TELEPHONE 684-2610

J. F. McINTYRE, P.ENG.
CONSULTING MINING ENGINEER
408 - 475 HOWE STREET
VANCOUVER 1, B.C.
CANADA

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# Rockland Mining Limited (N.P.L.)

## Summary Report

## ROCKLAND PROPERTY

Silverton, British Columbia

J. F. McIntyre, P.Eng.

January 31, 1968

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## INTRODUCTION

The Rockland property of Rockland Mining Limited (N.P.L.) is located on Aylwin Creek near Silverton, British Columbia, in the Slocan Mining Division. The writer examined the property on April 12-13, 1967 and submitted an engineering report on May 17, 1967, including recommendations for exploratory work. A preliminary program of bulldozer trenching was carried out. During the year the company acquired considerable additional claims covering new showings adjacent to the original group and late in the season a reconnaissance geochemical survey was carried out on the property by Amax Exploration Inc. On October 28-29, 1967, the writer again examined the property including a re-examination of the previously seen showings and examination of new showings.

The writer's report of May 17, 1967, includes detailed accounts of the history, topography and geological setting of the property so in the interest of brevity these matters are not repeated herein beyond a very brief summary.

## PROPERTY

The Rockland property consists of three Crown-granted mineral claims held under a mineral lease, four additional Crown-granted mineral claims held individually under current titles and forty-seven mineral claims held by location. These are shown on Figure 1. Of the total claims five of the fractional claims are of fairly small area. Details are as follows:

| | | |
|---|---|---|
| Mineral Lease M 58 | Willa | L.1529 |
| | Rockland | L.3884 |
| | Rustler | L.3885 |
| Individual Crown Grants | Little Daisy | L.7302 |
| | Golden | L.7303 |
| | Idler | L.7304 |
| | Golden Fr. | L.7307 |

Claims held by location

| | |
|---|---|
| D.C. | 1-4 inclusive |
| Mel | 1-4 inclusive |
| Dave | |
| P.W. | 1 Fr. |
| A-S | 1 |
| O-M | 1-3 inclusive |
| A.C. | 1 |
| F-X | 1 |
| OXO | 1-2 inclusive |
| X.X.X. | 1 |
| T.T.T. | 1-3 inclusive |
| E-O | |
| Blanket | 2-3 inclusive |
| W-Blanket | 1-2 inclusive |
| Final | 1 Fr. |
| Final | 2 Fr. |
| Final | 3 Fr. |
| Final | 4-6 inclusive |
| Finnigan | Fr. |
| Flannigan | 1 |
| Completion | |
| A | 1 Fr. |
| B | 1 Fr. |
| C | 1 |
| D | 1 |
| E | 1 |
| F | 1 |
| G | 1 |
| Avalanche | |
| Slide | 1-2 inclusive |

## SUMMARY

The Rockland property lies in a complex remnant of Slocan Group and post-Nelson intrusive rocks surrounded by granite of the Nelson Batholith. The Slocan rocks are principally augite porphyry with a much lesser amount of altered sediments, intensely fractured and altered by the Nelson intrusive activity. These were later intruded by quartz eye porphyry and subsequent alteration of the latter has taken place. One body of diabase cuts the augite porphyry on the Willa crown grant and further down Aylwin Creek on the Idler crown grant a small lamprophyre dike cuts the post-Nelson intrusive rocks. The distribution of the various groups of rocks is quite irregular and complex.

A long, wide, persistent shear zone (or breccia zone), referred to as the Willa shear, extends northeasterly across the Rockland, Willa and Little Daisy crown grants. A second similar zone, referred to as the Rockland shear extends almost easterly along the Rockland crown grant and intersects the Willa shear. Both zones are similar in nature. The Willa shear extends over a length of 2,700' with widths of the order of 50 - 100'. The Rockland shear extends over a length of 900' with widths of the order of 60'. The shear zones transect both the Slocan volcanics and the post-Nelson intrusives. The rocks along the shears have been silicified and mineralized with copper, gold and some molybdenum. Molybdenum also occurs in silicified quartz porphyry between the Rockland and Willa shears and in similar circumstances where Aylwin Creek crosses the northeast boundary of the Idler crown grant.

Where Aylwin Creek crosses the Willa shear the latter is quite silicified in part, and much brecciated. Copper values of 0.2 - 0.4% occur in the highly weathered surface of the crushed volcanics over a width of about 100'. The adjacent silicified part of the zone contains some copper and also significant values in gold.

In the old Rockland tunnel the Rockland shear was sampled on the heavily leached walls of the tunnel. This sampling showed 0.5% copper over a width of 60'.

In the showing down the creek on the northeast boundary of the Idler crown grant molybdenite occurs in a silicified zone in quartz porphyry. A diamond drillhole was started on this showing during 1967 by the previous owners. This hole only reached 20 or 30 ft. in depth and no core was available for examination. The mineralized zone has only been exposed over a very small area and the zone has not been systematically samples. Individual samples have shown up to 0.3% $MoS_2$.

Float has been found below the Willa shear on the Little Daisy crown grant containing molybdenite in quartz porphyry. The origin of this float is not known and it appears that it may come from the Willa shear.

Late in 1967 a preliminary soil geochemical survey was carried out on the property by Amax Exploration Inc. All samples were determined in their laboratory and statistical analysis of the results carried out. The latter points to a consistent background level in molybdenum regardless of rock type while different background levels in copper are indicated for the volcanic and granitic rocks. The results are shown on Figures 2 and 3.

The results as shown prove conclusively that geochemistry is a quite useful tool on the property. Only a few lines were run and it is not possible to outline well-defined anomalies however several areas show anomalous results in both copper and molybdenum. High copper and molybdenum readings occur at the junction of the Rockland and Willa shears, with the highest copper values right on the shear. Below the shears, over most of the area of that part of the Willa crown grant, and a part of the Idler, anomalous readings occurred in both copper and molybdenum. Additional anomalous values in both metals occurred near the molybdenum showing on the north boundary of the Idler on Aylwin Creek. Further anomalous values occurred on claims O-M 3 and A.C.1 and along the highway on claim O-M 2.

In none of the anomalous areas were readings taken on sufficient lines to clearly outline the anomalous areas. However the levels of readings considered anomalous, + 20 ppm molybdenum and 400 to 575 ppm copper, are both high and suggest that these anomalous areas are certainly significant.

## CONCLUSIONS AND RECOMMENDATIONS

In the May 1967 report the writer concluded that the Willa and Rockland shears were essentially unexplored and were worthy of extensive exploratory effort. An extensive program of surface prospecting, bulldozer trenching and diamond drilling was recommended totalling $81,000 in expenditures. At that time no significant showings of molybdenum were known and the recommendations were largely confined to the shear zones. At this stage it is concluded that not only are the shear zones favourable exploration targets, but also the property should be explored for the existence of additional large, low-grade, copper-molybdenum zones.

At this time the writer's conclusions regarding the Willa and Rockland shears remain virtually unchanged and it is recommended that the previous recommendations be carried out with one change, namely that the drilling of the shears from the surface be carried out using percussion rather than wireline diamond drilling methods. This may

result in better sampling and more footage can be obtained with the same expenditures. It is further recommended that the entire property be thoroughly mapped geologically, explored by additional reconnaissance soil geochemical surveys and that the anomalous areas now known be subjected to detailed soil geochemical investigation and tested by bulldozer trenching and percussion drilling.

The following program is recommended with the bulk of the physical work to be devoted to the Rockland, Willa, Little Daisy and Idler claims. The additional trenching and drilling of the shears can be commenced without further work. On the geochemically anomalous areas further detailed geochemistry should be carried out prior to commencement of drilling. Accordingly it is recommended that the program be carried out in two stages as follows:

STAGE I (Principally on Rockland and Willa shears)

| | | |
|---|---|---|
| 1. | Geological mapping, engineering, sampling and assaying | $ 5,000 |
| 2. | Geochemical surveys | 10,000 |
| 3. | Bulldozer trenching | 15,000 |
| 4. | Rehabilitation of underground workings and underground diamond drilling (3,000') | 15,000 |
| 5. | Surface percussion drilling (3,000') | 10,000 |
| 6. | Camp and overhead | 5,000 |
| | Total | $60,000 |

STAGE II (Principally on geochemically anomalous zones)

| | | |
|---|---|---|
| 1. | Geological mapping, engineering, sampling and assaying | $15,000 |
| 2. | Geochemical surveys | 10,000 |
| 3. | Bulldozer trenching | 15,000 |
| 4. | Surface percussion drilling (7,000') | 20,000 |
| 5. | Camp and overhead | 10,000 |
| | Total | $70,000 |

It is the writer's opinion that the property has good exploration potential both in the shear zones and in the geochemically anomalous areas. To adequately test both will require expenditures of the order of those recommended above. Expenditures of this magnitude are considered justifiable inasmuch as the program is reviewed frequently as the work progresses and inasmuch as expenditures for drilling and trenching on the geochemically anomalous areas are determined by further geochemical surveys. The property is large and has multiple possibilities and expenditures much less than above could hardly be expected to yield very definitive results. Even then this program might be found to constitute only a good beginning.

Respectfully submitted,

J. F. McIntyre, P.Eng.

TELEPHONE 684-2710

J. F. MCINTYRE, P.ENG.
CONSULTING MINING ENGINEER
408 - 475 HOWE STREET
VANCOUVER 1, B.C.
CANADA

# CERTIFICATE

I, J. F. McIntyre, P.Eng., hereby declare that:

1. I hold the degree of Bachelor of Science in Mining Engineering, University of Alberta, 1949; and,

2. I am a registered member, in good standing, of the Association of Professional Engineers of British Columbia; and,

3. I carry on consulting mining engineering practice with offices at Suite 408, 475 Howe Street, Vancouver 1, British Columbia; and,

4. I have practiced my profession continuously since 1949 with wide experience in mining and geophysics; and,

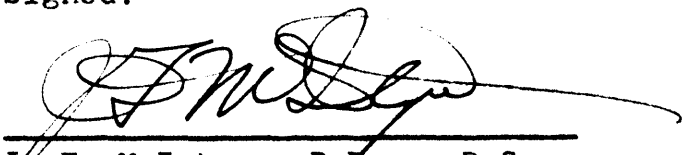
5. I personally examined the Rockland property on April 12-13, 1967 and October 28-29, 1967; and,

6. I have derived my descriptions and conclusions from my personal examinations of the property, reports, and from a thorough study of the results of the geochemical survey; and,

7. I have never, nor do I expect to hold, any interest whatever in the securities or properties of Rockland Mining Limited (N.P.L.), its principals or affiliates; and,

8. My sole remuneration for this report is the professional fee charged for it.

Signed:



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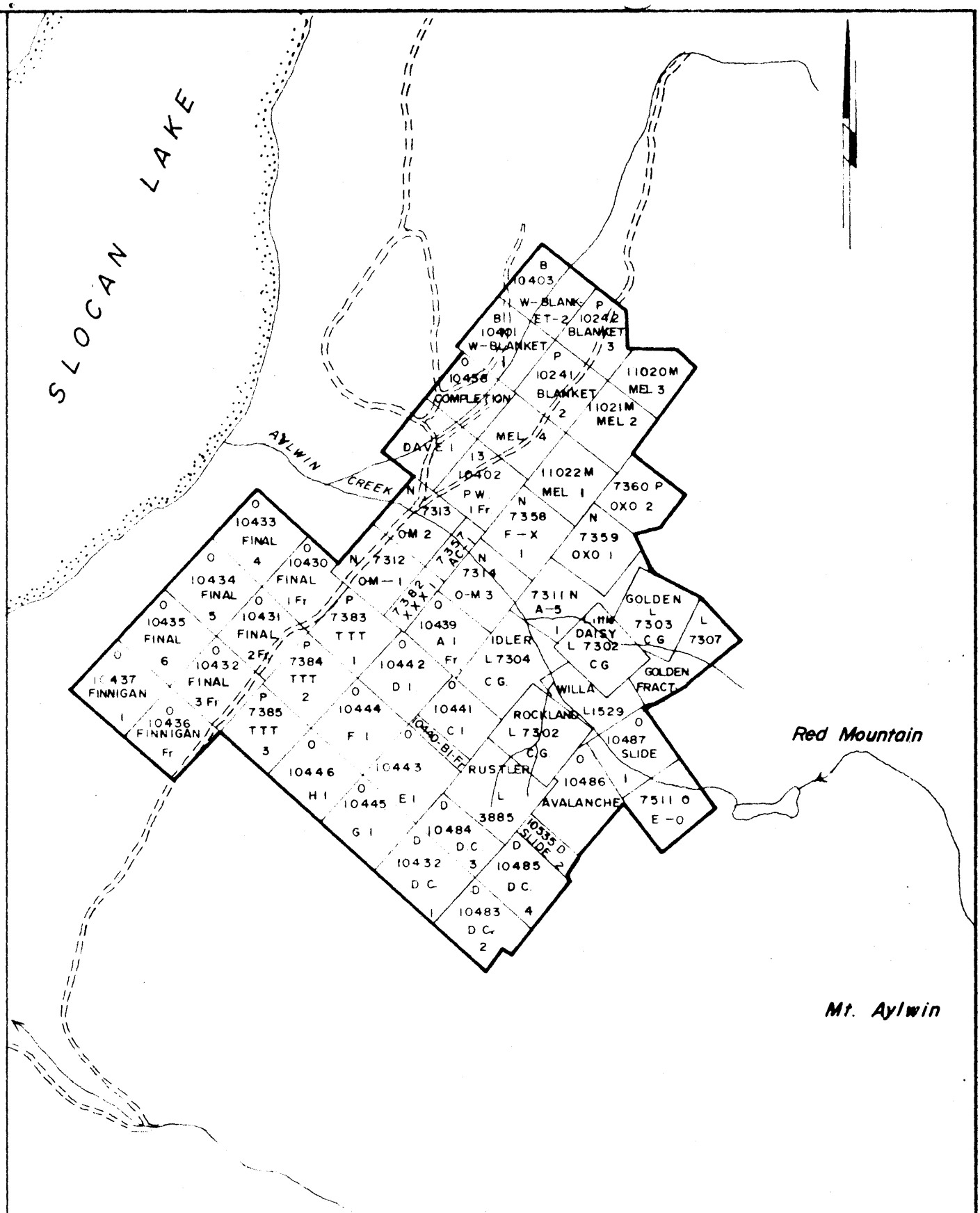


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BRITISH COLUMBIA GEOLOGICAL SURVEY

**J. F. McINTYRE, P. ENG.**
CONSULTANT VANCOUVER, B.C.

ROCKLAND MINING LTD. (N.P.L.)

CLAIM MAP

January 1968 | SCALE: 1" = 3000' | FIG. 1.