

GEOLOGICAL, GEOPHYSICAL AND

GEOCHEMICAL REPORT

ON THE

Alta 1 to 8, Alta 1 to 2 (fr), Hillside 1 to 8,
Hillside Ext. 3 to 4, Alpha 1 to 3 crown grants,
and Mellisands and Hepzibah mineral claims.

Located in the Lillooet Mining Division

at Co ordinates

50° 53.5'N 122° 44.5'W

By

T. D. Lewis, P. Eng.
(Kamloops)

Noranda Exploration Company, Limited
(No Personal Liability)

September 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8293

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INTRODUCTION

The Olympic Property is comprised of the following crown grants and mineral claims: Alta 1 to 8, Alta 1 to 2 Fraction, Hillside 1 to 8, Hillside Ext. 3 to 4, Alpha 1 to 3, Mellisande, and Hepzibah. The claims were acquired or staked by Mr. and Mrs. Don Ingram to cover gold-quartz vein type mineralization.

Interest in the property dates back to the 1920's, when the original 23 crown grants were staked. Two main adits, the Leckie and the Maggie, were driven and principally worked during the years 1934-35. This early work is well documented, and will not be described in this report (see MMAR-1934, F31).

Current interest is focused on a massive sulphide outcropping which was explored in the 1930's. The sulphides are hosted within rocks belonging to the Bridge River (Fergusson) Group of Middle Triassic Age (see G.S.C. paper 73-17, Roddick, J.A. and W.W. Hutchison).

The massive sulphide showings are exposed on the south side of the road leading to the Olympic camp, at an elevation of 793 meters (A.S.L.). In the area of the showings, several trenches and an adit have been developed by the early workers. It is reported (J.S. Stevenson, 1952) that the adit was driven southeasterly below outcrops of lens-like masses of pyrite and magnetite. The adit was driven at a bearing of 150° (true) for 45.75 meters. At the face, two short crosscuts were also driven. Minor mineralization was found in the adit, and the assays were discouraging, thus the work ceased.

Examination of the sulphides above the adit revealed massive magnetite and pyrite, with lesser amounts of chalcopyrite. The exposed sulphides are about 3.36 meters wide, with an unknown strike length. The mineralization is hosted within cherty volcanosediments, and hornfels belonging to the Bridge River Group. The rocks strike 147° (true) with an undetermined dip.

During September, 1980, a control grid was established with 100 meter line spacings. Soils were taken over the entire grid at 50 meter intervals. In addition, a VLF and magnetometer survey was performed. Snake River Exploration Contracting were hired to put in the grid and take the soil samples. However, Noranda Exploration personnel performed all other work under the supervision of T. D. Lewis.

LOCATION AND ACCESS

The Olympic Property is centered on co-ordinates $50^{\circ} 53.5'N$ and $122^{\circ} 44.5'W$ on NTS map sheet 92J/15. This point is 8 Km. at 062° (true) from the village of Goldbridge, B. C. The claims cover a north-facing ridge on the south side of Carpenter Lake between Girl Creek and a small stream just west of Truax Creek. Elevations on the property vary from the lake level of Carpenter Lake to 1677.5 meters (A.S.L.) at the southern boundary of the property.

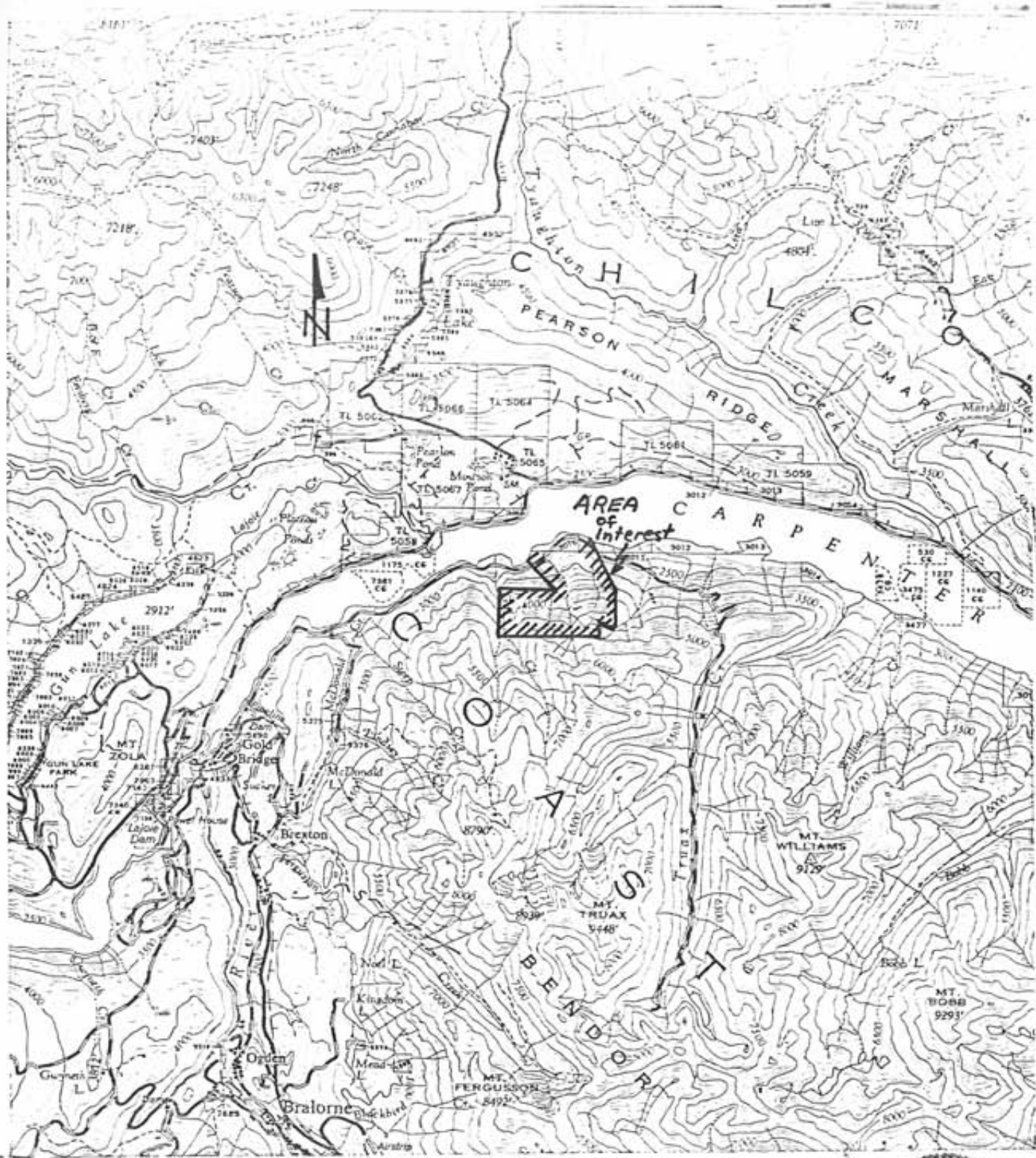
Access to the property is by good gravel road from Goldbridge along the south side of Carpenter Lake. A four wheel drive road leaves the gravel road, and switchbacks to the heart of the property.

CLAIM STATISTICS

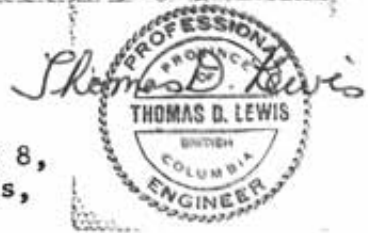
All claims are in the Lillooet Mining Division of British Columbia. The Alta and Hillside claims are reverted crown grants obtained by the owners during 1977 to 1979. The Mellisande and Hepzibah mineral claims were staked in 1980 by the owners. All claims have now been optioned by Noranda Exploration Company, Limited (No Personal Liability) as set forth in an agreement between the owners and the optionee dated the 31 st day of July, 1980.

CLAIM STATISTICS

<u>Claim</u>	<u>Record Number</u>	<u>Record Date</u>	
Alta No. 1	L 6265	695	November 8, 1978
Alta No. 2	L 6266	696	" " "
Alta No. 3	L 6268	704	" " "
Alta No. 4	L 6267	697	" " "
Alta No. 5	L 6270	536(9)	September 19, 1977
Alta No. 6	L 6269	535(9)	" " "
Alta No. 7	L 6272	535(9)	" " "
Alta No. 8	L 6271	537(9)	" " "
Alta No. 1 Fr.	L 6282	699	November 8, 1978
Alta No. 2 Fr.	L 6283	547(9)	September 19, 1977
Hillside No. 1	L 6273	539(9)	September 19, 1977
Hillside No. 2	L 6274	540(9)	September 19, 1977
Hillside No. 3	L 6277	543(9)	September 19, 1977
Hillside No. 5	L 6278	544(9)	September 19, 1977
Hillside No. 6	L 6279	545(9)	September 19, 1977
Hillside No. 7	L 6280	698	November 8, 1978
Hillside No. 8	L 6281	546(9)	September 19, 1977
Hillside Ext. No. 3	L 6276	542(9)	September 19, 1977
Hillside Ext. No. 4	L 6275	541(9)	September 19, 1977
Alpha No. 3	L 5713	893	September 17, 1979
Alpha No. 1 & 2 (Recorded as one claim due to agg. size)		813(7)	L 5605 & L 5712 resp.
Mellisande (15 units, approx. 7 of which overlap Jason and Liza groups)		1246	February 25, 1980
Hepzibah		1336	May 20, 1980



INDEX MAP
 Showing the General Location
 of
 Alta 1 to 8, Alta 1 to 2 (fr), Hillside 1 to 8,
 Hillside Ext. 3 to 4, Alpha 1 to 3 crown grants,
 and Mellisande and Hepzibah mineral claims



Scale 1:250,000
 Map Sheet 92J/15

Lillooet
 Mining Division
 September 1980

CONTROL GRID

The Olympic Property control grid was established during September of 1980, using a Silva compass and a metric chain. The 100 + 00E baseline was established using a transit set at a bearing of 349° (true). The baseline originated at station 100 + 00N, 100+ 00E, established at a point a few meters south of the main sulphide showings. Crosslines were turned-off using the transit at 100 meter intervals at 90° to the baseline. The baseline extends from L95 + 00N to L103 + 00N. The crosslines extend from 95 + 00E to 105 + 00E, however, LINES 99 + 00N, 100 + 00N and 101 + 00N have been fore-shortened due to extreme topographic relief.

All lines have been flagged and stations established every 50 meters using felt pen on teflon tags. A total of 8.8 line Kilometers have been flagged and stations established on the Olympic Property.

GEOLOGY

The Olympic Property is underlain by a series of northwest striking sediments and volcanics belonging to the Bridge River Group of Middle Triassic age (Cameron and Monger, 1971). These rocks have limited outcropping on the property, confined mainly to eroded stream cuts, and road cuts. Where exposed, the rocks are well oxidized and highly fractured, obliterating primary textures. The rocks have been grouped, and consist of fine grained green to black andesites, fine grained, buff coloured rhyolites, and felsic tuffs and breccias. Intercalated with the volcanics, are sediments consisting of quartzite, chert, and fine grained siltstone.

Intruding these volcanic and sedimentary rocks are ultramafic sills, and a diorite pluton. The ultramafic sills are of unknown age, but are probably related to other ultramafics in the area of Upper Triassic age (G.S.C., paper 73-17). On the Olympic property, the ultramafics outcrop in the western half of the map area, and one would expect a magnetic high associated with it due to the pyrrhotite content observed in outcrop.

The diorite pluton mentioned, outcrops in two localities on the property. The first outcrop occurs in the southeast corner of grid on a road cut. The diorite has strongly altered the nearby metasediments, to a point whereby only the resistant quartzite could be identified with confidence. The second outcropping is at a outcrop on the east-central part of the grid. Some handtrenching was also seen over a rusty portion of the diorite.

GEOPHYSICAL SURVEYS

Introduction

A V.L.F. Survey and a Magnetometer Survey were carried out over the grid on the Olympic Property. I. Saunders operated the V.L.F. instrument, while N. Sutherland operated the magnetometer. Both men are employees of Noranda Exploration Company, Limited.

VLF - E.M. SURVEY

Introduction

The receiver used was manufactured by Sabre Electronic Instruments Limited of Burnaby, B.C. The transmitter is located in Seattle, Washington, transmitting at a frequency of 18.6 KH₂.

The tilt angle null (in degrees) and field strength were recorded at 25 meter intervals, for a total of 8.8 line kilometers.

Field Procedures

With the V.L.F. receiver held horizontally, the instrument is rotated in the plane until a null is observed. In this position, the coil axis points in the direction of the transmitter. This defines a vertical plane, perpendicular to the transmitter.

The receiver is then held in this vertical plane (operator facing the transmitter) and rotated until a minimum signal is observed. The dip angle of the null is read on the receiver inclinometer and recorded. The following sign convention is used:

- a) Top of the coil axis to the right of operator-sign positive.
- b) Top of the coil axis to the left of operator-sign negative.

Presentation of Results

The VLF - EM dip angle results are plotted on a grid plan map (see dwg.) at a scale of 1:5,000. The resultant dip angles are shown as continuous profiles with a vertical scale of 1cm.=20°. In addition the data has been filtered using the Fraser Method, and the filtered data plotted.

Discussion of Results

The dip angle crossovers indicate two anomalies. The anomaly located in the south central part of the grid is believed to be due to a metal underground pipe. The pipe was the water supply line to the old Olympic campsite. The second anomaly occurs on lines 101N to 98N, at station 101E. This anomaly is very weak, but is thought to reflect the trend of the sulphides which outcrop at station 101N, 101E.

MAGNETOMETER SURVEY

Introduction

The magnetometer used was a Scintrex model MF-2, manufactured by Scintrex of Concord, Ontario. Readings of the relative vertical component of the magnetic field (in grams) were recorded at 25 meter intervals for a total of 8.8 line kilometers.

Field Procedures

Initially readings were recorded along the base line in order to establish a series of base stations. During the course of the survey, readings were recorded at these base stations and differences plotted against time to obtain the diurnal variations. Reduced data was obtained by "removing" the diurnal and day to day variations of the magnetic intensity.

Presentation of Results

The survey results are plotted on a contoured grid plan map at a scale

of 1:5000 (dwg No. 4). Two prominent northwest trending anomalies are demonstrated on the contour map. The first anomaly, centered around the coordinates 99+ 50N, 100+ 50E are a result of the massive sulphides and pyrrhotite exposed at 100N, 100E. It is recommended that this area be tested with diamond drilling.

The second anomaly, centered around the coordinates 100D, 98N, like the first anomaly, parallels the stratigraphy. Further prospecting in the creek valley west of the anomaly is recommended to help explain this anomaly. Diamond drilling will be contingent to this planned prospecting.

GEOCHEMICAL SURVEY

Introduction

On the Olympic Property, a total of 167 soil samples were taken. Samples were taken every 50 meters along the grid lines.

Each sample was analyzed for ppm copper, zinc, lead, silver and molybdenum in the Noranda Exploration Company, Limited's laboratory located at 1050 Davie Street, Vancouver, B.C. The analyst was R. Fenton.

Sampling Procedure

Soil samples were obtained by digging holes with a maddock to a depth of 15 to 30cm. where the visible B horizon, wherever possible, was exposed. This task was somewhat hampered by a uniform cover of white volcanic ash. This ash covered the grid area and attained thickness up to 0.5 meters thick.

Analytical Procedure

The samples were placed in "Hi" Wet Strength Kraft 3½ x 6" Open End envelopes and the grid station was marked on the envelope with indelible felt pen. The samples were then dried for a period of 24 to 48 hours. Afterwards, the samples were screened and sifted to obtain a -80 mesh fraction.

The determination procedure for total copper, zinc, lead, and molybdenum is as follows:

0.2 grams of the -80 mesh material is digested in 2ml. of HCl 04 and 0.5ml. of HNO₃ for approximately four hours. Following digestion, each sample is diluted to 5ml. with demineralized H₂O. A varian Techtron Model AA-5 Atomic Absorption Spectro photometer was used to determine the parts per million (ppm) copper, zinc, lead, and molybdenum content in each sample.

The theory of the Atomic Absorption Spectrophotometer is fully outlined in the literature and will not be outlined in this report.

DISCUSSION OF RESULTS

Copper

The copper values obtained from the soil sampling program were plotted on the grid map of the Olympic Property and contoured at 50 ppm contour intervals. The results of this plotting (see dwg. no. 6) revealed two significant anomalies seemingly paralleling the stratigraphy. The first anomaly reflects a concentration of copper associated with the massive sulphides exposed at 100N, 100E. This anomaly is approximately 150 meters long with a slight dispersion down-slope from the showing. Further testing of this anomaly is recommended, either by drilling or trenching.

The second anomaly parallels the first, and is 150 meters southwest. Prospecting in the nearby creek is recommended to determine the mode of mineralization.

Molybdenum

The molybdenum analyses were plotted on the same map as the copper values (see dwg. no.6). Most of the molybdenum values were less than 2 ppm, however, strong "kicks" up to 70 ppm molybdenum were obtained in the anomalies areas outlined by the copper contour map.

Zinc

The zinc values were plotted on the grid map (see dwg no.5) and contoured at 50 ppm intervals. The plot reveals four anomalies. The first anomaly is located over the massive sulphide showings centered at 100 N, 100 E. It is about 150 meters long and shows a slight dispersion into the creek valley. Two anomalies are located in the southwest corner of the grid, and further sampling and prospectings are recommended in this area to help examine the high zinc values. The final anomaly is located in the northwest corner of the grid. More sampling and prospectings is recommended in this area as well.

Lead

The lead analyses from the soil sampling program was plotted on the same map as the zinc (see dwg. no.5). The lead values ranged from a low of 2 ppm, to a high of 38 ppm. However, no obvious trends could be detected.

Silver

The silver values (see dwg. no.5) were very low, and no anomalies could be detected.

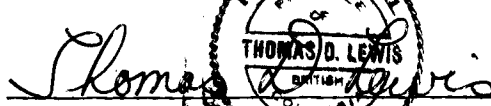
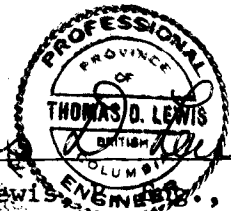
APPENDIX I

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Thomas D. Lewis of the City of Kamloops, Province of British Columbia, do certify that:

1. I have been employed as a geologist by Noranda Exploration Company, Limited since April, 1979.
2. I am a graduate of Queen's University with a Bachelor of Applied Science in Geology (1975).
3. I am a member of the Association of Professional Engineers of the Province of British Columbia.
4. I am a member of the Canadian Institute of Mining and Metallurgy.



Thomas D. Lewis, P. Eng.,
Geologist,
Noranda Exploration Company, Limited
(No Personal Liability)

APPENDIX II

Statement of Costs

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT INGRAM OPTION - OLYMPIC PROPERTY

DATE September 1980

TYPE OF REPORT Combined Geological, Geophysical, Geochemical

a) Wages:

No. of Days 19

Rate per Day \$ 57.8105

Month Of: August 27 to September 3, 1980

Total Wages 19 x \$ 57.8105

1098.40

b) Food and Accomodation:

No of days 19

Rate per day \$11.258

Month of: August 22 to September 2, 1980

Total Cost 19 x \$11.258

213.90

c) Transportation:

No of days 12

Rate per day \$ 25.00

Month of: August 27 to September 3, 1980

Total Cost 12 X \$ 25.00

300.00

d) Instrument Rental:

Type of Instrument

No of days

Rate per day \$

Month of:

Total Cost X \$

Type of Instrument

No of days

Rate per day \$

Month of:

Total Cost X \$

f) Analysis (See attached schedule)			<u>567.80</u>
g) Cost of preparation of Report			
Author	4 Days	310.45	
Drafting		200.00	
Typing		100.00	<u>610.45</u>
h) Other:			
Snake River Contractor		2,033.25	
Accommodation for Contractor		251.20	
Supervision: D.E. Cross P. Eng. G.E. Dirom P. Eng. 2 Days @ 240.00		480.00	
			<u>2,764.45</u>
Total Cost			<u><u>5,555.00</u></u>

e) Unit costs for Geology			
No of days	5	Dates from: August 27 to September 3, 1980	
No of units	5 MD		
Unit costs	156.368	/ MD	
Total Cost	5	X \$156.368	<u>781.84</u>

Unit costs for Geophysics			
No. of units	8.8 km.		
Unit Costs	179.92/km.		
Total Cost:	8.8	X \$179.92	<u>1,583.30</u>

Unit Costs for Geochem			
No. of units:	167 Samples		
Unit Cost:	8.63856/Sample		
Total Cost:	167 X \$8.63856		<u>1,442.64</u>

Unit Cost for Line Preparation:			
No. of units:	8.8 km.		
Cost per unit:	\$198.5477/km.		
Total Cost:	8.8 X \$198.5477		<u>1,747.22</u>
			<u>5,555.00</u>

NORANDA EXPLORATION COMPANY, LIMITED
(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: INGRAM OPTION - OLYMPIC PROPERTY

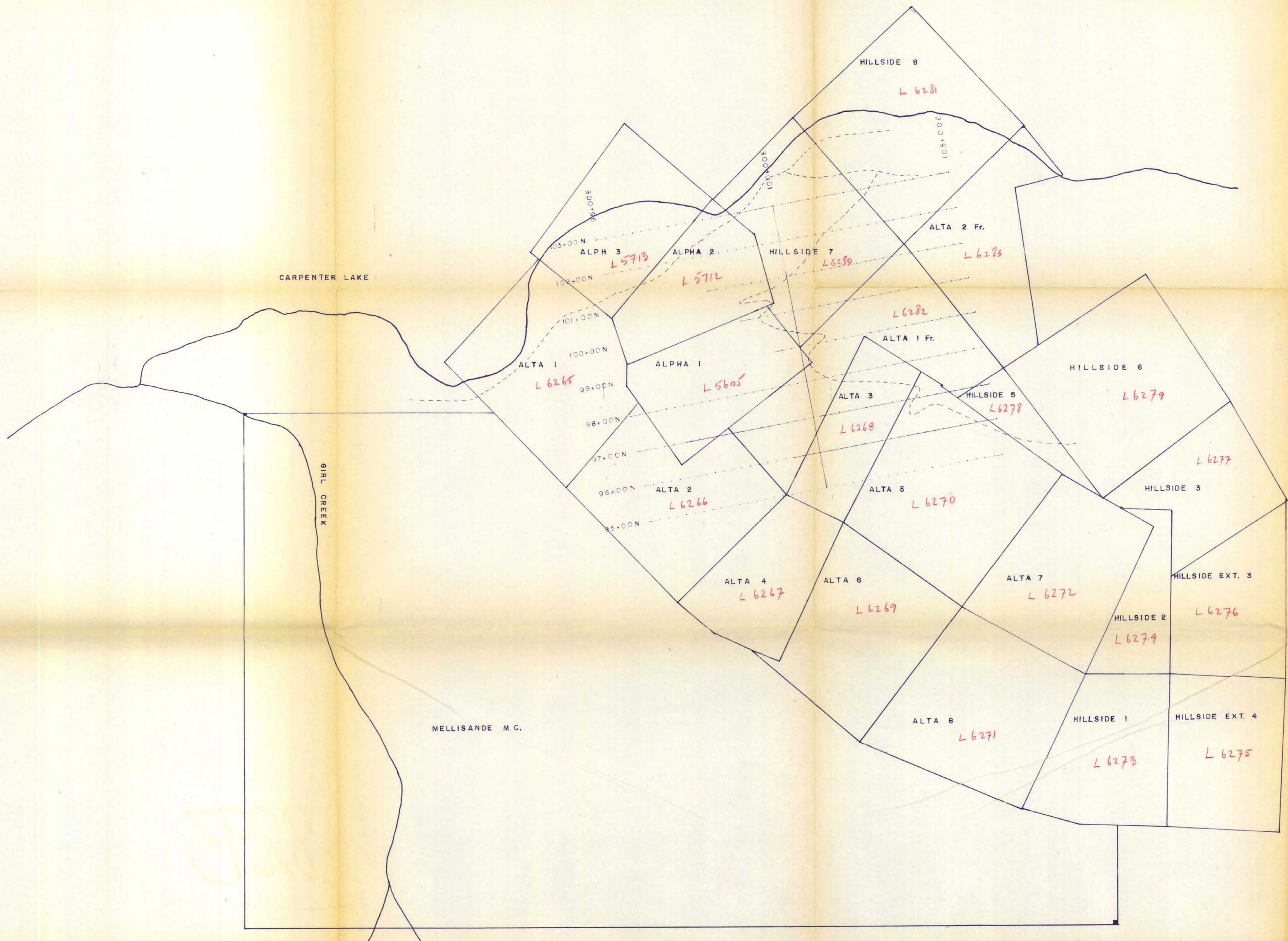
September 1980

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Cu	167	1.00	167.00
Zn	167	.60	100.20
Pb	167	.60	100.20
Mo	167	.60	100.20
Ag	167	.60	100.20

567.80

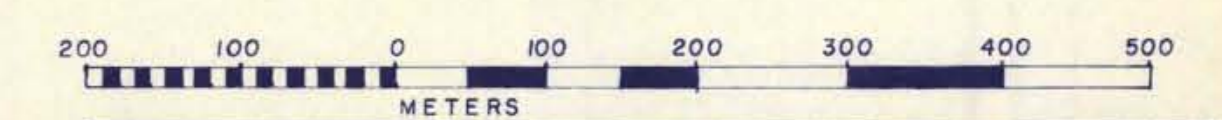


2520



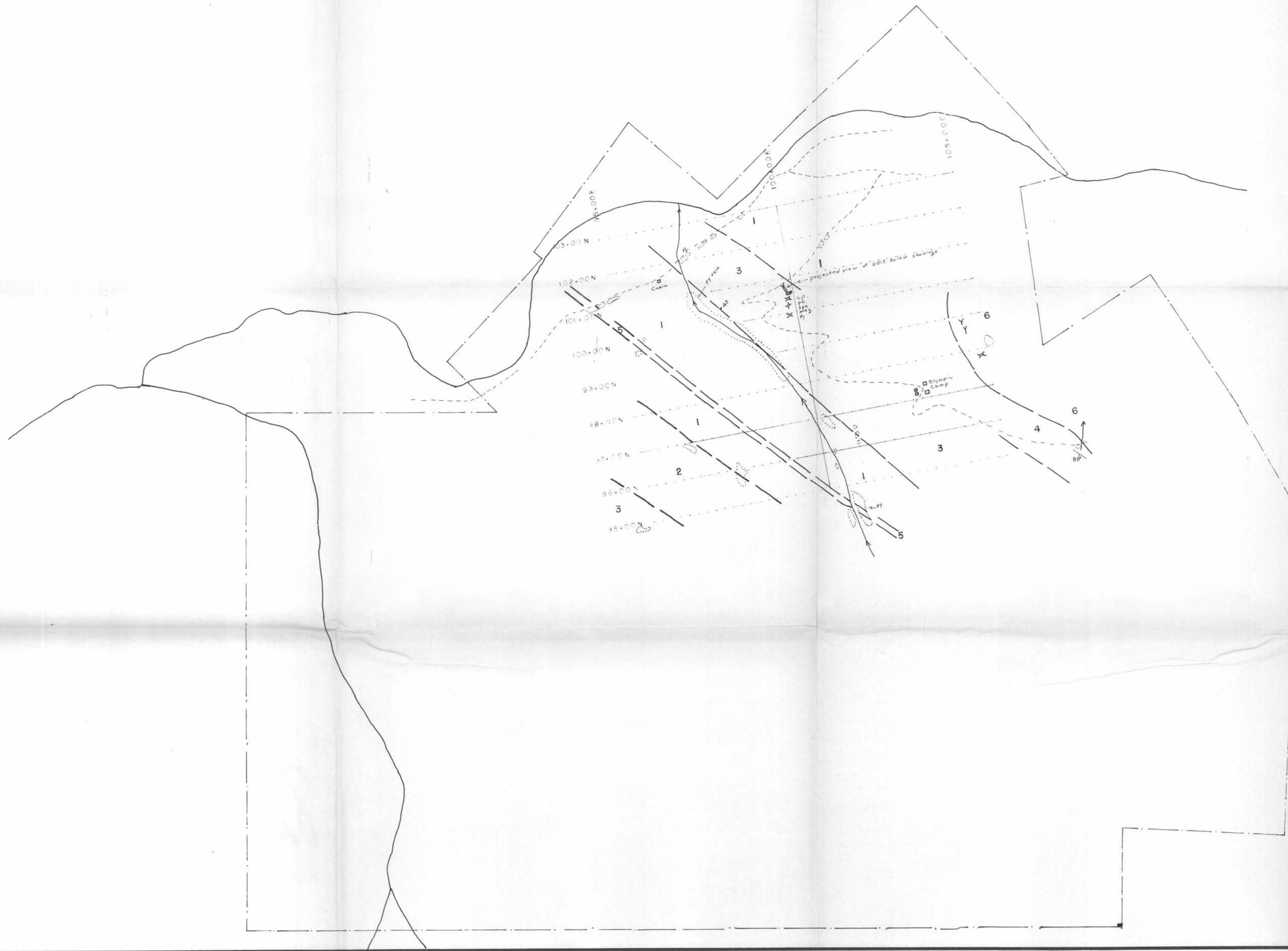
TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTA 1 TO 8, HILLSIDE 1 TO 8, HILLSIDE EXT. 3 TO 4, MELLISANDE AND THE WEPETRAM MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT



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REVISED	OLYMPIC PROPERTY - INGRAM OPTION -	
NO.	CLAIM MAP	
PROJ. No. 55	SURVEY BY: J. SAUNDERS	DATE: SEPTEMBER 1980
N.T.S. 823/15	DRAWN BY: J. SAUNDERS	SCALE: 1:5000
DWG. No. 1	NORANDA EXPLORATION	
	OFFICE: KAMLOOPS	



LEGEND

Rock Types

- 6 diorite pluton
- 5 gabbro
- 4 interbedded quartzite, and other metasediments
- 3 fine grained, black to green basalt with brecciated areas of felsic to basic fragments, black hornfels.
- 2 fine grained black chert or siltstone
- 1 fine grained white to buff rhyolite or quartzite and felsite

Symbols

- geological contact
- outcrop
- bedding
- Y adit
- trench
- road
- creek
- claim boundary

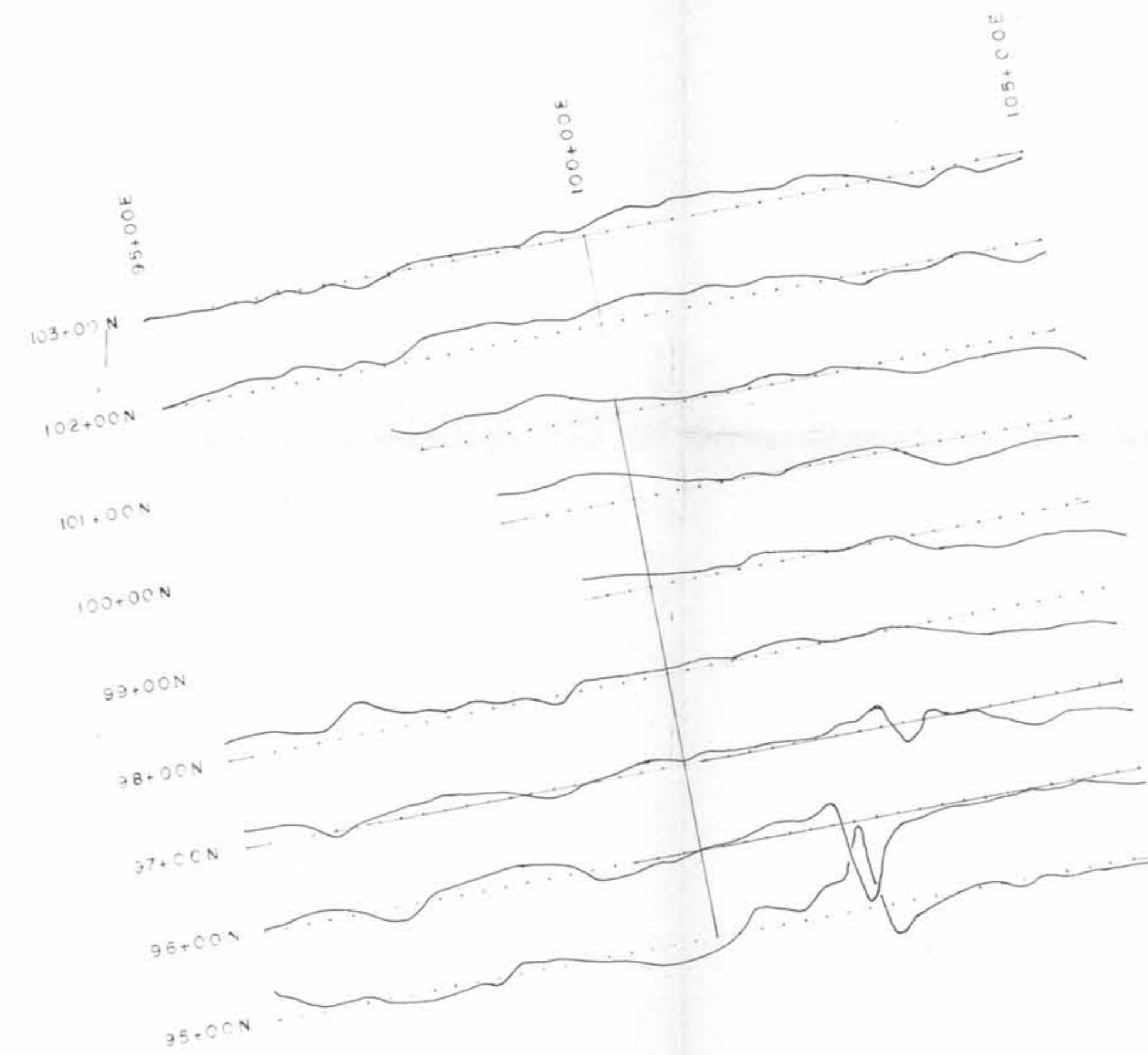


TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTS 1 TO 8, HILLSIDE 1 TO 8, HILLSIDE EXT, 3 TO 4, MELLISANDE AND THE HEPTIBAH MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1980

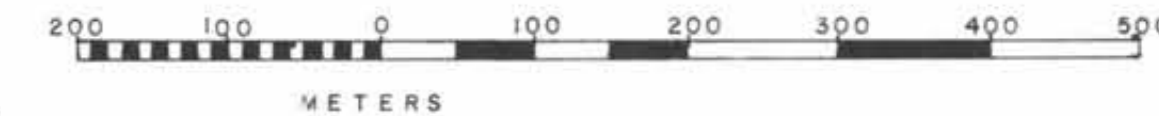
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. **8293**

REVISED	OLYMPIC PROPERTY - INGRAM OPTION -
	GEOLOGY MAP
PROJ. No. 55	SURVEY BY: J. SAUNDERS DATE: SEPTEMBER 1980
N.T.S. 32/15	DRAWN BY: J. SAUNDERS SCALE: 1:5000
DWG. No. 2	NORANDA EXPLORATION
	OFFICE: KAMLOOPS



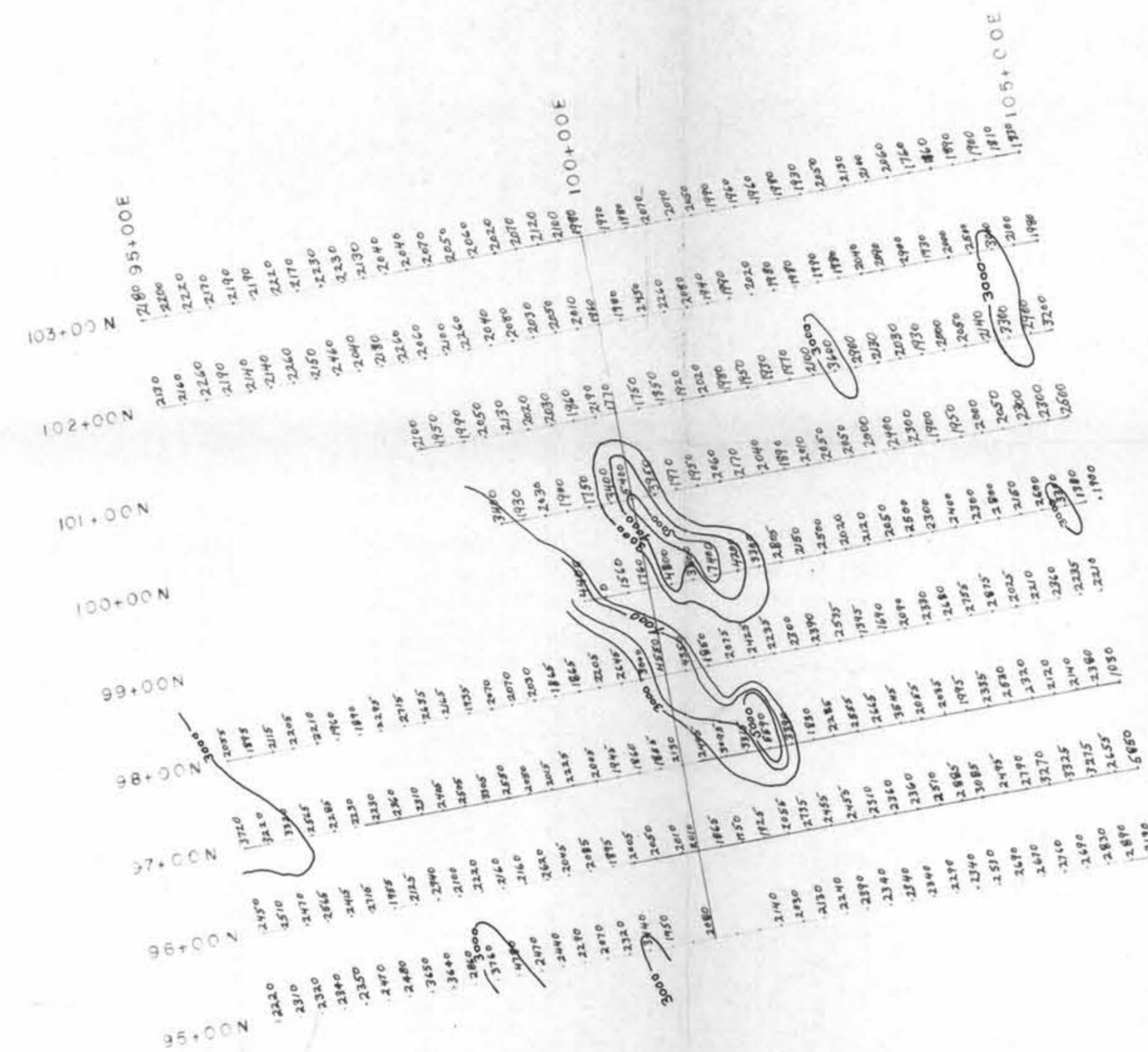
TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTA 1 TO 8, HILLSIDE 1 TO 8, HILLSIDE EXT, 3 TO 4, WELLSANDE AND THE HERZIBAH MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1980



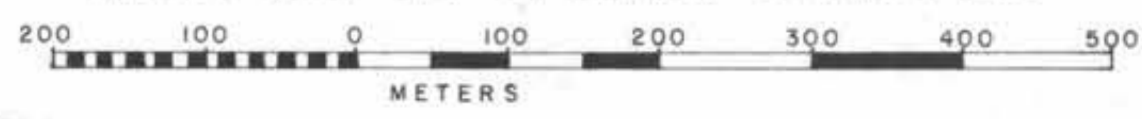
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MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8293

REVISED	OLYMPIC PROPERTY - INGRAM OPTION -
	VLF PROFILE
	VERTICAL SCALE 1cm = 20'
	READINGS AT 25m TRANSMITTER - SEATTLE
PROJ. No. 55	SURVEY BY: J. SAUNDERS DATE: SEPTEMBER 1980
N.T.S. 92J15	DRAWN BY: J. SAUNDERS SCALE: 1:5000
DWG. No. 3	NORANDA EXPLORATION OFFICE: K.A.M.L.O.P.S.



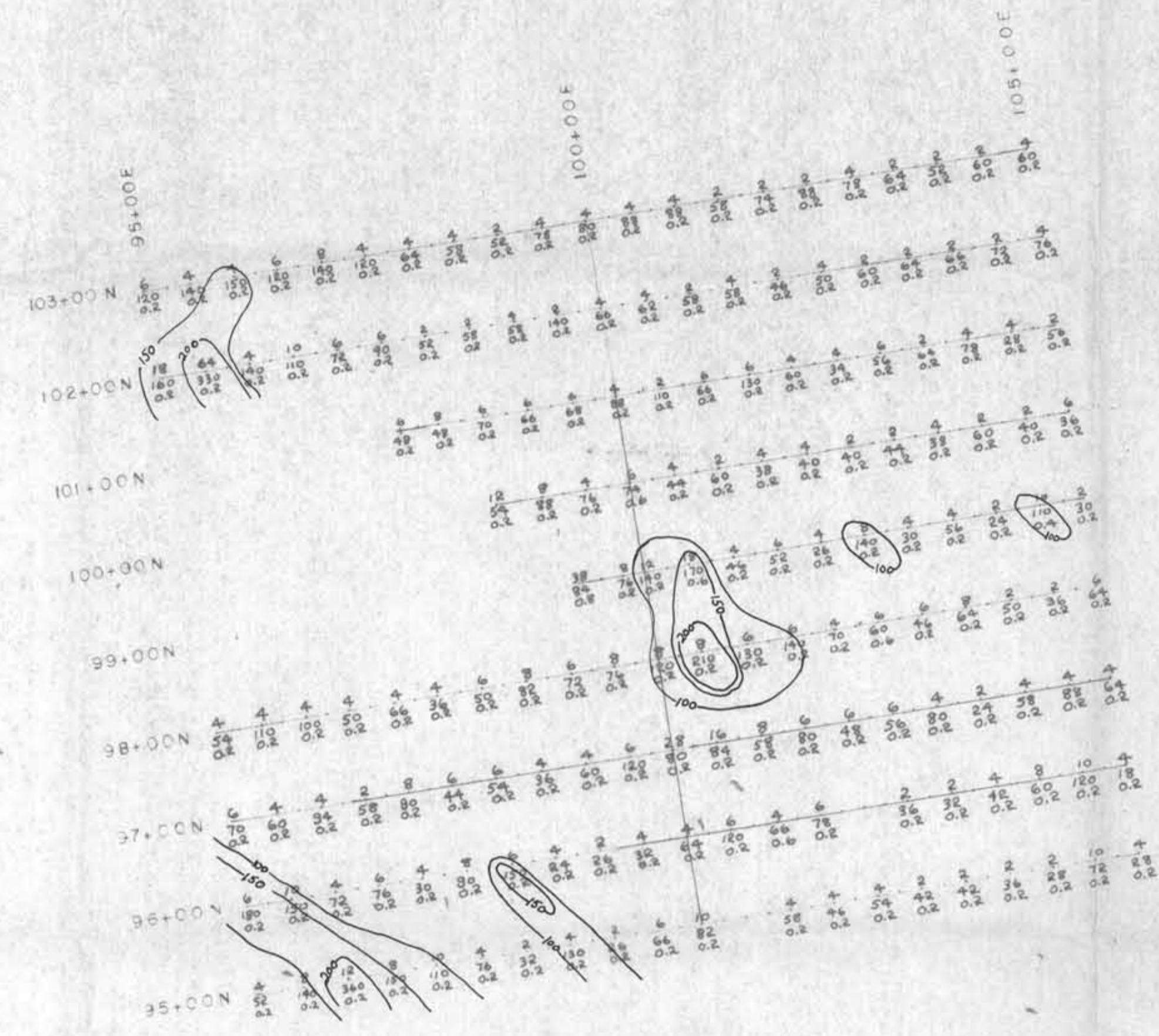
TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTA 1 TO 9, HILLSIDE 1 TO 9, HILLSIDE EXT, 3 TO 4, WELLSANDE AND THE HEZIBAH MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1980



MINERAL RESOURCES BRANCH
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REVISED	OLYMPIC PROPERTY- INGRAM OPTION-
MAGNETOMETER SURVEY VERTICAL FIELD CONTOUR INTERVAL = 100 γ	
PROJ. No. 52	SURVEY BY: J. SAUNDERS DATE: SEPTEMBER 1980
NTS. 92/15	DRAWN BY: J. SAUNDERS SCALE: 1:50,000
DWG. No. 4	NORANDA EXPLORATION OFFICE: KAMLOOPS



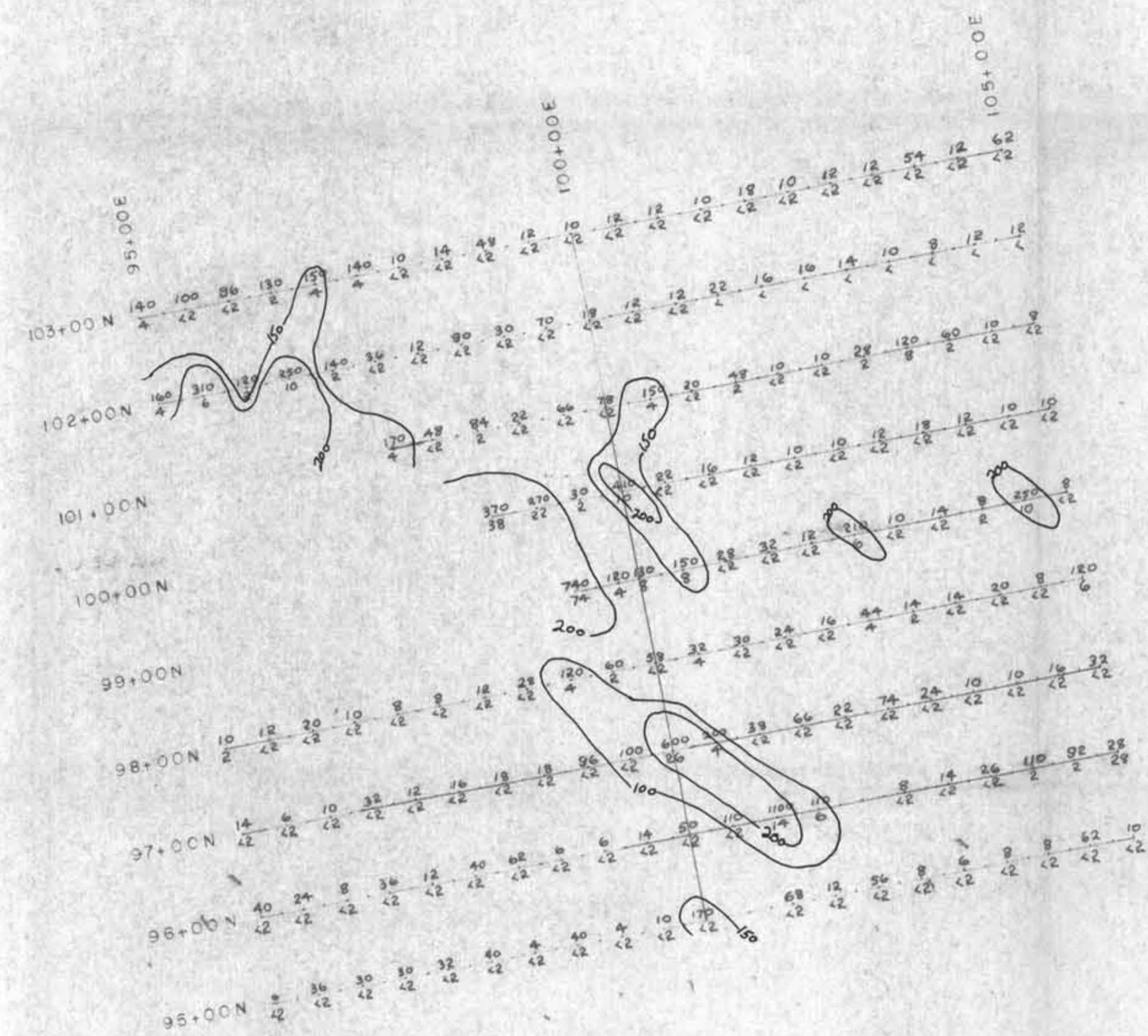
MINING ASSESSMENT REPORT
NO. 8293



TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTA 1 TO 8, HILLSIDE 1 TO 8, HILLSIDE EXT, 3 TO 4, MELLISANDE AND THE HEZIBAH MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1990

Pb
Zn
Ag

REVISED	OLYMPIC PROPERTY- INGRAM OPTION-	
	GEOCHEMICAL SOIL SURVEY	
	Pb, Zn, Ag in P.P.M.	
PROJ. No. 55	SURVEY BY: J. SAUNDERS	DATE: SEPTEMBER 1990
M.T.S. 02 J. 15	DRAWN BY: J. SAUNDERS	SCALE: 1:5000
DWG. No. 5	NORANDA EXPLORATION	
	OFFICE: KAMLOOPS	



MINERAL RESOURCES BRANCH
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TO ACCOMPANY GEOLOGICAL, GEOPHYSICAL, AND GEOCHEMICAL REPORT ON THE ALTA 1 TO 8, HILLSIDE 1 TO 8, HILLSIDE EXT. 3 TO 4, MELLISANDE AND THE HEZIBAH MINERAL CLAIMS, LILLOOET M.D., B.C. BY T. LEWIS, SEPTEMBER 1980

Cu
Mo

REVISED	OLYMPIC PROPERTY- INGRAM OPTION -	
	GEOCHEMICAL SOIL SURVEY	
	Cu, Mo in P.P.M.	
PROJ. No. 55	SURVEY BY: J. SAUNDERS	DATE: SEPTEMBER 1980
N.T.S. 82.1.15	DRAWN BY: J. SAUNDERS	SCALE: 1:5000
DWG. No. 6	NORANDA EXPLORATION	
	OFFICE: KAMLOOPS	