2892

Geochemical - Geophysical Report
AZURITE GROUP
Cas 1-32 and Adjoining Mineral Claims
(49° 120° SE) 9 miles south of Princeton,
B. C. for
Sinmax Mines Limited,
between October 25 and December 7, 1970.
W. S. Read, B. Sc., P. Eng.
December 7, 1970

92H /8W

WAYLAND S. READ, B.SC., P.ENG.

...ODE 604—TELEPHONE 922-1847 *Consulting Geologist* 860 YOUNETTE DRIVE, WEST VANCOUVER, B.C., CANADA

December 7, 1970

The Board of Directors,
Sinmax Mines Limited,
#510 - 850 W. Hastings Street,
Vancouver 1, B.C.

Gentlemen:

At your request an extension of coverage has been completed on your Azurite Group of Claims south of Princeton, B.C.

This adds to the work completed during 1968, and gives line control, geochemical and geophysical data for the northwest part of the claims group.

Yours very truly,

W.S. Read

W.S. Read, P. Eng.

war/s

GEOCHEMICAL - GEOPHYSICAL REPORT

AZURITE GROUP
Cas 1-32 and Adjoining Mineral Claims
(49° 120° SE)
9 miles south of Princeton, B. C.

in the

SIMILKAMEEN MINING DIVISION
Province of
British Columbia, Canada

for

SINMAX MINES LTD.

by

W. S. Read, B. Sc., P. Eng.,
860 Younette Drive,
West Vancouver, B. C.

December 7, 1970

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LIST OF ILLUSTRATIONS:

LOCATION:

The Azurite Group of 77 recorded mineral claims (Cas, Big Eli, etc.) is located in the Similkameen Mining Division, British Columbia, Canada, on map sheet 92 H/8 W of the National Topographic System with approximate coordinates of 49° 19' N, 120° 28' W. The approximate elevation of the claims group is between 3,500 feet and 5,200 feet.

The claims lie east of the Copper Mountain road and west of Willis Creek, some eleven miles by road south of the town of Princeton. At this point a truck road to the southeast approaches the west boundary of the claim group.

ACCESS:

Princeton is about 190 miles east of Vancouver on B. C. Highway No. 3. The town has an airstrip suitable for light planes and facilities to service the surrounding area.

The claims are reached from Princeton via the Princeton-Copper Mountain access road, a partly paved secondary road. A truck road branches southeast and approaches within 2,000 feet of the northwest claim boundary. There are no roads nor improvements in the claims. Much of the area is covered with light overburden, thick jack pine, and timber. Rock outcrops are quite sparse, except on ridges and deep cut gullies. Several ponds and small streams exist on the property, however, a fresh water supply is limited during summer months.

CLIMATE:

The climate is continental in nature, classfied as dry belt with snow cover during winter months. Temperature and precipitation records for Princeton, elevation 2,282 feet, between 1941 - 1964 are as follows:

Temperature, maximum 107° F., mean average 49° F., minimum -42° F.

Precipitation, total 14.1 inches, snow 59.5 inches.

Mining can be conducted year-round, with the summer and fall months providing the most ideal conditions for carrying out exploration or related field operations.

CLAIMS HELD BY COMPANY

The company has advised that they hold 77 claims listed hereunder. The transfer of the claims to the company has not been checked, as it is believed that the company has retained counsel to ensure itself of proper title to the ground. The claim corners visited seem to be reasonably well staked. The claims in part cover the Azurite, Copper Glance and other expired Crown Granted mineral claims.

Claim Name and Number	Record No.	Tag No.	Expiry Date
Cas #1	22075	890401	March 27
Cas #3 to Cas #32 incl.	22076 - 22105 incl.	890403 - 890432 inc.	March 27
Big Eli #1 to Big Eli #12 inc.	22235 - 22246 incl.	890433 - 890444 inc.	April 29
Taf Fr. #1	22539		June 5
Dea #1 to Dea #4 incl.	22992 - 22995	692804 - 692807	July 29
Des #1 to #16 incl.	23168 - 23183	692808 - 692823	August 15
Asp #1 - 3 Fraction incl.	23787 - 23789	573690 - 573692	October 4
Mark 3-8 incl.	23997 - 24002	573695 - 573700	November 22
OAB FR	23871		November 1
BOA FR	23872		" " "
Scotch Fr.	23873		" " "
Leam Fr.	23874		" " "

HISTORY:

Copper, gold, silver, platinum, other metallic minerals and coal, in lode and placer deposits have been located, developed and mined in the Princeton area since the 1860's. The earliest geological investigation in the Princeton district was made in 1859-61 in connection with the International Boundary Commission Expedition. Since that time periodic surveys have been made by various government and private organizations. Summary details of this background information are given in Memoir 243, Geology and Mineral Deposits of the Princeton Map-Area, British Columbia, by H.M.A. Rice of the Geological Survey of Canada 1947.

The claims are located in an area that is referred to as the Voigt camp and cover the lapsed Crown Granted claims known as the Azurite and Copper Glance Crown Granted in 1905, No. 54, No. 55, and No. 56. This is about two miles east of the Copper Mountain open pit recently purchased by Newmont Mining Corp. from Granby Mining Co. Ltd. for a reported $8,000,000.00 cash, plus 40,000 shares.

It adjoins Cumont optioned ground to the north and west and Silver Standard optioned ground to the south.

In 1968 a preliminary exploration program was conducted on the property by Wayland S. Read Limited for Sinmax Mines including line cutting, geochemical and geophysical surveying, preliminary geological mapping and location of claim posts in relation to grid lines and all Crown grant survey posts.

GEOLOGY:

Geological investigations in the Princeton area were initiated in 1859-61 The area is underlain by a succession of volcanic rocks ranging in age from late Paleozoic to late Tertiary, by sedimentary rocks mostly interbedded with the volcanics and by intrusive rocks ranging in composition from granite to peridotite of Jurassic to late cretaceous or early Tertiary. The most interesting mineralized zones located to date appear to have been related to the Copper Mountain intrusives of syenites-granodiorites and the basic periodotite-gabbro masses.

The area is structurally complex in detail with northerly trending major and minor faults. Rice considers the principal geological feature of this mining camp in the occurrence of two fair sized stocks and a number of irregular-shaped bodies of course-grained plutonic rock. These bodies are known respectively as the Copper Mountain stock, the Voigt stock and the Lost Horse intrusions form the Copper Mountain intrusions. They vary in composition from syenite to gabbro and are all conspicuously devoid of quartz. Not only do copper deposits occur with all of them, but primary copper minerals can be seen in them and in their associated pegmatitic dykes. They intrude, and have variously metamorphosed, volcanic rocks of the Nicola group.

Structurally, Nicola volcanic rocks form the western limb of a north-trending anticline and dip steeply to the west. Along the eastern border of the Copper Mountain stock these rocks have been extensively sheared in a direction roughly parallel with the bedding. They have also been intersected by many small faults that strike about east and dip steeply north, and by a series of small tension cracks that lie roughly normal to the shearing in the area between the Copper Mountain stock and the main belt of Lost Horse intrusions. In certain localities these cracks are very plentiful, and although structurally insignificant, they are of great economic importance because most of the ore deposition occurred among them.

The ore deposits of Copper Mountain are of three principal types, which may be designated by their mineral content as:

1) bornite deposits,
2) chalcopyrite-pyrite deposits,
3) chalcopyrite-hematite deposits,

The Azurite group is located on and adjoining the Voigt stock. The chalcopyrite-hematite ores occur only in the Voigt stock, occurring along east-west striking shear zones. The ore minerals are principally hematite, pyrite, chalcopyrite and magnetite, and have been found in place on the Azurite group, but much more work is required to determine its economic significance.

The copper deposits of Copper Mountain are closely related to the Copper Mountain and Voigt stocks. Mineralization, however, followed the intrusion of the stocks, as is evident from the fact that the mineral deposits occur in the fractures in the stocks and in the surrounding metamorphosed rocks.

LINE CUTTING:

The work in 1968 had established a main baseline of 1.86 miles, a north baseline of 0.64 miles for a total of 2.50 miles and 28.04 miles of picket crosslines running in a north-south direction for a total distance of 30.54 miles.

The present program extended lines 2600 E, 3000 E, 3400 E, 3800 E, 4200 E, 4600 E, 5000 E, 5400 E, to the north for a total line distance of 3.03 miles.

The picket lines were 400 feet apart, cut with axe and chain saws and cleared to maintain line of sight. The lines have stations marked every 100 feet with slope corrections made between stations so that all distances mentioned are horizontal measure. The south boundary of the No. 40 Fr. Crown grant was cleared and the line extended westward to the northeast corner of lot 1655 (Canadian Belle) a total distance of about 1400 feet. The adjoining picket lines were adjusted to these Crown grant posts and also to the S. E. corner Argintine, S. E. corner Canadian Belle, and the N. W. corner Copper Glance. The eastern lines were cut through heavy jackpine and extensive windfall areas.

MAGNETOMETER SURVEY

Type of Magnetometer:

A Sharpe fluxgate magnetometer, model MF 1, serial number 803331 was used for this survey. This is a hand held instrument requiring only coarse levelling and is not significantly affected by orientation.

The magnetometer measures the vertical component of the earth's magnetic field to 5 gammas on the lowest scale range. The full scale ranges vary progressively from a minimum of plus or minus 1,000 gammas to a maximum of plus or minus 100,000 gammas. The values can be read directly from the scale.

Temperature compensations have been built into the instrument and the only necessary correction to the readings is for the diurnal variation. The variation in each survey loop is assumed to be linear and is determined by subtracting the initial and final readings. The correction added to each reading in the loop is the product of the total diurnal. Variation of the loop and the ratio of time elapsed up to the time of the reading over the total time elapsed for the loop.

Field Procedures:

In the previous survey the McPhar fluxgate magnetometer, model M 700, was set or zeroed for the area and station 30 + 00 E on the main baseline given a value of 1000 gammas. The baseline was surveyed,

corrections in the readings made for diurnal variation and the stations at the junction of the crosslines with the baseline, were used as control points for each survey loop.

Readings were taken at every station on the baseline and every 100 feet on the crosslines. Where further detail to outline anomalous zones was needed, the station interval was closed to 50 feet and 25 feet. Diurnal variation was low and corrections were treated linearly in respect to elapsed time.

In the present survey the last or northern most station on each line was used as the control point for the line. Readings were taken every 50 feet on the crosslines and reduced to 25 feet where further detail was needed to outline anomalous zones. Diurnal variation was low and corrections were again treated linearly in respect to elapsed time.

GEOCHEMICAL SURVEY:

Soil samples were taken along the crosslines at 100 foot intervals. A mattock was used for digging the sample hole. Where possible the upper part of the "B" soil horizon was sampled.

The samples were collected in brown Kraft soil sample bags arranged in line order and forwarded directly to the assayers in Vancouver as soon as each shipment lot was collected. The samples were assayed for copper by T.S.L. Laboratories Ltd., Vancouver, B.C., using hot nitric acid extraction and metal determination by the atomic absorption process.

The assay results were plotted on the base plan at a scale of 1 inch = 300 feet, colour coded and contoured within ranges as shown on the map.

DISCUSSION OF RESULTS:

Magnetometer Survey:

The readings were plotted on a base map to a scale of 1 inch equals 300 feet, which was used as a base map for all surveys. Readings were plotted as gammas relative to the main baseline station at 30 + 00 E.

The area has quite extensive cover of light overburden covering rocks of the Copper Mountain intrusions, Otter intrusions and the older Nicola volcanic rocks making definite correlation of magnetics to geology difficult.

In the 1968 survey, several anomalous zones were outlined as shown on map 1 B, but tighter line spacing would be necessary for complete definition due to a set of north trending joints carrying hematite, pyrite, chalcopyrite and magnetite. The anomalies could be made up as a wide complex zone or several narrower zones. During the course of the magnetometer survey, the operator noted that surface iron stain did not necessarily mean that there would be corresponding magnetic highs.

The main trend of anomalous zones are found in close proximity to the Copper Mountain intrusions and in the Nicola group close to these contacts. The east half of the north baseline shows only minor variation and may be underlain by Otter intrusions. Areas where the Nicola group appeared to be more remote from the Copper Mountain intrusives also

gave readings in the background range.

In the present survey the area covered showed considerable magnetic variation on lines 3000 E, 3400 E, 3800 E, and 4200 E, north of 1200 N. The anomalous areas were usually overburden covered but in some areas were near old prospect pits.

The 400 foot line spacing should be reduced at least to a 200 foot spacing in the anomalous areas to better define the shape and direction of the anomalies.

Geochemical Survey:

The following concentration ranges for copper were selected after inspection and analysis of the analytical data:

Range	Cu - ppm
Background	0 - 25
Threshold	25 - 49
Anomalous	50 - 99
	+ 100

These results were contoured and colour coded on the map for easier study. Due to changes in topography and drainage, ion migration is expected. This should be taken into account when exploring for the source of the anomalies.

The shape of the anomalies is irregular. However, in the instances where outcrops were mapped in the anomalous areas, in the majority of cases copper minerals were reported. This confirms the method is useful in delimiting target areas and a useful preliminary tool in this area. The threshold range fell to background northeast of 82 + 00 E on the main baseline in a line very close to that of the magnetics trend and may be underlain by Otter intrusions.

The somewhat patchy results in the southwest area may be due to intrusions of the Copper Mountain intrusives through the Nicola group. Some of these intrusives were found to contain copper mineralization.

In general, the threshold range covers much of the Copper Mountain intrusions, the anomalous range shows copper mineralized sections within these intrusions and background appears to be underlain mainly by Otter intrusions and some of the Nicola group.

The shape and direction of the anomalies in the northwest section of the property could be better defined with 200 foot line spacing as suggested with the magnetometer survey.

CONCLUSIONS:

The results of the 1970 survey extension work are similar to that of the 1968 surveys where soil sampling for copper, and the magnetometer survey had outlined several anomalous areas of irregular shape. Closer line spacing is necessary for complete definition, as the anomalies could be made up of wide complex zones or several narrower zones.

Copper mineralization has been known in the general area and the extension of the line coverage will make it easier for a systematic follow-up.

This control will also aid in resolving property boundaries in the northwest part of the claims group.

PERSONNEL:

Between October 25 and December 7, 1970.

Wayland S. Read, P.Eng., Mining and Geological Consultant,
860 Younette Drive,
West Vancouver, B.C.

F. L. Schram - Chainsawman, Survey Assistant,
Penticton, B.C.

R. Barber - Linecutter, Survey Assistant,
Olalla, B.C.

BIBLIOGRAPHY

Camsell, Charles, Preliminary Report on a Part of the Similkameen District, British Columbia, No. 986 Geological Survey of Canada 1907.

Dolmage, V., Geology and Ore Deposits of Copper Mountain, B. C. Memoir 171 Geological Survey of Canada 1934.

Read, W.S., Geochemical-Geophysical Report, Azurite Group, November 15, 1968.

Rice, H.M.A., Geology and Mineral Deposits of the Princeton Map-Area, British Columbia, Memoir 243 G.S.C. 1947.

CERTIFICATE OF QUALIFICATIONS

I, Wayland Stuart Read, of 860 Younette Drive, West Vancouver, B.C., do hereby certify that:

1. I am a practising mining geologist and my address is 860 Younette Drive, West Vancouver, B.C.

2. I am a graduate in geology from Acadia University, Wolfville, Nova Scotia, and have been granted the degree of Bachelor of Science in Geology and have engaged in practising my profession for the past eleven years.

3. I am a member of the Association of Professional Engineers of British Columbia and the Yukon Territory, a Fellow of the Geological Association of Canada and a Junior Member of the Canadian Institute of Mining and Metallurgy.

4. I have no interest in the securities of Sinmax Mines Ltd. nor in the property held by them and discussed in this report.

5. This report is based on my personal work on the property in 1968 and between October 25 and November 5, 1970.

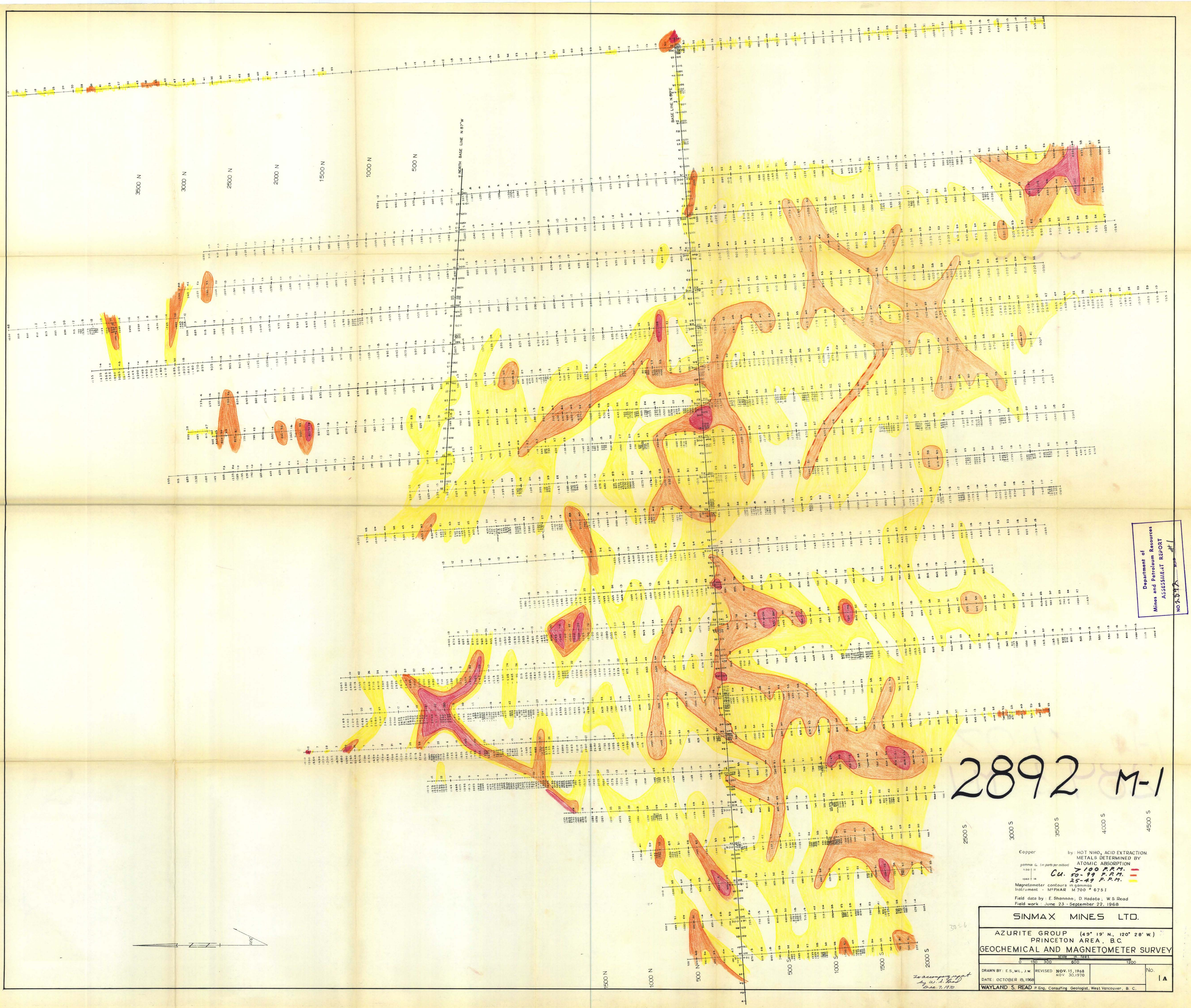
Respectfully submitted,

W. S. Read

Wayland S. Read, B.Sc., P.Eng.
Consulting Geologist.

860 Younette Drive,
West Vancouver, B.C.

December 7, 1970.



2892 M-1

Copper by: HOT NHO_3 ACID EXTRACTION.
METALS DETERMINED BY ATOMIC ABSORPTION
gammas G. (in parts per million)
1130 | 11
1040 | 14
Cu. 100 P.P.M.
50-99 P.P.M.
25-49 P.P.M.

Magnetometer contours in gammas
Instrument - McPHAR M 700 # 6751

Field data by : E. Shannon; D. Hadoto; W.S. Read
Field work : June 23 - September 22, 1968

SINMAX MINES LTD.

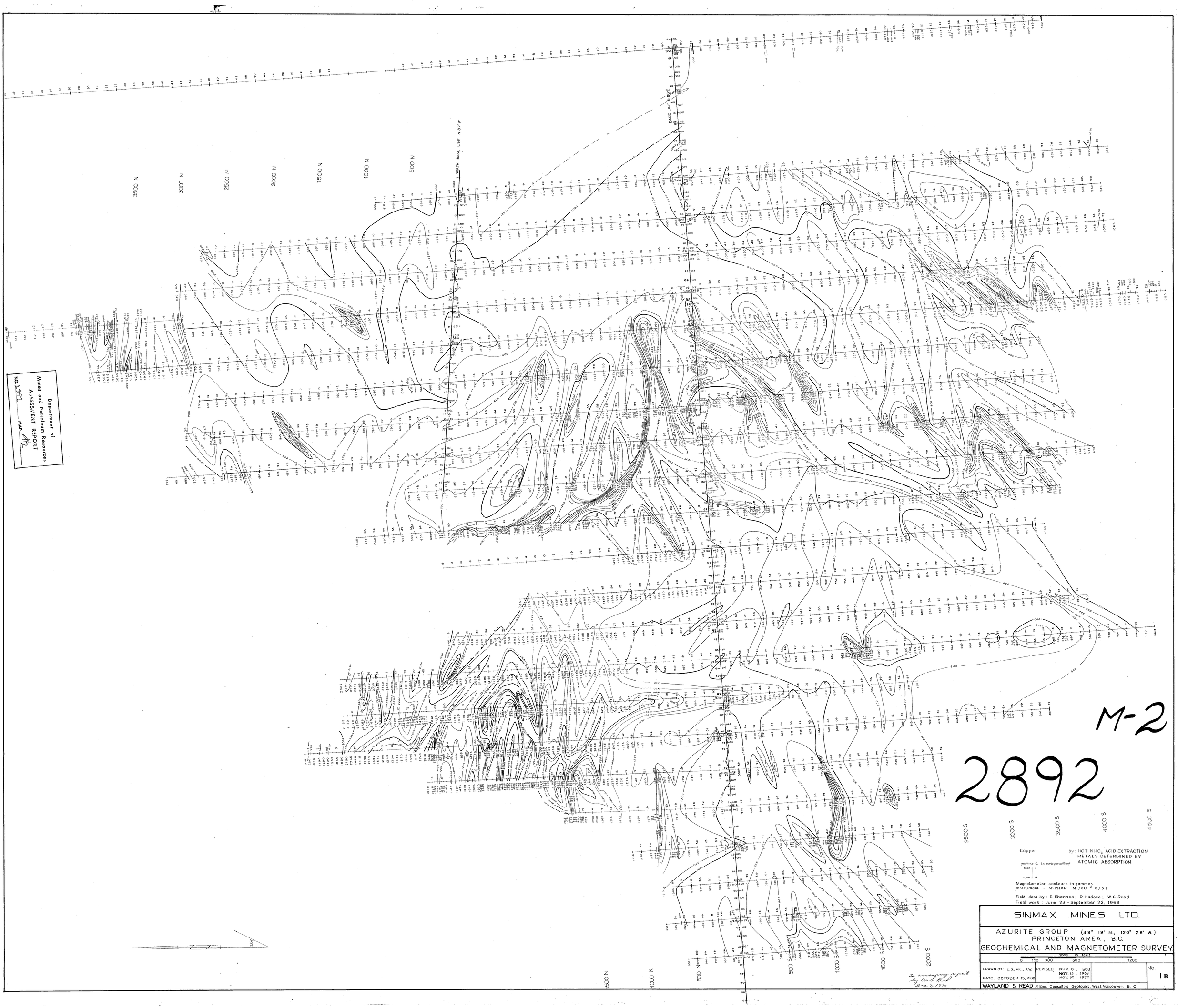
AZURITE GROUP (49° 19' N., 120° 28' W.)
PRINCETON AREA, B.C.
GEOCHEMICAL AND MAGNETOMETER SURVEY

scale in feet
0 150 300 600 1200

DRAWN BY: E.S., M.L., J.W. | REVISED NOV. 15, 1968 NOV 30, 1970 | No. 1A
DATE: OCTOBER 15, 1968

WAYLAND S. READ P.Eng. Consulting Geologist, West Vancouver, B. C.

Location map by W.S. Read Dec. 7, 1970



Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2892 MAP #2

M-2

2892

Copper by : HOT NHO_3 ACID EXTRACTION
METALS DETERMINED BY ATOMIC ABSORPTION

gammas G. (in parts per million)
1130 | 17
1040 | 66

Magnetometer contours in gammas
Instrument - McPHAR M 700 # 6751

Field data by : E. Shannon; D Hadoto; W.S. Read
Field work : June 23 - September 22, 1968

SINMAX MINES LTD.

AZURITE GROUP (49° 19' N., 120° 28' W.)
PRINCETON AREA, B.C.
GEOCHEMICAL AND MAGNETOMETER SURVEY

Scale in feet
0 150 300 600 1200

DRAWN BY: E.S., M.L., J.W.
DATE: OCTOBER 15, 1968
REVISED: NOV. 8, 1968
NOV. 15, 1968
NOV. 30, 1970
No. B

WAYLAND S. READ P. Eng., Consulting Geologist, West Vancouver, B. C.

To accompany report by W.S. Read Dec. 7, 1970

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2892 MAP #3

SINMAX MINES LTD.

AZURITE GROUP (49° 19' N., 120° 28' W.)
PRINCETON AREA, B.C.
PROPERTY PLAN

DRAWN BY: J. W.
DATE: OCTOBER 15, 1968
REVISED: MAR 19th 1969, NOV 30th 1970
SCALE: 0 150 300 600 1200 feet
NO. 2

WAYLAND S. READ P.Eng. Consulting Geologist, West Vancouver, B. C.

2892 M-3

DEA 3
DEA 4
DES 15
DES 16
DEA 1
DEA 2
DES 13
DES 14
AOB
BOA FR.
SCOTCH FR.
CAS 7
CAS 8
BIG ELI 11
BIG ELI 12
DES 11
DES 12
FALUM C.G L.416 S
BIG ELI 9
BIG ELI 10
DES 9
DES 10
ASP # 3 FR.
ASP # 2 FR.
ASP # 1 FR.
QUEEN G FR.
QUEEN G
CAS 3
CAS 5
CAS 1
CAS 4
CAS 25
CAS 26
CAS 6
BIG ELI 7
BIG ELI 8
DES 7
DES 8
CAS 11
CAS 12
CAS 31
CAS 32
BIG ELI 5
BIG ELI 6
DES 5
DES 6
CAS 23
CAS 24
CAS 13
CAS 14
CAS 29
CAS 30
BIG ELI 3
BIG ELI 4
DES 3
DES 4
CAS 21
CAS 22
CAS 16
CAS 15
CAS 27
CAS 28
CAS 17
CAS 18
WEDGE 3
WEDGE 4
BIG ELI 1
BIG ELI 2
DES 1
DES 2
CAS 9
CAS 10
LEAM FR.
MARK 3
MARK 4
MARK 7
MARK 8
MARK 5
MARK 6
2 POSTS 500' SOUTH

No. 14 C.G. L. 3289
No. 69 C.G. L. 61 S
No. 33 C.G. L. 3359
No. 23 C.G. L. 3346 M 45 (IN PART)
No. 40 FR. C.G. L. 2255 S M 45 (IN PART)
No. 71 C.G. L. 415 S. 500 N
No. 70 C.G. L. 62 S

Approximate
S.W. CORNER ARGENTINE L. 1793 S (CANCELLED)
S.E. CORNER ARGENTINE L. 1793 S (CANCELLED)
S.W. CORNER NEW No. 54 L. 2159 S (CANCELLED)
N.W. CORNER NEW No. 56 L. 216 CANCELLED
S.E. CORNER CANADIAN BELLE L. 1855 (CANCELLED)
N.W. CORNER COPPER GLANCE L. 3267 (CANCELLED)
S.E. CORNER AZURITE C.G. L. 2260 (CANCELLED)
PATH
PATH APPROX. POSITION
APPROX. POSITION
POSITION APPROXIMATE BULLDOZER TRENCH
220 DE ARGENT ROAD
HAND PITS
OLD SHAFT
OLD WORKINGS
NORTH BASE LINE N 87° W
BASE LINE N 86° E
3500 N
3000 N
2500 N
2000 N
1500 N
1000 N
500 N
500 S
1000 S
1500 S
2000 S
2500 S
3000 S
3500 S
4000 S
4500 S