

4372

Geophysical Report
AZURITE GROUP

21

Cas 1, 3-32 and Adjoining Mineral Claims
(49° 120° SE) 9 miles south of Princeton,
C.S. Asp. B.C. for Falum (C.G.),
Queen G. Sinmax Mines Limited N.C. H.C. Fr. (C.G.)
Between March 22 and April 20, 1973

W. S. Read, B. Sc., P. Eng.

April 20, 1973 92H/8W

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4372 MAP

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

AREA CODE 604—TELEPHONE 922-1347

Consulting Geologist

880 YOUNETTE DRIVE, WEST VANCOUVER, B.C., CANADA

April 20, 1973

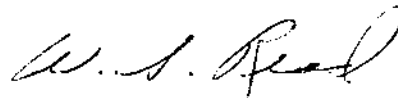
The Board of Directors,
Sinmax Mines Limited,
#103 - 1237 Burrard Street,
Vancouver 1, B. C.

Gentlemen,

At your request I have conducted fill-in line cutting and a detailed magnetometer survey on part of your Azurite Group of Claims south of Princeton, B. C. for assessment purposes.

This helps detail part of the area covered in the 1968 and 1970 surveys and gives better outlines to the anomalies in the area. This detail work should be continued when time and funds are available.

Yours very truly,



W. S. Read, P. Eng.

war/e

4372

GEOFYSICAL REPORT

AZURITE GROUP
Cas 1, 3-32 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.

April 20, 1973

Between March 22 and April 20, 1973

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LIST OF ILLUSTRATIONS:

# 1 (A) Magnetometer Survey Plan	Scale 1 inch = 300 feet
# 2. Property Plan	Scale 1 inch = 300 feet

LOCATION:

The Azurite Group of 34 recorded mineral claims (Cas, 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 $49^{\circ} 19' N$, $120^{\circ} 28' W$. 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. The balance of the road to and on the property is a rough bulldozer road with some areas of steep gradients.

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, classified 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 34 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.

<u>Claim Name and Number</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Expiry Date</u>
Cas #1	22075	890401	March 27
Cas #3 to Cas #32 incl.	22076 - 22105 incl.	890403 - 890432 inc.	March 27
Asp #1 - 3 Fraction incl.	23787 - 23789	573690 - 573692	October 4

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 purchased in 1967 by Newmont Mining Corp. from Granby Mining Co. Ltd. for a reported \$8,000,000.00 cash, plus 40,000 shares. This and the Ingerbell orebody are now held by Newmont's wholly owned subsidiary, Similkameen Mining Company Limited.

It adjoins Cumont optioned ground to the north and west.

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.

Additional line work was completed in 1970. Following that bulldozer roadwork, some stripping and diamond drilling was done on the property by another group.

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 peridotite-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 coarse-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 and 1970 had established a main baseline of 1.86 miles, a north baseline of 0.64 miles for a total of 2.50 miles and 31.07 miles of picket crosslines running in a north-south direction for a total of 33.57 miles.

The present program filled in lines 1200E, 1600E, 2000E, 2400E, 2800E, 3200E, 3600E to the north for a total line distance of 2.39 miles. This filled in the detail to 200 foot line spacings in an area of higher magnetic variation.

These compass lines were cleared with axes to maintain line of sight. The lines have stations marked every 100 feet and where possible were tied into known position. Some of the old pickets were remarked and the bulldozer roads were tied into the grid system.

Much of the work was done on snowshoes.

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 present survey the baseline stations were used as control points for the lines. 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.

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. Other 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 1B, 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 a start of the fill-in to 200 foot line intervals as recommended in 1970 was initiated. Lines 2400E to 3600E in the present survey showed the most variation and helped to detail the magnetic variation in the area.

As time and funds are available this detail work should be continued to the east.

GEOCHEMICAL SURVEY:

Because of heavy snow and frozen ground soil sampling on these lines will have to be taken when field conditions are more favourable.

CONCLUSIONS:

The fill-in work conducted in 1973 to detail some of the area of the 1968 and 1970 surveys has helped define the anomalous areas and should be expanded when time and funds are available.

Copper mineralization has been found in this area and the detail may aid in determining the significance of these showings.

PERSONNEL:

Between March 22 and April 20, 1973.

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

M. Blundell - Linecutter, Survey Assistant,
West Vancouver, B.C.

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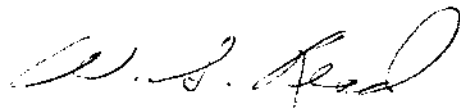
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Claims, Azurite Group, Princeton Area, November 1970.**

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, 1970 and between March 22 and March 28, 1973.

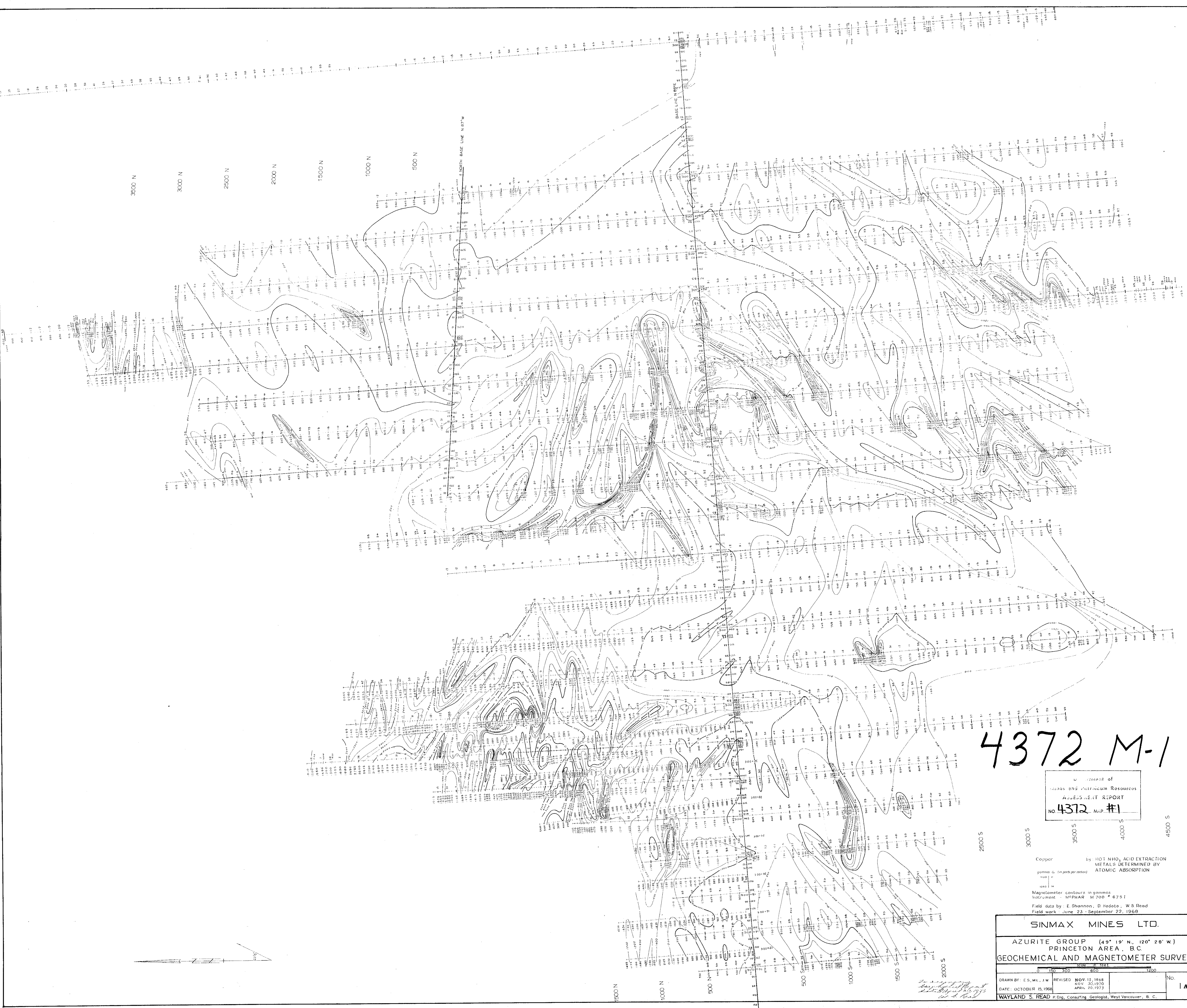
Respectfully submitted,



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

860 Younette Drive,
West Vancouver, B. C.

April 20, 1973



4372 M-1

Department of
 Mines and Petroleum Resources
 ANALYSIS REPORT
 NO. 4372 M.P. #1

Copper by HOT NHO₃ ACID EXTRACTION
 METALS DETERMINED BY
 ATOMIC ABSORPTION
 (gamma/g in path per cent)
 Magnetometer contours in gammas
 Instrument - MOPHAR M 700 # 6751
 Field data by - E. Shannon, D. Hedoto, 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	
DRAWN BY: E.S., M.A., J.W. DATE: OCTOBER 15, 1968 WAYLAND S. READ P. Eng. Consulting Geologist, West Vancouver, B.C.	REVISED NOV 15, 1968 NOV 30, 1970 APRIL 20, 1973 No. 1A



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 No. 4372 MAP #2

SINMAX MINES LTD.			
AZURITE GROUP (49° 19' N., 120° 28' W.) PRINCETON AREA, BC PROPERTY PLAN			
DRAWN BY: J.W. DATE: OCTOBER 15, 1968	REVISED: MAR. 19th 1969 NOV. 30th 1970	APRIL 20, 1973	No. 2
WAYLAND S. READ P. Eng. Consulting Geologist, West Vancouver, B. C.			