1746

REPORT

on

PROPERTY OF

PINNACLE MINES LIMITED (NPL)

A, C, CLE AND PIN CLAIMS

KNUTSFORD AREA
KAMLOOPS MINING DIVISION
PROVINCE OF BRITISH COLUMBIA

VELOCITY SURVEYS LIMITED

October 29th 1968

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Maps (2) In Pocket

#1 Geochemical Survey

#2 Claim Sketch

PROPERTY

The property consists of some fifty-six contiguous located mineral claims as follows:

A1 - 4 inclusive	47777 - 47780
5A - 8A "	56758 - 56761
A9 - A12 "	47785 - 47788
A13 - A16 "	48071 - 48074
C1 - 3 "	47789 - 47791
C4 - C18 "	47955 - 47969
C1e 1-10 "	47792 - 47801
Pin 1 Fraction	71608
Pin 2 Fraction	71609
Pin 3	71610
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Pin 5 Fraction	71612
Pin 6 Fraction	71613
Pin 7 Fraction	71619
Pin 8-12 inclusive	71614 - 71618

The above claims are recorded in the Mine Recorder's office in the City of Kamloops, Kamloops Mining Division, Province of British Columbia. Internal fractions are currently being staked.

LOCATION AND ACCESS

The property is situated some five miles south of the Village of Knutsford, B.C., whose co-ordinates are 50° 120° N.E. No. 5 Highway passes through the eastern part of the property. The City of Kamloops lies some eight miles to the NNE and is serviced by CPA, CPR, CNR and the Trans

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Canada Highway. Access is provided to all parts of the property by means of secondary roads facilitating normal vehicular traffic from No. 5 Highway.

TOPOGRAPHY AND VEGETATION

The surface presented by the property is that of rolling ranchland of low to moderate relief, well glaciated with rounded hills. Overburden, primarily of glacial origin, is fairly heavy. Approximately forty percent of the area of the property is forest covered, i.e., Pine and Spruce with minor Poplar and Alder second growth scrub. The open areas support various grasses and sagebrush to qualify as grazing land and minor areas are actively under cultivation. Minor ponds and sloughs occur on the property and offer supplies of water for drilling purposes.

GEOLOGY

The area under consideration is underlain in major part by the southeast extremity of the Iron Mask Batholith. The Iron Mask Batholith is a member of the Coast Intrusives and is represented by diorites, gabbros, syenites and monzonites. A section through the batholith would show a central core of monzonite flanked by more mafic diorite and gabbro. The syenite would appear to represent an alteration product of the diorite. Making entry along zones of weakness through the monzonitic core of the batholith occur dykes of ultrabasic material locally termed picrite basalt. The latter probably represents a basic differentiate during the latter

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part of the intrusive history of the batholith. To the south, east and west of the batholith occur volcanic rocks, members of the Nicola Series and Kamloops Series. Contact is made with these younger rocks within the property boundaries. In general these younger rocks dip away gently from the central core of the Iron Mask Batholith.

MINERALIZATION

The occurrence of mineralization along the margins and within the Iron Mask Batholith is structurally controlled. Along the east margin of the batholith, as shown by the current exploration on the Kimberley Copper Mines Ltd. property some three and a half miles to the north, mineralization may be directly related to three structural lineations, i.e., a series of N.S. joints and faults parallel to the margins of the batholith, a series of WNW faults and joints occurring radically within the batholith and with a series of flat lying shear zones commonly oriented parallel to the contact between the batholithic rock and the Nicola Volcanics. Mineralization observed at several locations within the batholith shows a variable preference for the three named lineations and is usually of greater dimension in one direction.

To the north and west of the property under discussion copper mineralization occurs as chalcopyrite, rarely bornite, lining fracture faces and joint fillings and on occasion narrow lenses of massive sulphides may be found following structural lineations. Pyrite is ubiquitous. The near surface expression of the copper sulphides is that of a

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strong development of azurite and malachite.

Within the limits of the property copper mineralization has been observed as calcocite, native copper with minor chalcopyrite. It would appear that the mineralization is related to a series of joints running N/S and flat lying shear zones. Where fracturing is intense, the resulting high surface area presented by the host rock would be conducive to precipitation of copper bearing minerals out of migratory solutions making entry along movement planes. As with other areas the near surface mineralization is usually restricted to the carbonates, malachite and azurite.

HISTORY

The area of the property has been subjected to sporadic exploration since the latter part of the nineteenth century. Earlier efforts were directed towards the search for gold in quartz veins. Later efforts prior to 1930 were directed to the location of high grade copper bearing structures evidenced by the numerous exploration pits and trenches in the area. Such a situation was developed on the Kamloops Copper Consolidated Ltd. property where some few thousand tons of high grade copper ore was mined and milled. Since 1950 several nearby properties have developed tonnages of ore grade material, i.e., Cominco Ltd., Ajax Property - 10,000,000 tons of 0.50% Cu., Galaxy Copper Ltd., 5,000,000 tons of 0.5% Cu., Makao Development Co. Ltd., 250,000 tons of 2.0% Cu. Further, active exploration programmes are in progress on several properties situate within the area of the Iron Mask Batholith.

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The area of the property under discussion has been subjected to sporadic exploration since 1950 with primary attention given to the area between the Joker Adit and Separation Lake. In 1955 Commercial Minerals Ltd. drilled some 5,500 feet of diamond drilling and some bull-dozer stripping in the vicinity of the Joker Adit. Several sections of significant mineralization were sectioned, however work was terminated for unknown reasons. Later, parts of the mineralized area were subjected to geophysical surveys but results are not available. In the autumn of 1966 Pinnacle Mines Ltd. acquired the property and conducted magnetometric and induced polarization surveys over the central portion of the property including the Joker Adit. Also some 1,200 feet of diamond drilling was carried out.

During the months of July and August, the entire area of the property was subjected to a geochemical survey. The results of past and current work will be discussed in the following pages.

GEOCHEMICAL SURVEY

Purpose

A programme of geochemical soil sampling was carried out over the area of the property in an attempt to delineate areas where mineralization is known to occur as a result of diamond drilling and to better define geophysical anomalies indicated during earlier exploration work, especially induced polarization anomalies.

Method

A geochemical survey as related to mineral explor-

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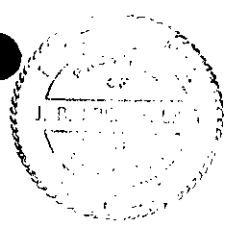
ation entails the analysis of soil cover for trace amounts of specific metals on the premises that relative concentrations of the specific metals in the overburden have been derived from deposits of these metals below bedrock surface. In practice, soil samples are derived from a particular horizon at grid intersections over the area being investigated, the samples analysed and the analyses plotted in their correct geographical location on a map. These values are contoured, statistically analysed and thence correlated to the geographical environment.

In particular, a line grid was established over the property with lines at four hundred foot intervals and two hundred foot stations established on the ground. At each of these stations a soil sample was obtained by means of a stainless steel auger. Every attempt was made to consistently sample the "B" horizon, i.e., the soil layer immediately below the humus layer. The samples were placed in heavy manila envelopes, labeled and catalogued before submission to Crest Laboratories Ltd. of Edmonton for analysis. Under the direction of Mr. Sawyer, Chemist, the samples were air dried, screened to -80 mesh and subjected to cold acid extraction. These extracted samples were then analysed for copper content and the values expressed in parts per million, i.e., p.p.m. These values were plotted on the attached map on a scale of 1"=500'. Only copper values were considered.



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DISCUSSION OF GEOCHEMICAL RESULTS

The geochemical soil sampling programme carried

must be considered successful in that the results may be correlated directly with geophysical information available and has indicated areas of interest not previously known.

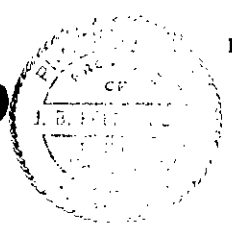
Two environmental factors encountered on the property are considered to be critical in the interpretation of the results:

(a) the overburden is heavy and in some areas may exceed 100 feet though the average would be less.

(b) tests conducted indicate that the ph of the soil is in general high, i.e., 8+.

The heavy overburden would tend to mask the presence of mineralization below bedrock surface. Further, the basic character of the overburden would sharply curtail the upward migration of metallic ions. Hence, any concentration of metallic ions detected at ground surface would have added significance.

The average background values encountered on the property is of the order of 60 p.p.m. The results were contoured at intervals of 100 p.p.m. and it will be noted that the higher values are concentrated within the northwest quadrant of the property. It is within this area that previous work has indicated copper mineralization. Further, the magnetometric survey and preliminary geological observations indicate that this quadrant is underlain by the monzonite member of the Iron Mask Batholith, the host rock of copper mineralization.



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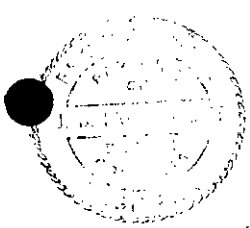
ZONE NO. 1 - the area of the zone overlies the southeast extremity of the monzonite core of the Iron Mask Batholith. Cupriferous mineralization of ore grade is known to underlie the zone as indicated by diamond drilling. Values of up to nine times background occur as peaks set in higher than normal background.

ZONE NO. 2 - an elongate zone of values up to five times background parallel to and immediately east of the west margin of the Iron Mask Batholith and Cherry Creek Breccia rocks. It would appear that the configuration of the area reflects the two structural lineations present, i.e., joints striking NE/SW and NNW/SSE.

ZONE NO. 3 - a poorly defined area with peak values of up to 500 p.p.m. Due to the fact that portions of the area were under cultivation, the contours could not be effectively closed and additional sampling will be required as soon as access is permitted.

ZONE NO. 4 - this zone overlies the SW margin of the Iron Mask Batholith and is coincident with a high linear magnetic trend. The anomaly is open to the NW and will entail additional sampling at least to the property boundaries.

ZONE NO. 5 - values here approach seven times background. The configuration of the outlined area suggests a point source such as mineralization along the intersecting of two planar



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joint surfaces.

ZONE NO. 6 - an elongate area within and along the westerly margin of the Iron Mask Batholith. Several peaks occur along its length and its linear character suggests a linear source such as a mineralized shear zone or fault.

ZONE NO. 7 - an apparently linear zone open to the west, in part. Copper mineralization has been observed at surface. The anomaly overlies the west margin of the Iron Mask Batholith.

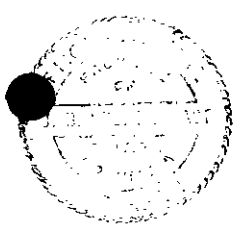
ZONE NO. 8 - this zone consists of several closely spaced peaks lying within the Iron Mask Batholith. The northerly portion is associated with known copper mineralization as indicated by diamond drilling.

ZONE NO. 9 - an area similar to Zones 4 and 8, and probably represents a similar linear causative effect.

ZONE NO. 10 - a weaker but positive zone with values of three times background. The source of the anomaly is probably percolation from intersecting joints.

ZONE NO. 11 - this zone overlies the contact of the Cache Creek sediments and overlies in part the ultra-basic picrite basalt. Overburden is generally heavy so as to offer no positive correlation with geological observations.

ZONE NO. 12 - overlies a large dyke of picrite basalt. This



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picrite basalt has been observed to host cupriferous mineralization in other areas, however no evidence of mineralization was observed locally.

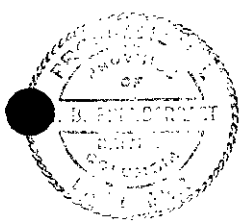
ZONE NO. 13 - similar to Zone 12.

ZONE NO. 14 - overlies the contact between the Nicola Volcanics and the Iron Mask Batholith. This linear area is coincident with a strong magnetic trend however extensive overburden and limited outcrop preclude further correlation at this time.

The above-mentioned zones or locations of interest are to be subjected to further investigation in order to determine the causative factors of the high copper values found in the overburden and if possible to locate the sub-bedrock surface source of copper mineralization.

GENERAL DISCUSSION

Previous to acquisition of the property by Pinnacle Mines Ltd., exploration efforts appear to have been sporadic and without co-ordination. Drilling operations were carried out on the basis of surface observations and yielded several sections of ore grade material. Subsequent efforts in the form of a magnetic survey over the central area of the property and induced polarization surveys over small selected areas have yielded significant results. The current geochemical survey has offered corroberation in part of previous work and has indicated additional areas of interest. It is suggested that these investigations be expanded and correlated with the



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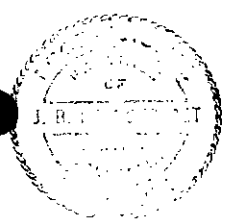
geological environment in a continuing effort to assess the economic potential of the property.

CONCLUSIONS

Significant cupriferous mineralization is known to occur at least three locations on the property. Previous drilling operations have indicated an estimated 65,000 tons of 0.66% Copper ore to exist in the vicinity of the Joker Adit. Current and recent geochemical and geophysical investigations have revealed additional areas worthy of further surface and sub-surface exploration. Further, the anomalous conditions indicated occur within an area underlain by rocks known to host significant bodies of copper mineralization elsewhere within the Iron Mask Batholith. The environmental conditions offered by the property coupled by the presence of copper mineralization at several locations within the property boundaries lend credence to the possibility of locating a mass of mineralized material of such dimensions and grade so as to make extraction of metallic content economically feasible. With the above ultimate end in view, it is in order therefore to pursue an aggressive programme of exploration so that the economic potential of the property may be evaluated.

RECOMMENDATIONS

In order to more fully assess the potential of the property it is recommended that exploration efforts on the property be accelerated and expanded. Such a programme would proceed along the following lines:



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A. The area of the property should be mapped in detail with geological observation to be plotted on a scale of at least 1"-200' in order to correlate the results of previous work to the geological environment.

B. The areas indicated as anomalous by the geochemical and geophysical surveys should be surveyed in detail using the induced polarization method. Previous I.P. work was executed using broad line intervals so that the anomalies indicated lack definition. Future work should be directed towards delineating these zones with line spacing not to exceed 200 feet.

C. Where complete closure of geochemical anomalies could not be affected due to lack of access, further sampling should be conducted when conditions permit.

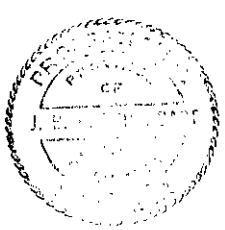
D. Where conditions of overburden permit, areas indicated as anomalous should be trenched to expose bedrock and thereby determine the causative factors of the anomalies and permit sampling of same.

E. Areas of interest indicated by previous techniques should be investigated at depth by means of diamond drilling.

Estimated costs of carrying out the above recommendations are as follows:

PHASE I

1.	Geological Mapping on scale 1"=200'	$ 5,000.00
2.	Induced Polarization Survey 20 miles @ $425/per mile	8,500.00
3.	Detailed geochemical survey	2,000.00
4.	Bulldozer stripping HD-25 with rippers 500 hours @ $35/per hour	17,500.00



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5.	Diamond Drilling - 4,000 feet B.Q. Wireline Core @ $10/per foot	$ 40,000.00
6.	Engineering Supervision and Consulting	6,500.00
7.	Assays and misc. supplies	5,000.00
8.	Contingency	8,000.00
	Total	$ 92,500.00

Contingent upon the results of the investigations outlined above, the programme may be expanded and continued.

PHASE II

1.	Diamond Drilling - 6,000 feet B.Q. Wireline Core @ $10/per foot	$ 60,000.00
2.	Bulldozer Stripping 500 hours @ $35/per hour	17,500.00
3.	Detailed geophysics - I.P.	10,000.00
4.	Engineering Supervision and Consulting	6,000.00
5.	Assays and sampling	7,000.00
6.	Contingency	10,000.00
	Total	$110,500.00

Respectfully submitted,

VELOCITY SURVEYS LIMITED

J.B. Prendergast, M.A., P.Eng.

PROFESSIONAL ENGINEER PROVINCE OF ONTARIO J. B. PRENDERGAST

Jan 13/69

Expiry Date: May 23, 1969

CERTIFICATION

TO WHOM IT MAY CONCERN:

I, Joseph B. Prendergast of the City of Calgary, Province of Alberta, hereby certify:

1. THAT I am a geologist-geophysicist and reside at 1720 - 110 Avenue S.W., Calgary, Alberta.

2. THAT I am a graduate of the University of Toronto (1950) with a Bachelor of Arts degree, Physics and Geology and Master of Arts degree, Geophysics, and that I have been practising my profession as a geologist-geophysicist for seventeen years.

3. THAT the report is based on work carried out under my direction by Clemens T. Pasieka, who made a personal examination of the property and also on results obtained from geochemical reports on the property, and from government publications relevant to the area.

4. THAT I do not have, nor do I expect to receive, either directly or indirectly, any interest in the property discussed herein or in the securities of Pinnacle Mines Limited (NPL).

DATED this twenty-ninth day of October, 1968.

Jan 13/69

Expiry Date: May 28, 1969

J.B. Prendergast, M.A.,P.Eng.

BIBLIOGRAPHY

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Huntec Limited - A.R. Dodds, B.Sc.

February 1966.

2. Report on Induced Polarization Survey
on Pinnacle Claim Group

McPhar Geophysics Limited
- Philip G. Hallof, Ph.D.
- Robert A. Bell, Ph.D.

January 18, 1967

3. Report on Exploration Programme
Pinnacle Mines Limited

- L.G. Phelan, M.A.Sc.

June 12, 1967

4. Summary Report on A, C and C1e Claims

- C.F. Millar, B.A.Sc.

5. Geology and Mineral Deposits of Nicola Map Area,
British Columbia. Geological Survey of Canada

Memoir 249 - W.E. Cockfield

1961

6. B.C. Minister of Mines Annual Reports
1908, 1909, 1911, 1913, 1924, 1929.

- J.M. Carr - 1956
- J.M. Carr - 1966

1969

LIST OF PERSONNEL

Name	Position	Salary	Period Worked
B. Stevenson	Technician	$350/month	July 5 - Aug. 30/68
B. Reagen	Technician	350/month	July 5 - Aug. 28/68
P. Krause	Technician	400/month	July 8-10, 12-16 Aug. 3-30 Sept. 6-16
M. Mitchell, B.Sc.	Geologist	600/month	July 6 Aug. 4-9, 15-17, 22-24, 28, 29
C.T. Pasieka, B.Sc.	Supervisor	850/month	July 5,6,14,26 Aug. 6,7,15,23 Sept.6,9,16
J.B. Prendergast, M.A.,P.Eng.	Consultant	150/day	July 5,6 Sept. 29,30 Oct. 27,28,29

ADDENDUM TO REPORT

PINNACLE MINES LIMITED (NPL)

J.B. Prendergast, M.A., P.Eng.

November 5, 1968

Preliminary results from the geological mapping programme now in progress on the property indicate additional areas underlain by the monzonitic rocks comprising the core of the Iron Mask Batholith. It is these acidic rocks that host cupriferous mineralization in the area. Further, disseminated chalcopyrite and malachite has been noted in areas previously unknown on the property. These findings dictate that the programme outlined in the attached reports be expanded so that the recent geological findings may be more fully investigated.

The extension of the programme should incorporate the following:

1.	10 Miles I.P. Survey at $425 per mile	$ 4,250.00
2.	15 Miles Magnetometric Survey @ $100 per mile	1,500.00
3.	50 Hours Bulldozer Stripping @ $35 per hour	1,750.00
4.	1500 Feet Diamond Drilling B.Q. Wireline @ $10 per foot	15,000.00
5.	Sampling and Assays	1,500.00
6.	Engineering Supervision and Consulting	3,500.00
7.	Transport and Accommodation	4,000.00
8.	Contingency	3,500.00
	Total	$35,000.00

Jan 13/69

Expiry Date: May 23, 1969

Respectfully submitted,

J.B. Prendergast, M.A., P.Eng.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of A GEOCHEMICAL SURVEY CARRIED OUT ON BEHALF OF PINNACLE MINES LIMITED (NPL) BY VELOCITY SURVEYS LIMITED.

I, CLEMENS TERENCE PASIEKA

of 824-602 West Hastings Street, Vancouver

in the Province of British Columbia, do solemnly declare that the following costs were incurred by, invoiced to and paid by Pinnacle Mines Limited (NPL) in relation to a Geochemical Survey carried out by Velocity Surveys Limited on the A, C, Cle and Pin Claims in the Kamloops Mining Division, Province of British Columbia.

Geochemical Soil Sampling (including analysis and linecutting)	
1,785 Stations @ $4.50	$ 8,032.50
Vehicle Rental	269.79
Accommodation for Crews	1,222.53
Miscellaneous Supplies	106.25
TOTAL	$ 9,631.07

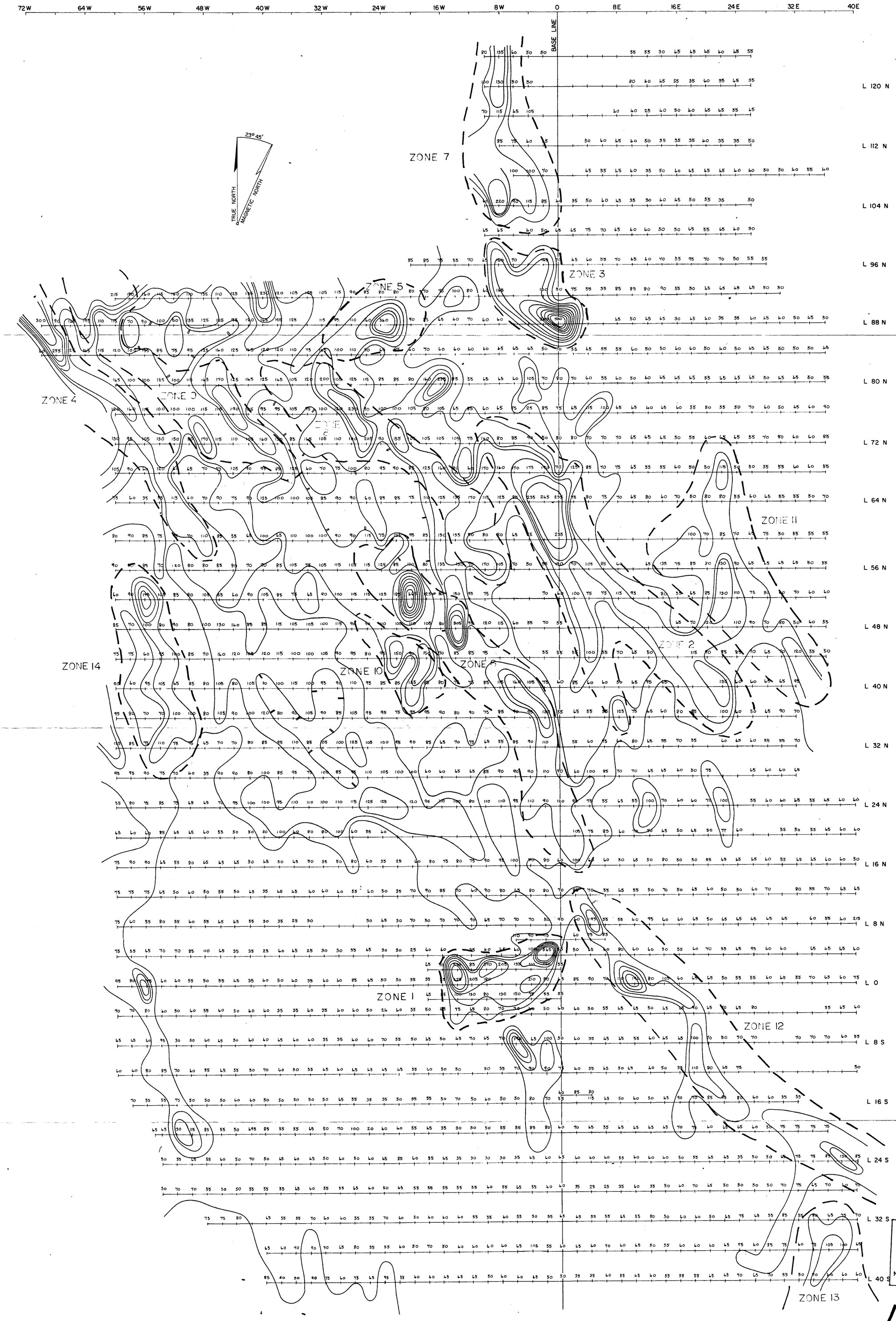
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Kamloops, in the Province of British Columbia, this 20th day of January, 1969 A.D.

Clemens T. Pasieka

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

★o



NOTES:

INDIVIDUAL ANALYSES PLOTTED AS PARTS PER MILLION (p.p.m.)

CONTOUR INTERVALS 100 p.p.m.
25 p.p.m.
50 p.p.m.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1746 MAP 1

1746

PINNACLE MINES LIMITED

GEOCHEMICAL SURVEY

A, C, Cle and Dio CLAIMS

KNUTSFORD AREA

KAMLOOPS MINING DIVISION

SCALE: 1" = 500'

Expiry Date: May 28, 1969

VELOCITY SURVEYS LIMITED

SEPTEMBER 30, 1968

TO ACCOMPANY REPORT BY J. B. [illegible]

1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1746 MAP 3

HWY. 5

2100 Base Line

L. 585

CLE 1 | CLE 2 | CLE 3 | CLE 5 | CLE 6 | CLE 7 | CLE 8 | CLE 9 | CLE 10

7 A | 8 A | 6 A | A 1 FR. | A 4 | A 1 | A 2 | A 3 | A 9 | A 10 | A 11 | A 12 | A 13 | A 14 | A 15 | A 16

5 A | A 2 FR. | PIN 5 FR. | PIN 8 FR. | PIN 6 FR. | PIN 1 FR. | PIN 2 FR. | PIN 7 FR. | PIN 3 | PIN 4 | PIN 9 | PIN 10 | PIN 11 | PIN 12 FR.

C 1 | C 2 | C 3 | C 4 | C 5 | C 6 | C 7 | C 8 | C 9 | C 10 | C 11 | C 12 | C 13 | C 14 | C 15 | C 16 | C 17 | C 18 | C 19 | C 20 | C 21 | C 22 | C 23 | C 24 | C 25 | C 26

J 1 | J 2 | J 3 | J 4 | J 5 | J 6 | J 7 | J 8 | J 9 | J 10 | J 11 | J 12 | J 13 | J 14 | J 15 | J 16 | J 17 | J 18 | J 19 | J 20 | J 21 | J 22 | J 23 | J 24 | J 25 | J 26 | J 28 | J 29 | J 30 | J 31 | J 32 | J 33 | J 34 | J 35 | J 36 | J 38

0+00

2100 Base Line

HWY. 5

LEGEND

- POND OR SWAMP
- ACCESS ROAD
- MAIN HIGHWAY
- LOT 585
- DDH.

1746

Expiry Date: Nov 28, 1969

PINNACLE MINES LIMITED

CLAIM SKETCH

A, C, Cle and Pin Claims

KNUTSFORD AREA

KAMLOOPS MINING DIVISION

SCALE 1" = 1000'

TO ACCOMPANY REPORT BY [illegible] HENDERSON

2