTRICT
N.T.S. 106C/10
Latitude: 64°45'N
Longitude: 132°50'W

This report has been examined by the
Geological Evaluation Unit and is rec-
ommended to the Commissioner to be con-
sidered as representation work in the amount of
$ 2400.00

Considered as representation work under
Section 53 (4) Yukon Quartz Mining Act

PINE LAKE MINING CO. LTD. (N.P.L.)
616 - 402 West Pender Street,
Vancouver, B.C.

During the period September 9th through 14th, 1974

by:

G. C. Gutchath, B.Sc., P.Eng., Geologist
ATLED EXPLORATION MANAGEMENT LTD.

October, 1974
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  Histogram (Lead) ....................................... After Page 7
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  Geology and Claim Map ................................ In Map Pocket
  Geochemical Map (Lead) ................................ In Map Pocket
  Geochemical Map (Zinc) ................................ In Map Pocket
Assessment was done on the Rain #1 to #24 claims situated in the northern Selwyn Mountains during September 9th through 14th, 1974.

The work was done on behalf of Pine Lake Mines Ltd. (N.P.L.) by Atled Exploration Management Ltd. A two man crew mapped, prospected and conducted a soil sampling programme.
SUMMARY

The Rain claims were staked in September, 1973, they are staked on the down dip extension of Consolidated Coast Silver's claim group, they lie to the west of this group. Both the regional G.S.C. geology and the authors' observation confirm that dips are gently and uniformly to the west, with an absence of major structures.

It was not therefore expected that the present surface work would reveal any evidence of mineralization on this extension which can occur only at depth. Nevertheless the geochemical survey has revealed two interesting anomalies. At the present time these must be interpreted as being derived from within the subcropping Backbone formation, stratigraphically above the showings to the west.

RECOMMENDATIONS

Quite apart from the geochemical results which encourage further sampling at some future date, the claims should, in any event, be kept in good standing pending the publication of results by Consolidated Coast Silver.
LOCATION

The RAIN claim group is located 120 miles north east of Mayo in the Mayo Mining District, Yukon Territory. It lies at the head of Corn Creek in the northern Selwyn Mountains, Bonnet Plume River and Pinguicula Lake are 15 miles to the west.

ACCESS

Access is by float plane from Mayo to Pinguicula Lake and thence by helicopter to the property.

TOPOGRAPHY

Corn Creek valley is approximately a mile wide. The claims occupy an area where two almost equal tributaries meet. As a result most of the property lies between 4,000 feet and 5,000 feet. The south western claims cover a rocky 6,000 foot ridge.

CLIMATE

The climate is subarctic with a great deal of sunshine in the few summer months. The slopes are south facing and are snow free early in June. Snow may fall at any time.
Water

Water is available during the spring run off but after July it is available in the main creeks only.

CLAIMS

<table>
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<th>NAME</th>
<th>GRANT</th>
<th>STAKER'S NAME</th>
<th>DATE</th>
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<td>Y85462-64</td>
<td>Glen L. Harris</td>
<td>September 14, 1974</td>
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<td>Y85470-77</td>
<td>Danny Lucas</td>
<td>September 14, 1974</td>
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<td>RAIN #17 to #24</td>
<td>Y85678-85</td>
<td>Robert Wigen</td>
<td>September 14, 1974</td>
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</tbody>
</table>

The claims are plotted on Yukon claim sheet 106-C-10 although they lie in part on sheet 106-C-15.
GEOLOGY

General
The geology of the area is stratiform with only one fault detected in the map area. Three stratigraphic units are present, probably all the rocks in the area are Lower Cambrian. The dips are uniformly shallow to the east north east.

The units outcrop on two different ridge crests. A fault may be inferred from the regional (G.S.C.) geology and from a displacement of the geochemical anomaly in the creek bed inbetween.

Stratigraphy

Sheepbed formation Hcsc
This is the lowest unit in the map area, it is Hadrynian to Lower Cambrian in age. Most of the map area is probably underlain by this unit which is characterized by recessive weathering. Two small outcrops of well bedded fine light grey limestone occur on claim 22 and one outcrop of black shale occurs on claim 8 in the creek bed.

The top 100 feet of this unit outcrops on claims 21, 22 and 24. This horizon is a well bedded grey quartzite, but it is not resistant and only occurs below the dolomite bluffs of the Backbone Ranges Formation.
Backbone Ranges Formation $\mathcal{E}c$ and $\mathcal{E}q$, Lower Cambrian

$\mathcal{E}c$

This unit occurs in both ridges which support outcrop, it is about 400 feet thick. The rock type is a uniformly resistant well bedded grey dolomite with a silt grain size.

On claims 22 and 24 the upper 30 feet of this unit is a grey calcarenite but this unit is absent elsewhere. On claims 3 and 5 the top of this unit is locally stained with hematite but this is probably derived from the overlying conglomerate.

$\mathcal{E}q$

A basal pebble conglomerate is the lowest member of this unit. The conglomerate is persistent but varies in thickness from 30 feet on claims 21 to 24 to 150 feet thick on claims 3 and 5. On claims 3 and 5 the lowest part of this conglomerate is strongly stained with hematite but none of the original pyrite or marcasite, was located by the present writer.

The unit above the conglomerate is a grey moderately well bedded quartzite, about 150 feet thick. The entire thickness outcrops on claims 22 and 24 but elsewhere it is represented by patchy outcrops and talus.

The highest unit in this sequence is a purple siltstone with lenses of grey quartzite. It is represented by both outcrop and talus on both ridges. A thickness of 100 feet occurs on the property but the top of this unit was not located.
MINERALIZATION

The only mineralization located on the property was the hematite stain on claims 3 and 5. This was probably caused by pyrite or marcasite in the basal conglomerate of unit 6q. At present no economic significance can be attached to this gossan.

GEOCHEMICAL SURVEY

Survey Completed

199 stations were established on a 400 foot x 200 foot grid. Soil samples were collected at 177 stations, there were 22 not sampled. Analysis was done by Vangeochem Labs, Vancouver.

Fraction - 80 mesh
Sample Weight - 0.5 gm
Extraction - HClO₄
Analysis - Atomic Absorption
PINE LAKE MINING COMPANY LIMITED (N.R.L.)
RAIN CLAIMS
HISTOGRAM OF SOIL ANALYSIS
BY
Atled Exploration Manangement Ltd.
PINE LAKE MINING
COMPANY LIMITED (N.P.L.)
RAIN CLAIMS

HISTOGRAM OF SOIL ANALYSES
BY
ATLED EXPLORATION MANAGEMENT LTD.

NUMBER OF SAMPLES

0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 +

PARTS PER MILLION LEAD
### Statistical Analysis of Zinc Values

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<th>Value</th>
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<th>v</th>
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</table>

Mean, $\bar{Z} = \frac{\sum nx}{n} = \frac{29,540}{174} = 170$ ppm

Standard Deviation

\[
\delta = \sqrt{\frac{\sum (d^2n)}{n}} = \sqrt{\frac{6,284,700}{174}} = 190 \text{ ppm}
\]
Survey Results

The lead results showed very little relief (see histogram).

The zinc results were interesting,

mean + one standard deviation = 360 ppm
mean + two standard deviation = 550 ppm

For convenience the results were contoured at 200 ppm, 400 ppm and 600 ppm. Anything over 400 ppm is anomalous.

Two interesting zinc anomalies were revealed (see zinc geochemical map). The anomaly in the north west corner of the property coincides with the only high lead values on the property.

The second anomaly lies along base line 1 but is clearly displaced by the fault shown on the G.S.C. regional maps.

Respectfully submitted,

G. C. Gutierrez, P.Eng., Geologist
ATLED EXPLORATION MANAGEMENT LTD.
ENGINEER'S CERTIFICATE

1, GORDON C. GUTRATH, of 3636 Lakedale Avenue, in the Municipality of Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:-

1. That I am a consulting geologist with a business address of #420-475 Howe Street, Vancouver 1, B.C.

2. That I am a graduate of the University of British Columbia where I obtained my B.Sc. in geological science in 1960.

3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers in the Province of British Columbia.

4. That I have practised my profession as a geologist for the past fourteen years, and

5. That I have no interest in the property with which this report is concerned, nor do I expect to receive any such interest. I have no interest in the securities of Pine Lake Mining Ltd. (N.P.L.).

DATED at the City of Vancouver, Province of British Columbia, this 10 day of October, 1974.
APPENDICES
Costs incurred on the Rain Groups of Mineral Claims, Corn Creek, Bonnet Plume Area, Mayo Mining Division.

Disbursements

Superior Reproductions - Invoice #15166
   October 3, 1974...........................................$  56.45
Van Geochem - Invoice #3147.................................  300.90

Personnel

   G. Keyte, Geologist - September 9 to 14
      = 6 days @ $150.00/day.................................  900.00
   G. Baker, September 9 to 13, 1974
      = 5 days @ $75.00/day.................................  375.00

Food and Accommodation

   11 days @ $20.00/day.................................  220.00

Camp gear Rental

   5 days @ $10.00/day.................................  50.00

Transportation

   Terr Air Invoice #2270 - September 9, 1974............  232.00
   Trans North Turbo Air Invoice #5224 - Sept.9, 1974...  192.40
   Terr Air - Invoice #2278 - Invoice September 13, 1974. 211.50
   Trans North Turbo Air Invoice #5232 - Sept. 13, 1974..  192.00

Drafting

   G. Keyte - 4 hours @ $6.00/hour...........................  24.00
   P. Henry.....12 hours @ $6.00/hour....................  72.00.. $  2,826.25