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Summary Report of
Pinnacle Mines Ltd. (N.P.L.)
Kamloops Mining Division
British Columbia

Prepared for:
Imperial Metals & Power Ltd. (N.P.L.)
Vancouver, B.C.

September 20, 1972

W. G. Hainsworth, P. Eng.

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The writer has been retained by Mr. J. Ball, President of Imperial Metals & Power Ltd. (N.P.L.) of Vancouver, to write a geological report with recommendations for future work on the Kamloops property of Pinnacle Mines Ltd.

It is understood that Imperial Metals & Power Ltd. have taken an option on the property and committed themselves to a work program. This report will endeavor to outline a work program which will check out all capabilities of the property.

The property was examined on September 20, 1972. In addition, several reports were made available to the writer for study purposes.

The writer is not unfamiliar with the area, having spent a great deal of time in the Kamloops - Merritt area.

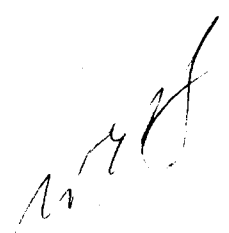
This report is the result of the examination, study of available data, and the experience of the past.

SUMMARY AND CONCLUSIONS

Pinnacle Mines have a group of 24 claims strategically located at the south eastern end of the Iron Mask Batholith. The property has seen past exploration in the way of limited adit and shaft work, numerous surveys of the geophysical and geochemical nature, and drilling in both the diamond and percussion style. The geological environment of the property is an excellent one, and in addition copper mineralization is already known to exist in the area.

Past work has shown copper mineralization to exist in several localities within the claims. These areas are worthy of further investigation. In addition, several geological features have not been explored to their full extent.

A staged program, as recommended, can check out the full capabilities of the property. The program also allows flexibility in adjustments during its staging.



The property consists of 24 claims contained within 3 claim groups, all located in close proximity. The largest block is composed of 20 relatively contiguous claims which show scattered gaps caused by claims other than the company's. The claims forming this block are:

| <u>CLAIMS</u> | <u>RECORD NUMBERS</u> | <u>EXPIRY DATES</u> |
|---|---|---------------------|
| Art 4 to 6 incl. | 81301 - 81303 incl. | June 26, 1973 |
| 5A to 8A incl. | 56758 - 56761 incl. | June 13, 1973 |
| A2 and A9 | 47777, 47785 | November 19, 1972 |
| Pin 3, 4, 9, 10 & 11 | 71610, 71611, 71615, 71616, 71617 | September 16, 1973 |
| Pin 1Fr, 2 Fr, 5 Fr, 6Fr, 8Fr, 12 Fr | 71608, 71609, 71612, 71613, 71614, 71618 | September 16, 1973 |

Forming part of this block is district lot 585, Crown Granted May 12, 1890. This lot includes ground recently released by Pinnacle Mines Ltd. The lot carries exclusive subsurface rights to all minerals other than gold and silver.

The two smaller blocks lie off to the south east of the larger group. One block is composed of 3 claims, the Art 1 to 3 inclusive, with record numbers 81298 to 81300 inclusive. The claims are in good standing until June 26, 1973.

The smallest block is composed of an isolated claim, Pin 7Fr (71619). Assessment work has been recorded against this claim, keeping it in good standing until September 16, 1973.

REGIONAL GEOLOGY

The outstanding geological feature of the area is an intrusive structure called the Iron Mask Batholith. Numerous mineral occurrences have been found along its margins or within its central axis.

The complex nature of the batholith has been simplified by government geologists, who divide the various phases into two main types. The division is made primarily on appearance and fabric. The coarser grained batholithic rocks are typically plutonic and have a grain size greater than 1½ mm. Included within this group are the monzonites, diorites and gabbros. The other division is the finer grained intrusives. The prefix "micro" is added to the name of the constituted rock. Thus we have microdiorites and micromonzonites.

Appearing as a marginal development are intrusive lenses of picrite basalt. In many instances it has been identified with peridotite.

Younger intrusives in the area are represented as perphyritic varieties of the older intrusives. In many cases they are associated with mineralization such as the Cherry Creek intrusive and the Afton mineralization.

Host rocks of the area are the Cache Creek rocks of Carboniferous age and the Nicola series of Triassic times. Although both series are mainly extrusive flows, there are many sediments associated with them. Overlying all the formations of the area are the younger rocks of the sedimentary and volcanic Kamloops group of Miocene age.

The area has become most prominently noted lately for native copper due to the Afton deposit. However, other copper minerals of some importance are chalcopyrite, bornite and their oxide equivalents, azurite and malachite. Chalcocite has been identified in some localities. In addition, varying amounts of magnetite, hematite and pyrite are common within the area. Gold and silver deposits are infrequent although the precious metals are often associated with the copper deposits.

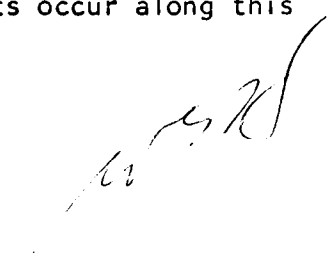
LOCAL GEOLOGY

The claims present very few exposures by which to truly evaluate the geology. Sufficient outcroppings do occur, however, to allow verification of government mapping of the area. On this basis, the geology of the Pinnacle Mines Ltd. property must be evaluated solely by the B. C. Ministry of Mines mapping.

The 1956 Ministry of Mines Report contains a map of the area and a write-up by J. M. Carr on the then Commercial Minerals property. The claims boundaries of this company were modified in a subsequent map in the 1967 Ministry of Mines Report.

The claims have two noteworthy copper occurrences, both the product of older exploration. The Joker adit lies within Lot 585, whereas the Grey Mask shaft is situated roughly 1,500 feet north of the adit and thus out of Lot 585.

The most noteworthy feature of the Pinnacle geology is its location with reference to the Iron Mask Batholith. The intrusive structure almost completely underlies the Pinnacle claims. In addition, the southern and portions of the south eastern contact of the batholith with the host volcanics, are included within the boundaries. It is relevant that many of the Kamloops district deposits occur along this contact.



Some similarities in geology are noticeably between the north west end of the batholith (Afton Mines) and the south east end (Pinnacle Mines). This similarity has obviously been exploited in past programs, but with the success of Afton greater attention should be devoted to this area.

RECOMMENDATIONS

One of the oldest axioms of mining exploration has been to explore from known mineralization outwards. It is obvious that this has been done on the Pinnacle claims by previous companies. The Joker adit has provided the starting point for programs which more often than not radiated out to the west. Commercial Minerals in 1955 did 5,500 feet of vertical pattern drilling in the plateau area immediately west of the adit. The 22 holes in the grid drilling averaged 250 feet.

In late 1966 Pinnacle acquired the ground and did some 1,200 feet of drilling. No records are available to the writer concerning the whereabouts or results of this survey.

In early 1969 Pinnacle embarked on another drill program after carrying out several geophysical and geochemical surveys. The 8 holes in this campaign were mainly directed towards checking out anomalies resulting from the surveys. However, two holes were directed under the Joker adit to check out mineralization at depth.

In mid-1972 the Yukon Gold Placers Ltd., which had optioned the property, carried out a percussion grid program in the same locality as the earlier Commercial drilling. Their results were similar.

Drilling results by Commercial in 1955, Pinnacle in 1969, and Yukon Gold in 1972, indicate flat lying thin lenses of copper mineralization radiating off the main Joker structure. The Joker adits were put in on a strong flat lying fault. This fault, and the mineralized flat structures as indicated by drilling, would appear to be tension structures developed from a stronger break in the vicinity. Tension faults are notorious for small dimensions. The peridotite dyke referred to in other reports is an obvious replacement of a possible north-south fault zone. This would be the main break which opened up the area.

Two holes by Pinnacle in 1969 checked out the Grey Mask area. In 1956 Commercial also checked out this area by putting in 8 short vertical holes. In all cases, the values were weak.

The one area of interest remaining is that contact zone between intrusive and volcanics a short distance to the north of the Grey Mask shaft.

Another area which could be promising is the contact within the claims of the two distinct phases of the Iron Mask Batholith. Although to date

this contact has not received too much in the way of mineralization results, experience in the Guichon Batholith to the south west proves these contacts are important. Leemac Mines developed some good mineralization along this contact.

No geological maps of the property are available for close study purposes. Granted little in the way of exposures are available on the property, but what there is should be identified and properly located.

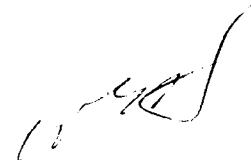
The company's claims are roughly scattered over a larger area with ground lying within the property of other companies. It is important that the company's claims be more closely located.

On the basis of the above observations, the writer recommends that initially a ground-control survey should be undertaken to properly locate and identify the claims.

The mapping of the area could present some difficulty, but initially this could be done by aerophotos to produce a photogeologic study. This map could then be used by the exploration geologist for interpretation with respect to possible mineral occurrences or the extension of known mineral occurrences.

Exploration of good areas should be carried out on the percussion drill style. This approach allows flexibility in costs and results. Areas worthy of further checking by this method are the Grey Mask area, the contact lying to the north of this zone, and the intrusive phase contact lying somewhere between the Grey Mask shaft and Joker adit. Detection of this contact could be very difficult due to compositional similarities of the phases. An electromagnetic survey in this area might pick up the electrical differences between the two structures.

The above program, coupled with whatever data can be obtained from past work, should provide information which would provide helpful guidelines in a later program of diamond drilling.



COST ESTIMATES

| | |
|--|---------------------|
| 1. Claim Survey | \$ 1,500.00 |
| 2. Geophoto Interpretation | 1,000.00 |
| 3. EM Survey | 2,000.00 |
| 4. Percussion Drilling - 30 Holes of 250' depth @ \$4/ft. | 30,000.00 |
| 5. Supervision | 1,500.00 |
| 6. Contingencies - 10% | <u>3,600.00</u> |
| TOTAL: | <u>\$ 39,600.00</u> |

STAGE II

| | |
|---|---------------------|
| 1. Continuing Percussion Drilling - 30 Holes of 250' depth @ \$4/ft. | \$ 30,000.00 |
| 2. Diamond Drilling 2,000 feet of BQ Wireline @ \$12/ft. | 24,000.00 |
| 3. Supervision | 1,500.00 |
| 4. Contingencies - 10% | <u>5,500.00</u> |
| TOTAL: | <u>\$ 61,000.00</u> |



W. G. Hainsworth, P. Eng.
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W. G. HAINSWORTH

CONSULTING GEOLOGIST

CERTIFICATE


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I, WILLIAM G. HAINSWORTH, HEREBY CERTIFY:

1. That I am a geologist residing at #303 - 2187 Bellevue Street, West Vancouver, British Columbia.
2. That I am a graduate of the University of Western Ontario, London, Ontario, with a B.Sc. degree in Honours Geology and am a registered member of the Association of Professional Engineers of the Province of British Columbia.
3. That I have practiced my profession for twenty-two years.
4. That I have no financial interest, either direct or indirect, in the subject properties, in the securities of Imperial Metals & Power Ltd., nor in Pinnacle Mines Ltd., nor in that of any of its affiliates and that I do not expect to obtain any such interest.
4. That the information contained in this report is based on my personal knowledge of the general area and specific examination of the property pertained to in the report on September 20, 1972.

Vancouver, British Columbia

September 20, 1972



W. G. HAINSWORTH, P. ENG.

REFERENCES

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1. G.S.C. Memoir 249, 1961: Geology and Mineral Deposits of Nicola Map area. W. E. Cockfield.
2. Pinnacle Mines Ltd. Statement of Material Facts. Containing reports by C. T. Pasioka, B.Sc., in co-authorship with J. B. Prendergast, M.A., P. Eng., and report by J. A. Mitchell, P. Eng. Both reports form part of the statement.
3. B. C. Minister of Mines Report, 1956. Deposits associated with the eastern part of the Iron Mask Batholith near Kamloops. J. M. Carr.