

GEOLOGICAL-GEOPHYSICAL REPORT ON THE
WEST GROUP-IZMAN CREEK CLAIMS

LOCATED: 12 miles North of Lytton, B.C.

901/5E (49° 27' N; 121° 37' W)

BY: G.A. Noel, P. Eng. Geologist
EL PASO MINING AND MILLING COMPANY

SEPTEMBER 23 - NOVEMBER 13, 1972

4120

GEOLOGICAL - GEOPHYSICAL REPORT

ON THE

WEST GROUP - IZMAN CREEK CLAIMS

LOCATED: 12 Miles North of Lytton, B.C.
(49° 27' N; 121° 37' W)

KAMLOOPS MINING DIVISION

4120

BY

G. A. NOEL, (P. Eng.) Geologist

EL PASO MINING AND MILLING COMPANY

SEPTEMBER 23 - NOVEMBER 3, 1972

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4120 MAP.....



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S U M M A R Y

Between September 23rd and November 3, 1972 geological mapping and a magnetometer survey were conducted on the West Group of the Izman Creek Claims, about 12 miles north of Lytton, B.C. The West Group is owned by Santana International Resources Ltd., and was optioned to El Paso Mining and Milling Company on August 1, 1972.

The claims are underlain by diorite and granodiorite of the Mt. Lytton batholith with included pendants of Cache Creek Group rocks. Chalcopyrite occurs irregularly through narrow quartz stringers, which cut both intrusive and metamorphic rocks. The best copper mineralization is in the skarn-altered limestone. Coincident copper and molybdenum soil anomalies were outlined in a previous survey over the West Group, which is largely underlain by diorite with scattered skarn remnants. The magnetometer survey failed to indicate any significant magnetic anomalies.

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EL PASO MINING AND MILLING COMPANY
DEL NORTE MINING GROUP

FIGURE 1
LOCATION MAP
IZMAN CREEK PROPERTY
LYTTON AREA, B.C.

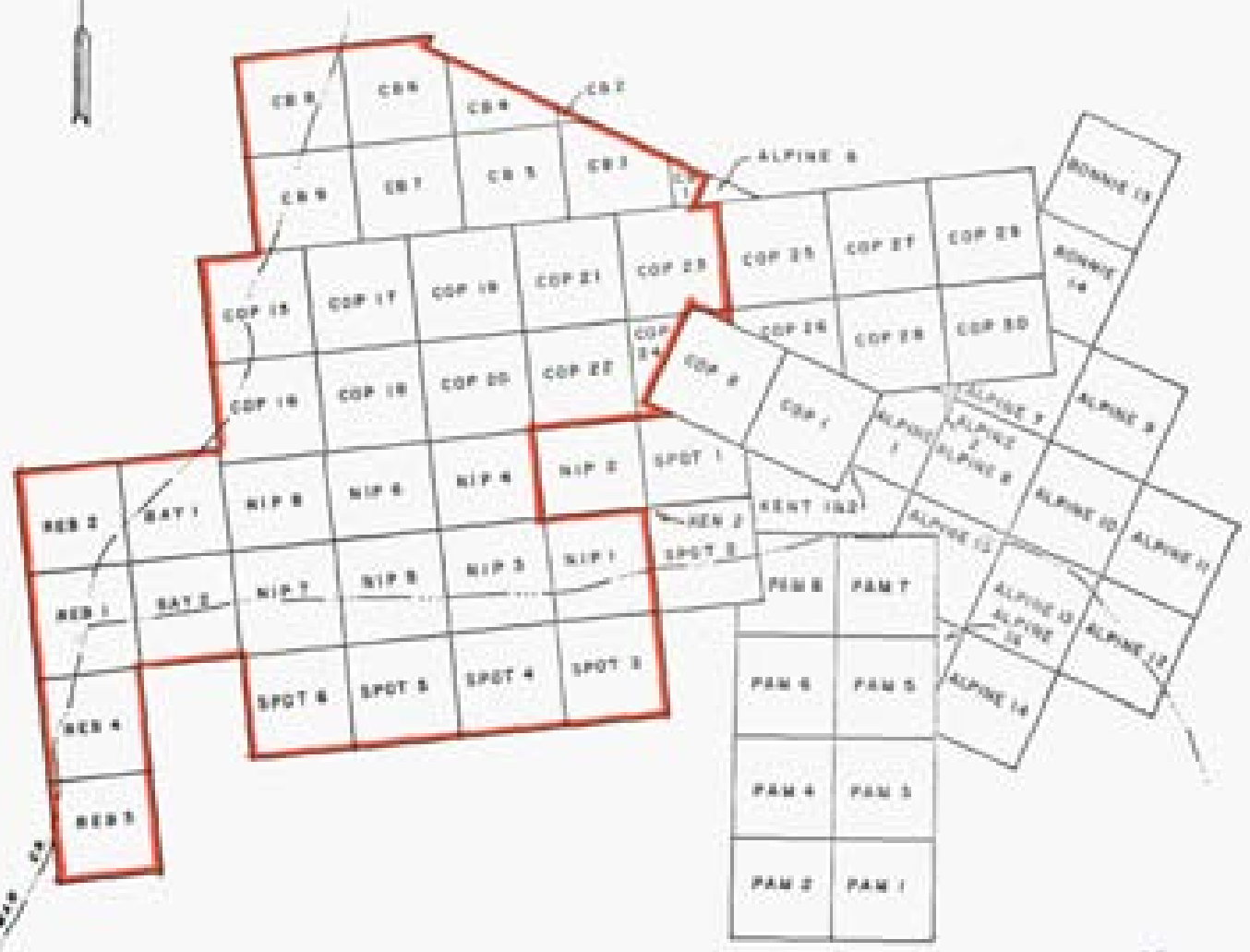
DRAWN BY:	W.L.D.	DATE:	NOV. 1978	SCALE:	1 inch = 4 Miles
TRACED BY:		DATE:			
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NO. 4120 MAP #1

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Department of
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 ASSESSMENT REPORT
 NO. 4120 MAP #2

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 DEL. STATE MIN. DIVISION

FIGURE 2
 CLAIM MAP
 IZMAN CREEK PROPERTY
 LYTTON AREA, B.C.

DRAWN BY: A.L.G. DATE: MAY 1978
 CHECKED BY: A.L.G. DATE: MAY 1978
 REVISED: NONE REVISED: NONE
 S.L.G. JUN. 1978

1" = 2040'

I N T R O D U C T I O N

Between September 23rd and November 3, 1972 a crew of three men conducted geological mapping and a ground magnetometer survey on the West Group of the Izman Creek Claims. The West Group consists of 36 claims as follows: Reb 1 - 4; Bay 1 and 2; Nip 1 and 3-8; Cop 15 - 24; CB 1 - 9; and Spot 3 - 6 (SEE FIGURE 2)

These claims are owned by Santana International Resources Ltd. of Vancouver, B.C., and were optioned to El Paso Mining and Milling Company under an agreement dated August 1, 1972.

The property is 12 miles north of Lytton, B.C., and three miles east of the Fraser River at elevations ranging from 3000 feet to 5500 feet. Access to the property is via Highway 12 north of Lytton, B.C., for 14 miles; then via Izman Creek Forest Access road for three miles.

F I E L D W O R K

The geochemical soil grid completed between August 24th and October 10th, 1972 (Jones, H.M., 1972) was used as control for both the geological mapping and the ground magnetometer survey.

The geology was mapped at a scale of one inch to 200 feet by C.A. Aird (P. Eng.), consulting geologist, and the geology map and report were completed on November 15th, 1972

The ground magnetic survey was done by T.S. Samoil, using a McPhar M-700 flux-gate magnetometer. This instrument reads from 0 to 250,000

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gammas in five ranges with either positive or negative polarity. The baseline was run back and forth over a short time interval to establish control values for each traverse line. The magnetometer readings were corrected after traverse closure, using a time - correction plot. The corrected readings were plotted on the one inch to 200 foot base map, contoured at 1000 - gamma intervals below 10,000 gammas, and 5000-gamma intervals above 10,000 gammas, and then color coded.

GEOLOGY

A. Regional

The property is largely underlain by the Mount Lytton batholith of lower Cretaceous and Jurassic age. This batholith includes granodiorite, quartz diorite, diorite and gabbro and intrudes metasediments and metavolcanics of the Cache Creek Group of Permian or earlier age. Several remnants of the Spences Bridge Group, which includes tuffs, breccias, agglomerates, conglomerate and greywacke are in erosional or fault contact with the batholith.

To the east of the property, the Botanie Creek fault, which may be part of the Fraser River fault system, extends northwesterly across the area. East of this fault, Cache Creek rocks are well exposed but west of the fault the terrain is largely granitic.

B. Detailed

C.A. Aird (1972) has described the geology of the map area as follows:



TABLE OF ROCK UNITS

Post Lower Cretaceous		Hornblende andesite dikes.
Lower Cretaceous (?)	Spences Bridge(?)	Andesite tuff, agglomerate.
Lower Cretaceous or Earlier	Mount Lytton batholith:	1. Quartz monzonite, granodiorite.
"	"	2. Quartz hornblende diorite, quartz diorite gneiss.
"	"	3. Diorite, diorite gneiss.
Permian or Earlier(?)	Cache Creek (?)	Andesite, metasediments and metavolcanics.

CACHE CREEK GROUP

The metasediments include amphibolite schist and crystalline limestone. The amphibolite schist is a dark green hornblende-rich rock grading in places, with increase of plagioclase feldspar, into diorite. This rock generally shows an overprinted northwest foliation.

The limestone is a crystalline white rock with faint banding (relict bedding?). The limestone is skarn-altered in places with development of brown garnet, epidote, calcite, hematite and a little rhodonite.

The metavolcanics appear to underlie the limestone but, where mapped, are virtually enclosed by diorite. The rock is a mottled black and grey magnetic variety with diffuse anhedral grains of plagioclase and irregular masses of dark amorphous material which includes shard-like fragments in places rimmed with calcite.

The andesite member is extremely variable from a dark green chloritic and dioritic andesite to a bleached grey siliceous rock which contains up to

five percent pyrite. In some places blue quartz "eyes" are developed in the andesite and this is believed to indicate proximity to the quartz monzonite.

MOUNT LYTTON BATHOLITH

The diorite and diorite gneiss include all dioritic rocks from dark green andesite porphyry to coarse grained sericitic diorite with pink feldspar phenocrysts. The diorite gneiss is metamorphosed diorite and shows partial recrystallization of hornblende and biotite.

The quartz hornblende diorite and quartz diorite gneiss are believed derived from the diorite by the addition of quartz as they show concordant contacts with the diorite. These rocks commonly contain quartz "eyes" of blue color attributed to abundant needles of included rutile.

The quartz monzonite-granodiorite unit includes a leucocratic phase, with abundant creamy buff feldspar termed "quartz monzonite" in the field and also a darker phase, designated granodiorite. Compositionally, both are granodiorites. The blue quartz "eyes" are sometimes present in the darker unit, seldom in the lighter one. Most of the feldspar in these rocks is zoned sodic plagioclase, commonly sericitized. Biotite shows chlorite alteration with peripheral epidote.

SPENCES BRIDGE GROUP

The andesite tuff and agglomerate consists of rock and quartz fragments in a dark grey andesitic matrix or dark grey fragments in a brown clastic matrix with quartz fragments. These rocks are relatively unmetamorphosed in contrast with the surrounding rusty diorite and are therefore considered younger than the diorite.

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C. Structure

Bedding attitudes in the limestone are northwesterly with opposing dips suggesting folding about a northwest axis prior to the intrusive event. Foliation in the amphibolite schist and diorite gneiss is also northwesterly and steeply dipping, suggesting post-diorite stresses not evident in the younger quartz monzonite.

A plot of poles to 187 quartz veins indicates that the major attitudes are northwesterly with subsidiary north, northeast and west-northwest directions.

D. Mineralization

Sulphides occur in all of the rocks except the hornblende andesite dikes. Chalcopyrite, with a little bornite in places, occurs as blebs in narrow quartz veins. These veins are most abundant in the skarn alteration. Chalcopyrite also occurs as a sparse dissemination in places in the granodiorite. In general, very little pyrite occurs with the copper sulphides. Magnetite occurs in local concentrations, particularly in skarn and amphibolite. It is not generally seen in the massive form.

GEOPHYSICAL RESULTS

The magnetometer survey on the West Group shows very little of interpretative significance. The relief varies from - 1360 gammas to 3650 gammas but the areas of higher or lower readings are generally quite broad with relatively flat gradients. The magnetic variations over the West Group probably reflect the variable magnetite content in the underlying diorite.



CONCLUSIONS

The copper mineralization is mainly confined to the skarn remnants and is very weak and spotty in the intrusive rocks. Even in the skarn areas, the copper grade is sub-economic over minable widths. The magnetometer survey did not indicate any anomalous areas worth further investigation.



G. A. Noel

Vancouver, B.C.

February 20, 1973

REFERENCES

1. Aird, C.A. - 1972, Geology of the Izman Creek Property of Santana International Resources Ltd., Lytton Area, B.C., November 15, 1972 (El Paso Mining and Milling Company private report).
2. Jones, H.M. - 1972, Geochemical Report on the CB-1-9 and Reb 1-4 claims, part of the West Group, Izman Creek Area, August 24th - October 5th, 1972; November 3rd, 1972. (B.C. Department of Mines Assessment Report).

APPENDIX A


STATEMENT OF QUALIFICATIONS

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The fieldwork for this report was done under the supervision of G. A. Noel, whose qualifications are outlined below:

G. A. NOEL: P. Eng. (Geol. Eng.), Manager of Canadian Exploration for El Paso Mining and Milling Company, Vancouver, B.C.

Completed B.A. Sc. (Geology) at University of B.C. in 1950 and M.A. Sc. (Geology) at University of Toronto in 1951; employed by Kennco Explorations (Canada) Ltd. from May 1951 through March 1956 as a field geologist in B.C. and Yukon Territory under the supervision of J. S. Scott; employed by Utah Construction and Mining Co. from March 1956 through September 1969 in B. C. and Alaska mineral exploration as a project geologist, acting district geologist and senior project geologist under L. C. Clark, W. Bourret, H. G. Peacock and E. S. Rugg; employed by El Paso Mining and Milling Company in Vancouver, B.C. since October 1970.



A P P E N D I X B

STATEMENT OF COSTS

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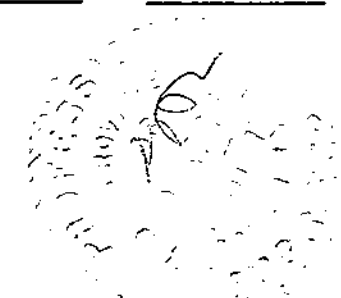
GEOLOGICAL - GEOPHYSICAL SURVEYS

WEST GROUP

(50% of Total Costs)

FEEES PAID TO C. A. AIRD

	<u>TOTAL</u>	<u>50%</u>
	\$	\$
<u>FIELDWORK</u> - (Sept. 23,24,30; Oct. 1-4 & 6 - 18; Nov. 1 - 3)		
23 days @ \$125.00/day =	2,875.00	1,437.50
<u>REPORT PREPARATION</u> -		
10 days @ \$50.00/day =	500.00	250.00
<u>EXPENSES IN FIELD</u>	572.39	286.19
- 4 wheel drive - 10 days @ \$15/day	\$ 150.00	
- Gas	61.85	
- Thin Sections	26.25	
- Copying	2.12	
- Lodging	200.55	
- Groceries	5.12	
- Meals	<u>126.50</u>	
	\$ 572.39	
T.S. Samoil - 19 days Fieldwork @ \$900/month	- 570.00	285.00
P. Brandley - 6 days fieldwork @ \$600/month	- 120.00	60.00
Room & Board - 25 man days @ \$15/man day	- 375.00	187.50
Map Preparation-T.S. Samoil - 12 days @ \$900/month	- 360.00	180.00
Vehicle Rental - 19 days @ \$150/month	- <u>95.00</u>	<u>47.50</u>
	<u>\$ 5,467.39</u>	<u>\$ 2,733.69</u>



B. ROAD or TRAIL WORK (Give length and average width of road or trail.)

	COST
TOTAL	

I wish to apply \$ _____ of this work to the claims listed below.
 (One year only to each claim and within the first three years of its life.) (Sec. 51 (3) M.A.)

C. GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL (Includes line cutting)
 (State type of work)

	COST
Fees - geological Consultant	\$ 1,973.69
Wages	345.00
Room & Board	187.50
Map preparation	180.00
Vehicle Rental	47.50
Geological - Geophysical Report to follow in three weeks.	
TOTAL	\$ 2,733.69

I wish to apply \$ 2600 _____ of this work to the claims listed below.
 (State number of years to be applied to each claim.)

Bay 1 - 2	1 year each	2 Certificates
CB 1 - 9	1 year each	9 Certificates
Nip 1, 3 - 8	1 year each	7 Certificates
Reb 1 - 4	1 year each	4 Certificates
Spot 3 - 6	1 year each	4 Certificates
TOTAL		26

NOTE—Dollar value of work done under A, B, or C sections, totalling \$100, may be applied to a certificate of work.

Make a sketch of claims showing location of work declared in A or B above
 (if insufficient space, attach a sketch).

4. That I have not and will not use the work declared herein in any way for the purposes of obtaining tax exemption on a Crown-granted mineral claim under the terms of the Taxation Act.

SWORN and subscribed to at Vancouver, B.C.

this _____ day of _____ December, _____
 19 72, before me—


 G. A. Noel

*This affidavit may be taken by a person empowered to take affidavits by the Evidence Act of British Columbia.

LEGEND

- < 0 GAMMAS
- +1000 TO +5000 GAMMAS
- > +5000 GAMMAS
- SURVEY STATION WITH MAGNETOMETER VALUE IN GAMMAS
- CONTOUR INTERVAL 1000 GAMMAS BELOW 10,000 GAMMAS
CONTOUR INTERVAL 5000 GAMMAS ABOVE 10,000 GAMMAS
- MAGNETIC DEPRESSION

TO ACCOMPANY A GEOLOGICAL - GEOPHYSICAL REPORT
BY G. A. ROSE, P. ENG. ON THE IZMAN CREEK PROPERTY,
ON IZMAN CREEK, KAMLOOPS MINING DIVISION,
DATED FEBRUARY 20th 1978

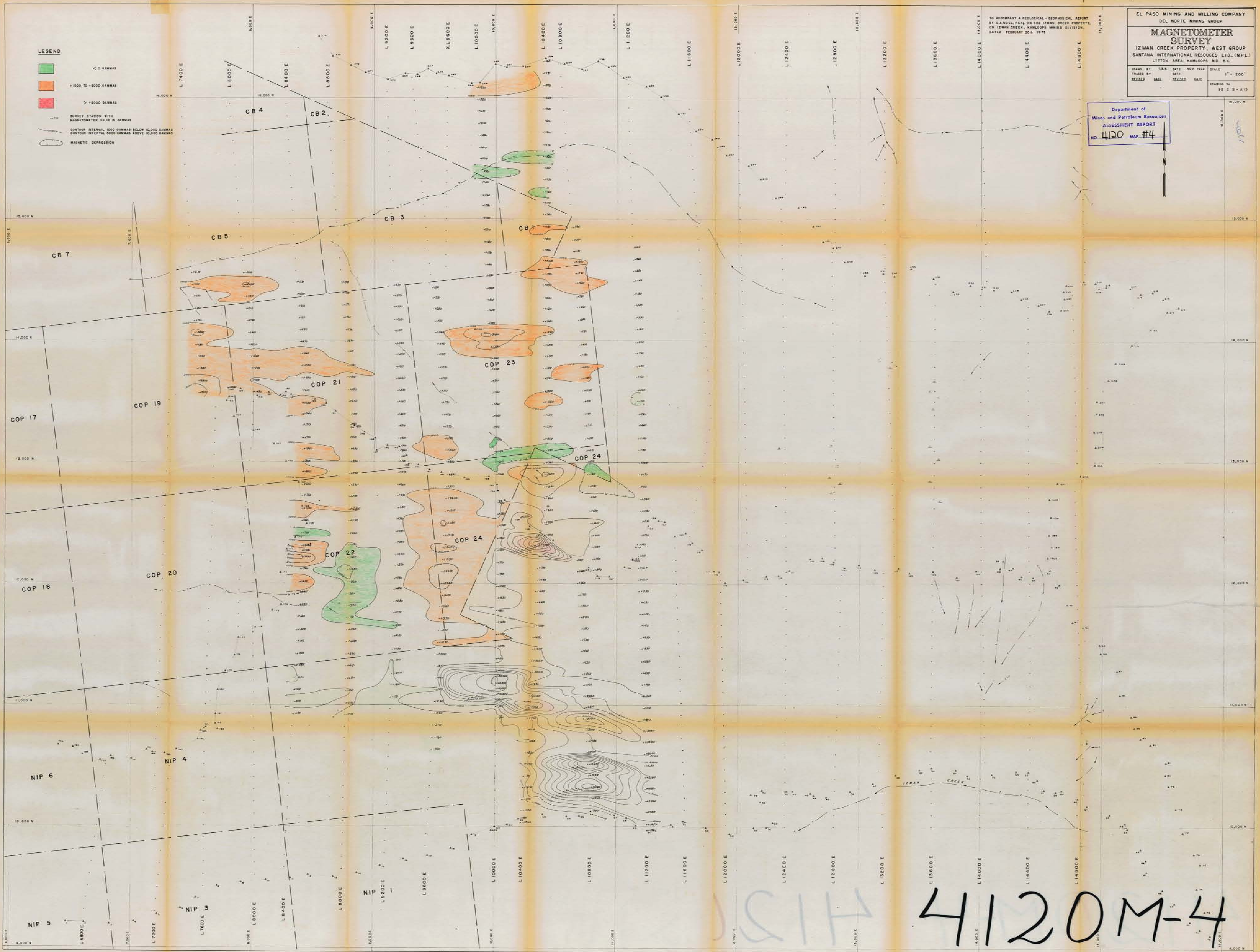
EL PASO MINING AND MILLING COMPANY
DEL NORTE MINING GROUP

MAGNETOMETER SURVEY

IZMAN CREEK PROPERTY, WEST GROUP
SANTANA INTERNATIONAL RESOURCES LTD. (N.P.L.)
LYTTON AREA, KAMLOOPS M.D., B.C.

DRAWN BY: T.S.B. DATE: NOV. 1972 SCALE: 1" = 200'
TRACED BY: DATE: REVISOR: DATE: DRAWING NO: 92 I S - A 15

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO 4120 MAP #4

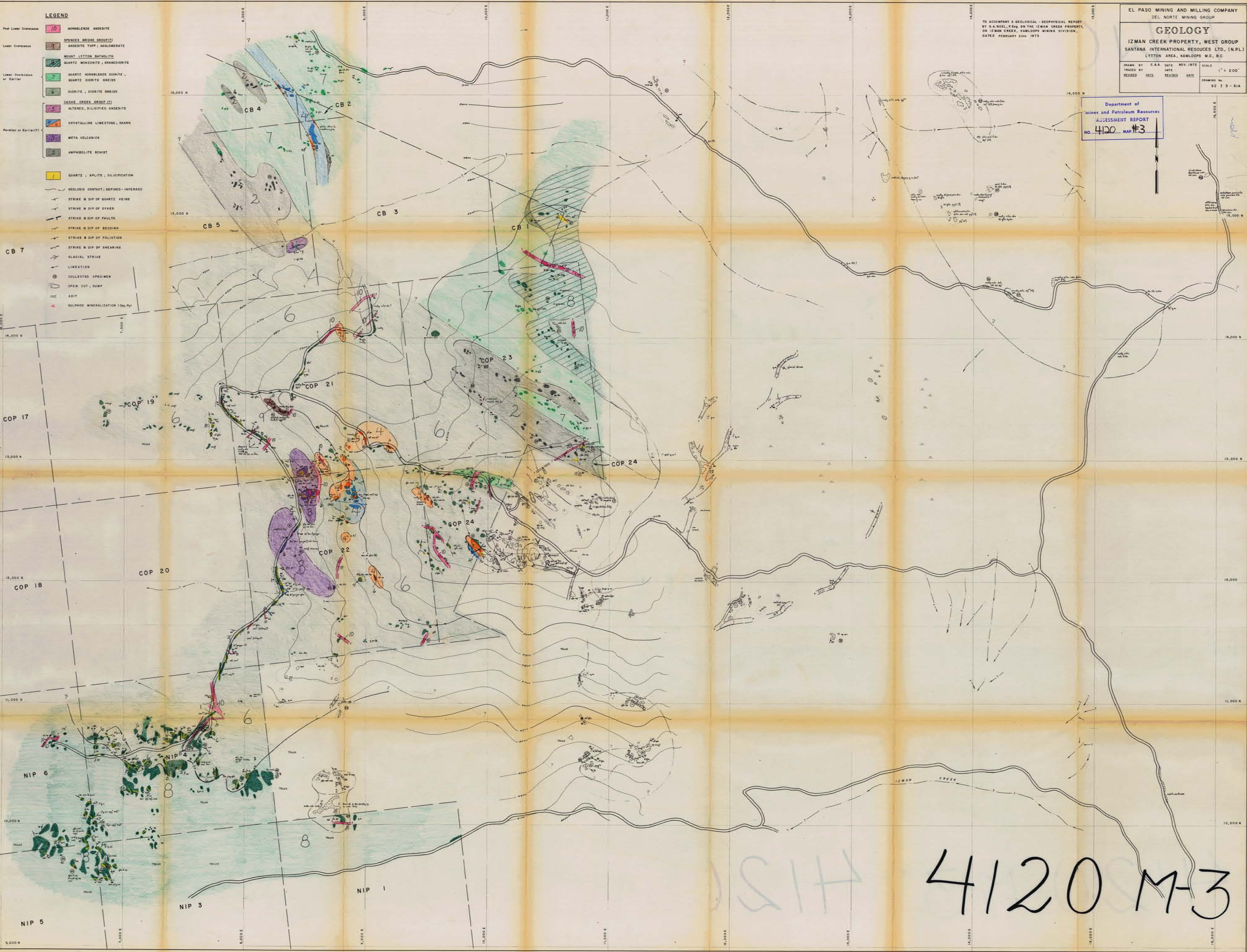


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TO ACCOMPANY A GEOLOGICAL - GEOPHYSICAL REPORT
 BY G.A. HELL, P. ENG. ON THE IZMAN CREEK PROPERTY,
 ON IZMAN CREEK, KAMLOOPS MINING DIVISION,
 DATED FEBRUARY 20th 1973

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4120 MAP #3

- LEGEND**
- Post Lower Cretaceous: 10 HORNBLENDE ANDESITE
 - Lower Cretaceous: 9 SPENCE'S BRIDGE GROUP(?) ANDESITE TUFF; AGGLOMERATE
 - Lower Cretaceous or Earlier: 8 MOUNT LYTTON BATHOLITE QUARTZ MONZONITE; GRANODIORITE
 - 7 QUARTZ HORNBLENDE DIORITE, QUARTZ DIORITE SHEIDS
 - 6 DIORITE, DIORITE GNEISS
 - 5 SACHE CREEK GROUP (?) ALTERED, SILICIFIED ANDESITE
 - 4 CRYSTALLINE LIMESTONE; SHAAL
 - 3 META VOLCANICS
 - 2 AMPHIBOLITE SCHIST
 - 1 QUARTZ, APLITE, SILICIFICATION
 - GEOLOGIC CONTACT, DEFINED - INFERRED
 - STRIKE & DIP OF QUARTZ VEINS
 - STRIKE & DIP OF DYKES
 - STRIKE & DIP OF FAULTS
 - STRIKE & DIP OF BEDDING
 - STRIKE & DIP OF FOLIATION
 - STRIKE & DIP OF SHEARING
 - GLACIAL STRIAE
 - LIMNATION
 - COLLECTED SPECIMEN
 - OPEN CUT, DUMP
 - ADIT
 - SULPHIDE MINERALIZATION (Co, Pb)



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