

COMINCO LTD.

EXPLORATION
NTS: 82F/6E,W

WESTERN DISTRICT
16 October 1980

8448

PART
2 of 2

GEOLOGICAL AND GEOCHEMICAL REPORT

REPORT ON THE BOBBI CLAIM GROUP

YMIR AREA

NELSON MINING DIVISION

49°18'N; 117°14'W

WORK PERFORMED: MAY 15 - SEPTEMBER 25, 1980

OWNER: ASAMARA DIL CORP.
COMINCO LTD

OCTOBER 1980

T.W. HODSON

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GEOLOGICAL AND GEOCHEMICAL REPORT

REPORT ON THE BOBBI CLAIM GROUP

YMIR AREA

NELSON MINING DISTRICT

SUMMARY

A geological mapping and geochemical survey was carried out on the Bobbi claim group, located 21 kilometers SSE of Nelson, B.C. The claims cover a number of Nelson plutonic bodies which intrude marine sediments and volcanics. Work done consisted of geological mapping, soil sampling, and rock chip sampling. The geochemical survey consisted of 691 soil samples, 40 stream silt samples, and 45 rock chip samples. Samples were analysed for a variety of elements including Cu, Pb, Zn, Mo, W, Ag, Au, Sn and F.

Results show a broad molybdenum and tungsten anomaly plus many smaller anomalous areas, enriched in at least one of the following elements: Cu, Pb, Zn, Mo or W. One molybdenum anomaly is related to known mineralization.

LOCATION

Latitude : 49°18'N
Longitude: 117°14'W
NTS : 82F/6E,W
Nelson Mining District

These claims are located 2 kilometers NW of Ymir, B.C. and immediately west of Highway 6 connecting Salmo, B.C. to Nelson, B.C. Access to these claims is gained by two logging roads extending off of Highway 6 onto the property. Elevation ranges from approximately 760 meters to 1650 meters with the whole being forest covered.

HISTORY

Previous interest in this area has mainly been limited to the exploration for tungsten as indicated by the many small pits and adits found on the property. Union Carbide Ltd. acquired two crown grants (Alabama, Lot #2279 and Atlanta, Lot #2280) located within the Bobbi property boundaries and in 1977 carried out a soil sampling survey over them.

Between May, 1978 to November, 1979, the Bobbi claim group was staked by S. Barclay and P. Pendlebury who then optioned the ground to Asamera Oil Corp. S. Barclay then conducted two limited soil sampling surveys and dug six trenches for Asamera Oil Corp. On October 15, 1979 Cominco Ltd. formally signed a joint venture with Asamera Oil Corp. to work the Bobbi claim group.

OWNERSHIP

The Bobbi claim group consists of 28 claims comprising 39 units.

<u>Claim</u>	<u>Units</u>	<u>Recorded</u>	<u>Due Date</u>	<u>Present Ownership</u>
Bobbi	6	June 8, 1978	June 8, 1983	Asamera Oil Corp.
Mary	2	June 8, 1978	June 8, 1983	Asamera Oil Corp.
Kim 1-8	8	November 22, 1978	November 22, 1983	Asamera Oil Corp.
Kim fr.	1	October 12, 1979	October 12, 1982	Asamera Oil Corp.
Muriel 1-4	4	November 23, 1978	November 23, 1978	Asamera Oil Corp.
Betty 2	1	November 23, 1978	November 23, 1978	Asamera Oil Corp.
Betty 3-4	2	November 24, 1978	November 24, 1978	Asamera Oil Corp.
Eleanor 1-8	8	May 4, 1979	May 4, 1981	Asamera Oil Corp.
Bobbi 2 fr.	1	June 16, 1980	June 16, 1981	Cominco Ltd.
Bobbi 3	2	June 6, 1980	June 6, 1981	Cominco Ltd.
Bobbi 4	4	June 6, 1980	June 6, 1981	Cominco Ltd.
Bobbi 5	2	June 6, 1980	June 6, 1981	Cominco Ltd.

SOIL GEOCHEMISTRY

Sample Collection

Field work was conducted by T.W. Hodson, assisted by M. Seifert, K. MacDonald and B. Grant.

Soil samples were collected at 25, 50, or 75 meter intervals along established grid lines 200 meters apart. Samples were taken from the B-horizon and all locations marked with coloured flagging. Silt samples were taken from any active creek encountered and rock chip samples from selected outcrops representative of the particular rock type sampled.

Soil Preparation and Analysis

All samples were shipped to Cominco Exploration Research Laboratory in Vancouver, where the soil and silt samples were dried and sieved to -80 mesh and weighed into 200 milligram portions. Determination of Cu, Pb, Zn and Ag was by AA following extraction by 20% hot nitric acid; Mo by nitric-perchloric acid extraction followed by thiocyanate colourimetry with butyl acetate extraction; W by potassium pyrosulphate fusion and hot HCl extraction followed by zinc dithiol colourimetry; Sn by borax fusion followed by x-ray fluorescence spectroscopy; Au by aqua regia digestion followed by organic solvent extraction and analysis by AA; and F by specific ion electrode analysis.

All soil and silt samples were statistically treated to determine thresholds, means, and standard deviations. The results are plotted on Plates 4 to 8.

GEOLOGY (Plate 3)

The Bobbi claim group lies on the east limb of a NS trending syncline and is underlain by Jurassic marine sediments and volcanics of the Hall and Rossland Formations. Intruding into this sedimentary and volcanic pile are numerous

GEOLOGY (Continued)

small plugs and dykes of Cretaceous Nelson plutonic rocks. These intrusions range in composition from quartz-monzonite to quartz-diorite. Also found intruding the above package is one small Coryell monzonite plug and acid to mafic Tertiary dykes.

The Rosslund volcanic unit consists of andesite, flow breccia, tuff and augite porphyry. Argillite, shale, siltstone and sandstone make up the Hall sedimentary unit.

An albite porphyry intrusion of quartz-diorite composition is the most abundant igneous unit found on the property. Typically it contains 30-35% albite phenocrysts, from 0.8 to 1.5 cm, set in a fine grained, pale green matrix. Other intrusions include a plagioclase porphyry and quartz-monzonite. The porphyry contains 30% plagioclase phenocrysts (up to 0.5 cm) set in a mafic rich fine grained, light grey matrix. The quartz monzonite is a medium grained, light grey to white coloured plug containing K-spar phenocrysts (up to 1.5 cm), quartz, plagioclase, biotite, and hornblende.

Tertiary dykes in the area are rhyolitic to basaltic in composition, fine grained and usually porphyritic.

Mineralization on the property consists of pyrite which is ubiquitous throughout the marine sediments and volcanics, pyrrhotite which is only found within the Hall sediments and molybdenite which is found along with sericite in the envelope of quartz veins and in fractures in the quartz monzonite plug.

RESULTS AND INTERPRETATION

Statistical analyses for Cu, Pb, Zn, Mo and W resulted in the establishment of geometric means of 42, 12, 164, 3, and 2ppm thresholds of 132, 51, 520, 15 and 10ppm respectively.

Results for molybdenum showed two main anomalous zones; one large anomaly located within the Hall sediments and another smaller one associated with the known mineralization of the quartz monzonite plug. (Plate 4).

Tungsten results show an anomaly partially surrounding the Mo anomaly centred on the quartz monzonite and also a larger tungsten anomaly coinciding with the anomalous molybdenum zone within the Hall sediments. (Plate 5).

Copper and lead values show scattered highs within the sedimentary and volcanic units with real no real pattern discernable. Anomalous zinc values show a partial halo pattern to the molybdenum anomaly within the sediments. (Plates 6, 7, and 8).

No anomalous silver, gold, or tin values were found.

CONCLUSIONS

Mapping and soil sampling programs on the Bobbi claim groups have indicated two main anomalous molybdenum and tungsten zones, one associated with known

CONCLUSIONS (Continued)

mineralization. A diamond drilling program should be conducted to test the significance of these areas.

Report by: T.W. Hodson
T.W. Hodson, Geologist

Endorsed by: D.L. Cooke
D.L. Cooke
Senior Geologist

Approved for
Release by: G. Harden for
G. Harden, Manager
Exploration
Western District

TWH:vmk

Distribution:

Mining Recorder (2)
Western District (1) ✓
TWH/DLC (2)

C A N A D A
PROVINCE OF BRITISH COLUMBIA
TO WIT:

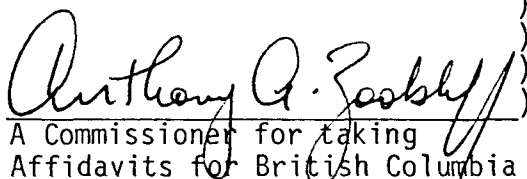
STATUTORY DECLARATION

I, ROBIN LAWSON WOODS, of the District of North Vancouver, in the Province of British Columbia, DO SOLEMNLY DECLARE THAT:

1. I am the Supervisor, Exploration and Foreign Accounting for Cominco Ltd., 2300 - 200 Granville Street, Vancouver, British Columbia, and, as such have knowledge of the facts deposed to herein.
2. Attached to this Statutory Declaration, as Schedule A, is a statement of expenditures indicating the expenditures charged by Cominco Ltd. to the Bobbi Option account for the period January 1, 1980 to September 30, 1980.
3. The statement of expenditures referred to in paragraph 2 is true and accurate to the best of my knowledge, information and belief.
4. This Statutory Declaration is made in support of an application for credit as assessment work pursuant to the Mineral Act of British Columbia.

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 Vancouver in the Province)
of British Columbia, this 17th)
day of October 1980)

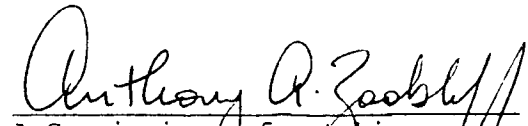

A Commissioner for taking
Affidavits for British Columbia

Anthony Allen Zoobkoff
A Commissioner for taking
Affidavits for British Columbia.



Robin Lawson Woods

This is Schedule A referred to
in the Statutory Declaration
of ROBIN LAWSON WOODS
declared before me this 17th day
of *October* 1980


A Commissioner for taking
Affidavits for British Columbia

*Anthony Allen Zoobkoff
A Commissioner for taking
Affidavits for British Columbia.*

STATEMENT OF EXPENDITURES


BOBBI OPTION

NELSON M.D., B.C.

JANUARY 1, 1980 TO SEPTEMBER 30, 1980

Geology	\$21,963
Geophysics	10,772
Linecutting	12,090
Transportation	2,366
Geochemistry	5,868
Camp costs	5,486
Option payment	5,400
Administrative services	5,855
	<hr/>
	\$69,800
	<hr/> <hr/>

Cominco Ltd.
Vancouver Office
October 17, 1980
Copies: Mining Recorder (2)
Senior Technician
File (2)


Robin Lawson Woods
Supervisor, Exploration
& Foreign Accounting

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 82F/6E,W

16 OCTOBER 1980

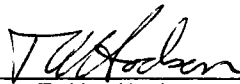
APPENDIX B

In the matter of the B.C. Mineral Act and in the matter of a geological and geochemical program carried out on the Bobbi mineral claims located in the Nelson Mining Division of the Province of British Columbia more particularly N.T.S.: 82F/6E,W

A F F I D A V I T

I, Terence W. Hodson, of the Municipality of Surrey, in the Province of British Columbia, make oath and say:

1. That I am employed as a geologist by Cominco Ltd., and as such have a personal knowledge of the facts to which I hereinafter depose;
2. That annexed hereto and marked as Appendix I to this my affidavit is a true copy of expenditures incurred in connection with a geological and geochemical program carried out on the Bobbi mineral claims;
3. That said expenditures were incurred between the 15th day of May and the 25th day of September 1980 for the purpose of mineral exploration on the above noted claims.



T.W. Hodson, Geologist

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 82F/6E,W

16 OCTOBER 1980

APPENDIX A

STATEMENT OF EXPENDITURES

Cost of geological mapping and geochemistry survey on the Bobbi mineral claims - Ymir area, Nelson Mining Division, B.C., from May 15 - September 25, 1980.

Salaries:

T.W. Hodson	(55 days @ \$123.03/day)	\$ 6,766.65
M. Seifert	(49 days @ \$ 96.36/day)	4,721.64
K. MacDonald	(21 days @ \$ 77.88/day)	1,635.48
B. Grant	(37 days @ \$ 80.96/day)	2,995.52

Transportation:

Truck rental - 1 vehicle, May-June 1980 including rental, gas, oil, servicing, repairs, etc.	\$ 2,905.55
Helicopter - 1 hr. @ \$407.91 including fuel and oil	\$ 407.91

Field Costs:

Food and accommodation - 162 man days @ \$38.94/day	\$ 6,308.50
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<u>Equipment:</u>	\$ 1,413.30
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Line Cutting:

20.15 km @ \$600/km	\$12,089.69
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Geochemistry:

691 soil, 40 silt, and 45 rock samples	\$ 6,275.15
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Miscellaneous:

Freight	\$ 50.45
	<hr/>
	\$44,760.00



T.W. Hodson, Geologist

COMINCO LTD.

EXPLORATION
NTS: 82F/6 E,W.

WESTERN DISTRICT
16 OCTOBER 1980

APPENDIX C

STATEMENT OF QUALIFICATIONS

I, Terence W. Hodson, of the Municipality of Surrey, in the Province of British Columbia, hereby certify:

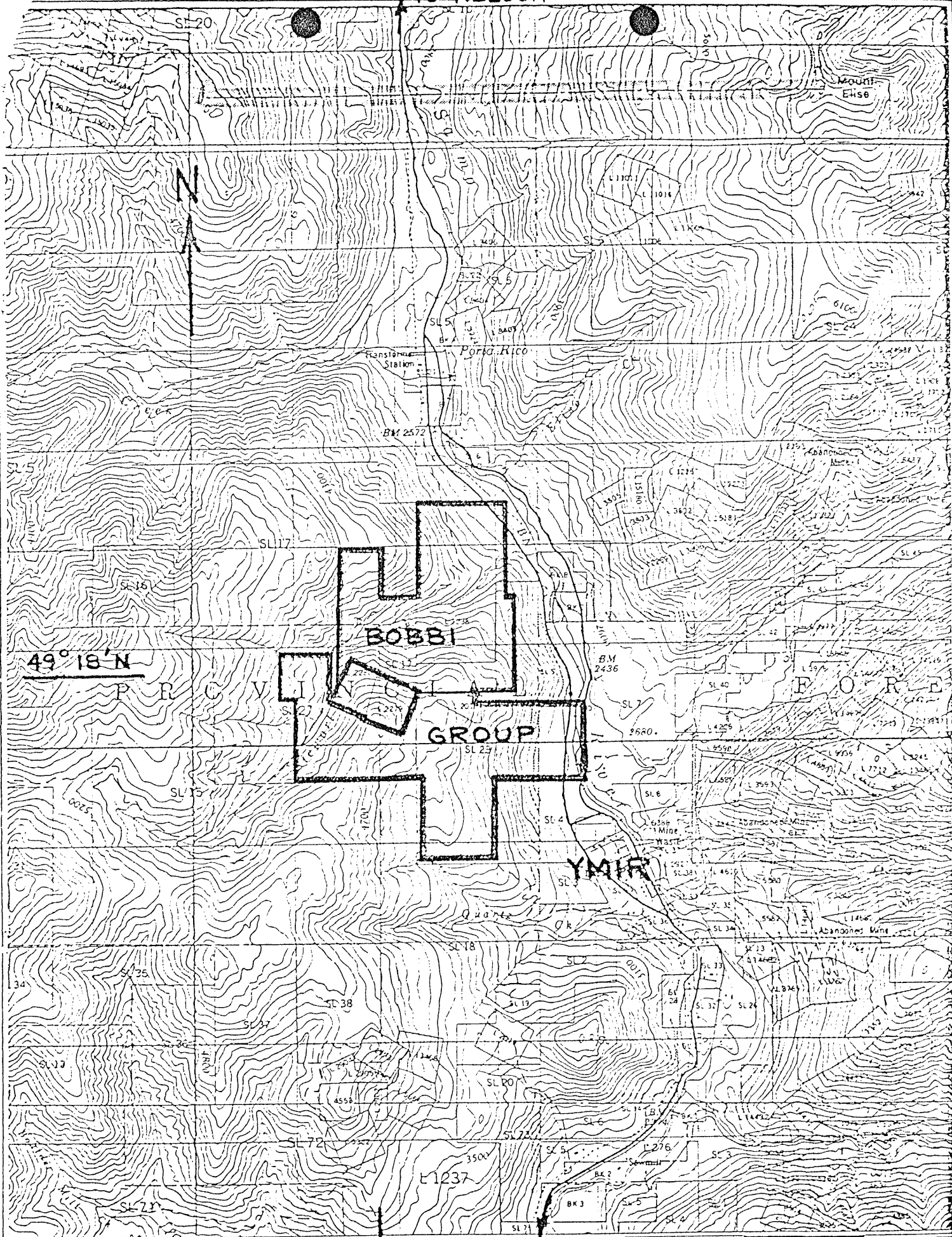
1. That I am a geologist residing at 1455 129 B Street, Surrey, British Columbia, with a business address at 700-409 Granville Street, Vancouver, British Columbia.
2. That I graduated with a B.Sc. in geology from the University of British Columbia in 1980.
3. That I have practised geology with Cominco Ltd. from May 1980 to the present.

Dated this 7 day of November 1980 at Vancouver,
British Columbia.



T.W. Hodson, B.Sc.

TO NELSON



49° 18' N

BOBBI

GROUP

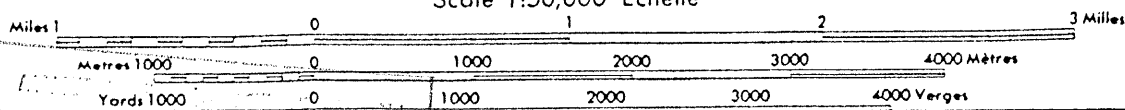
YMIK

79 80 81 15-82 83 TO 84 85 86 87

117° 15' W SALMO Salmo 5 mi 8 km

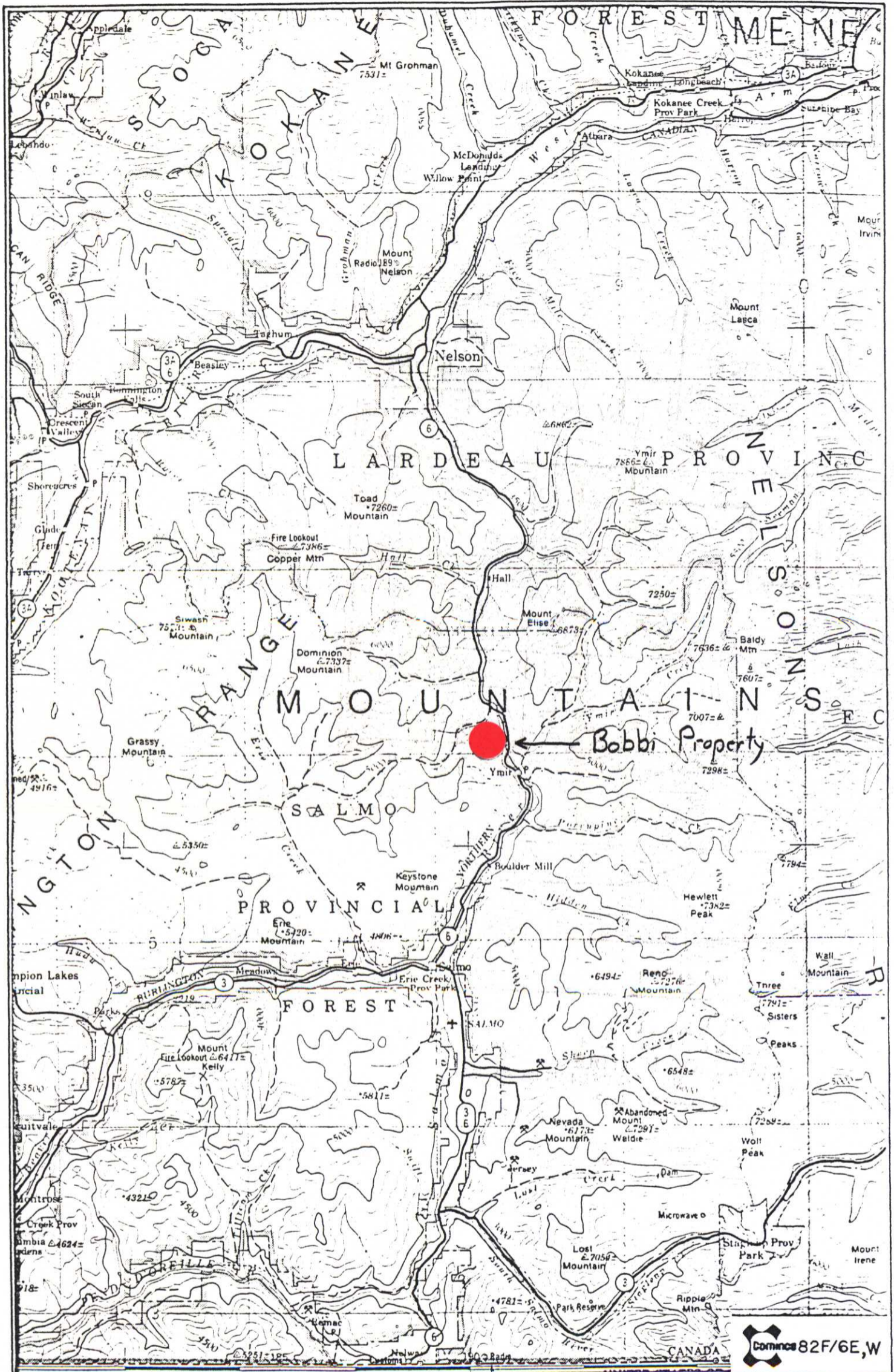
NELSON
 KOOTENAY LAND DISTRICT
 BRITISH COLUMBIA
 WEST OF FIFTH MERIDIAN - OUEST DU CINQUIÈME MÉRIDIEN
 Scale 1:50,000 Échelle

NELSON M.D.



82F/6

Drawn by: RLW	Traced by:	LOCATION MAP BOBBI PROPERTY	
Revised by: DA	Revised by: DA	Scale: 1:50,000	Date: JAN, 1980
8448 PART 2 of 2		Plate:	



Cominco 82F/6E,W

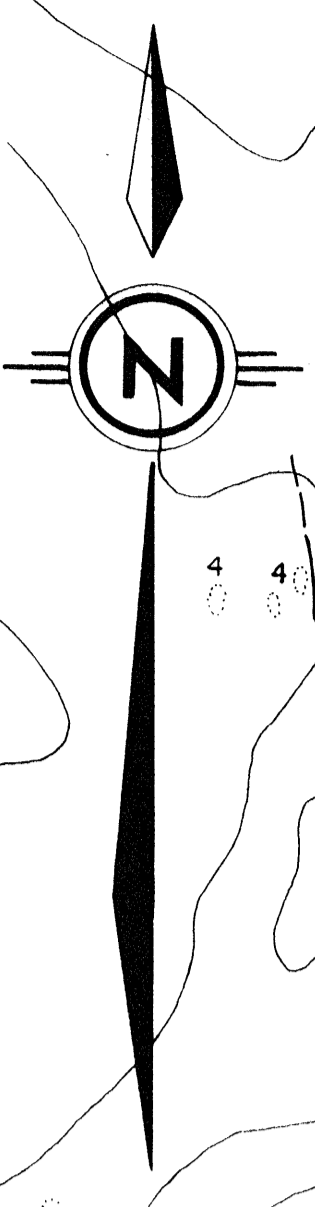
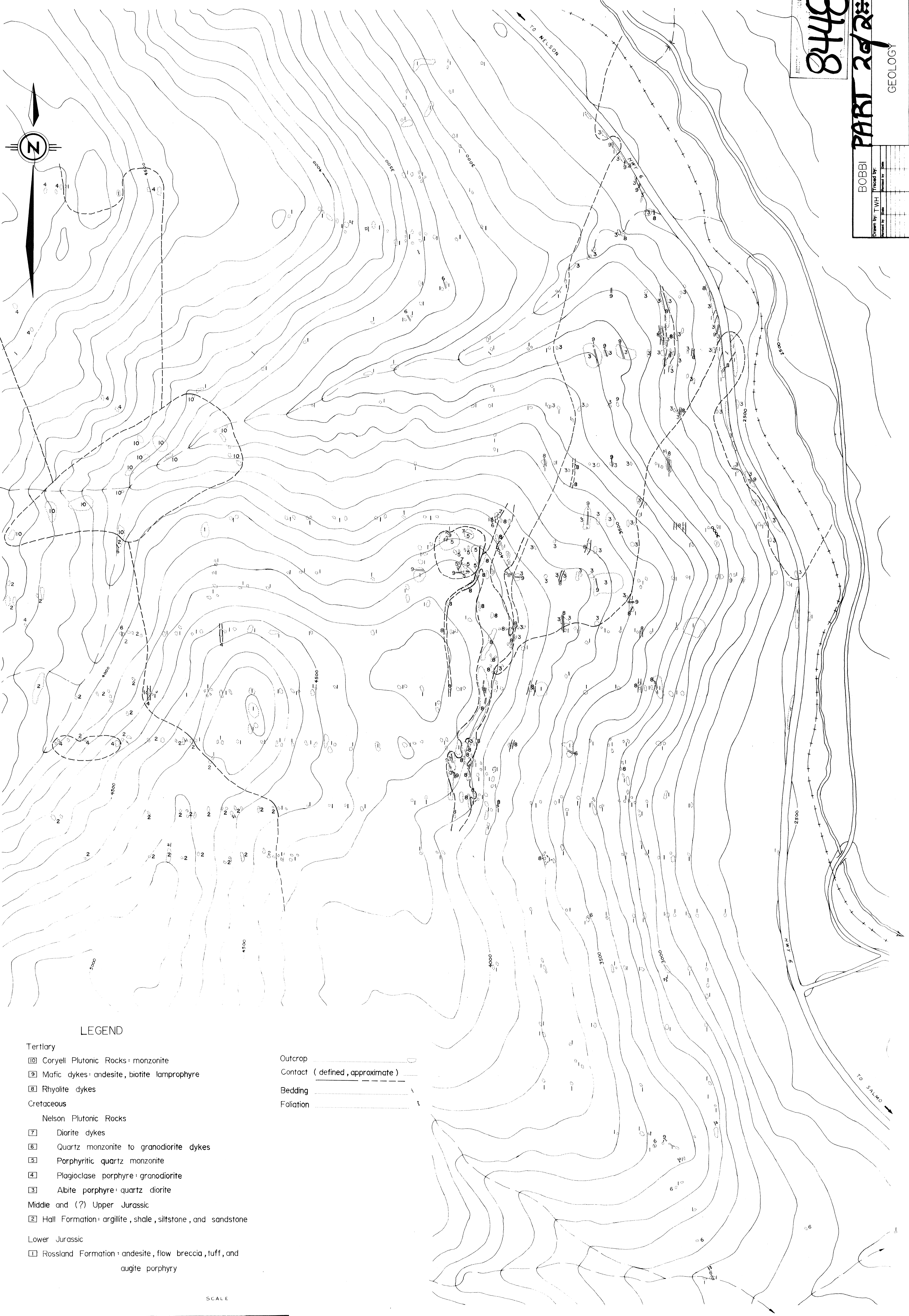
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Revised by:	Date:	Revised by:	Date:

BOBBI MINERAL GROUP
LOCATION MAP

Scale: 1:250,000 Date: October, 1980 Plate:

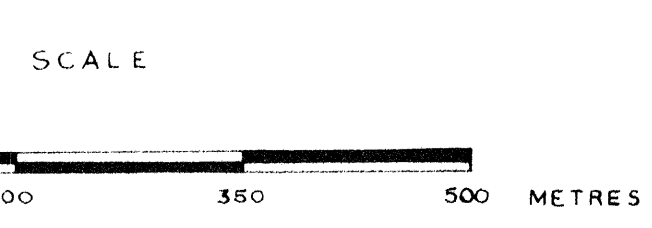
8448 PART 2 of 2

82F/6E-W



LEGEND

- Tertiary
 - 10 Coryell Plutonic Rocks: monzonite
 - 9 Mafic dykes: andesite, biotite lamprophyre
 - 8 Rhyolite dykes
 - Cretaceous
 - Nelson Plutonic Rocks
 - 7 Diorite dykes
 - 6 Quartz monzonite to granodiorite dykes
 - 5 Porphyritic quartz monzonite
 - 4 Plagioclase porphyre: granodiorite
 - 3 Albite porphyre: quartz diorite
 - Middle and (?) Upper Jurassic
 - 2 Hall Formation: argillite, shale, siltstone, and sandstone
 - Lower Jurassic
 - 1 Rosslund Formation: andesite, flow breccia, tuff, and augite porphyry
-
- Outcrop
 - Contact (defined, approximate)
 - Bedding
 - Foliation



8448

BOBBI PART 2928 82F6

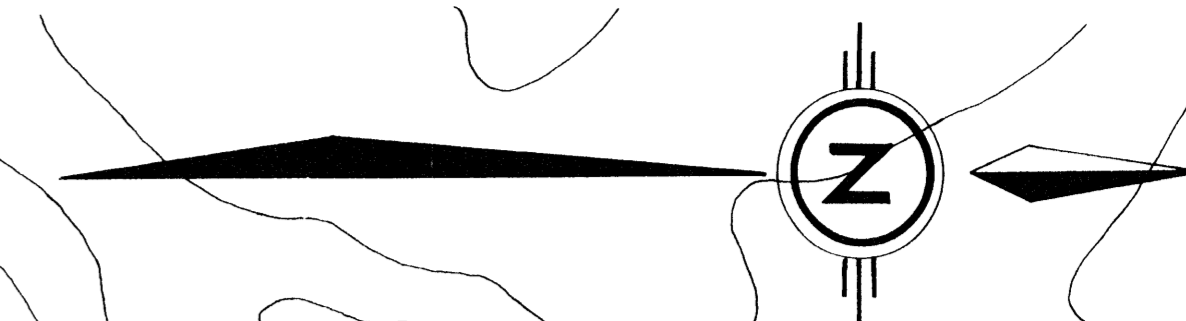
Drawn by T.W.H. (read by:)

Scale 1:5000 Date Sept., 1980 Plate

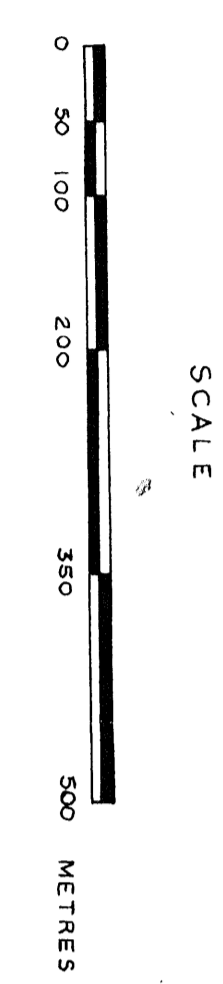
GEOLOGY

TO NELSON

TO SALMO

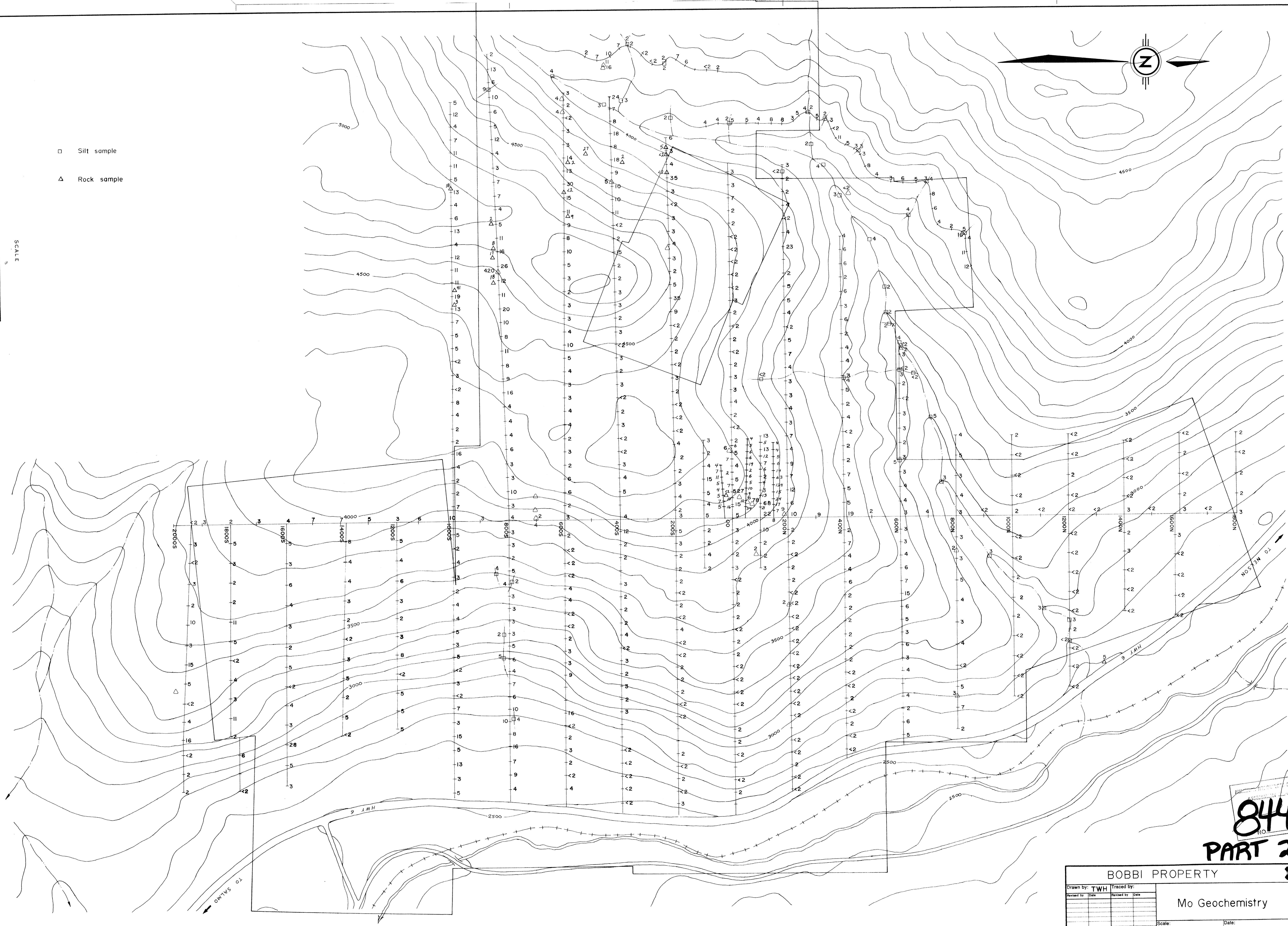


- Silt sample
- △ Rock sample



SCALE

METRES



8448
NO.

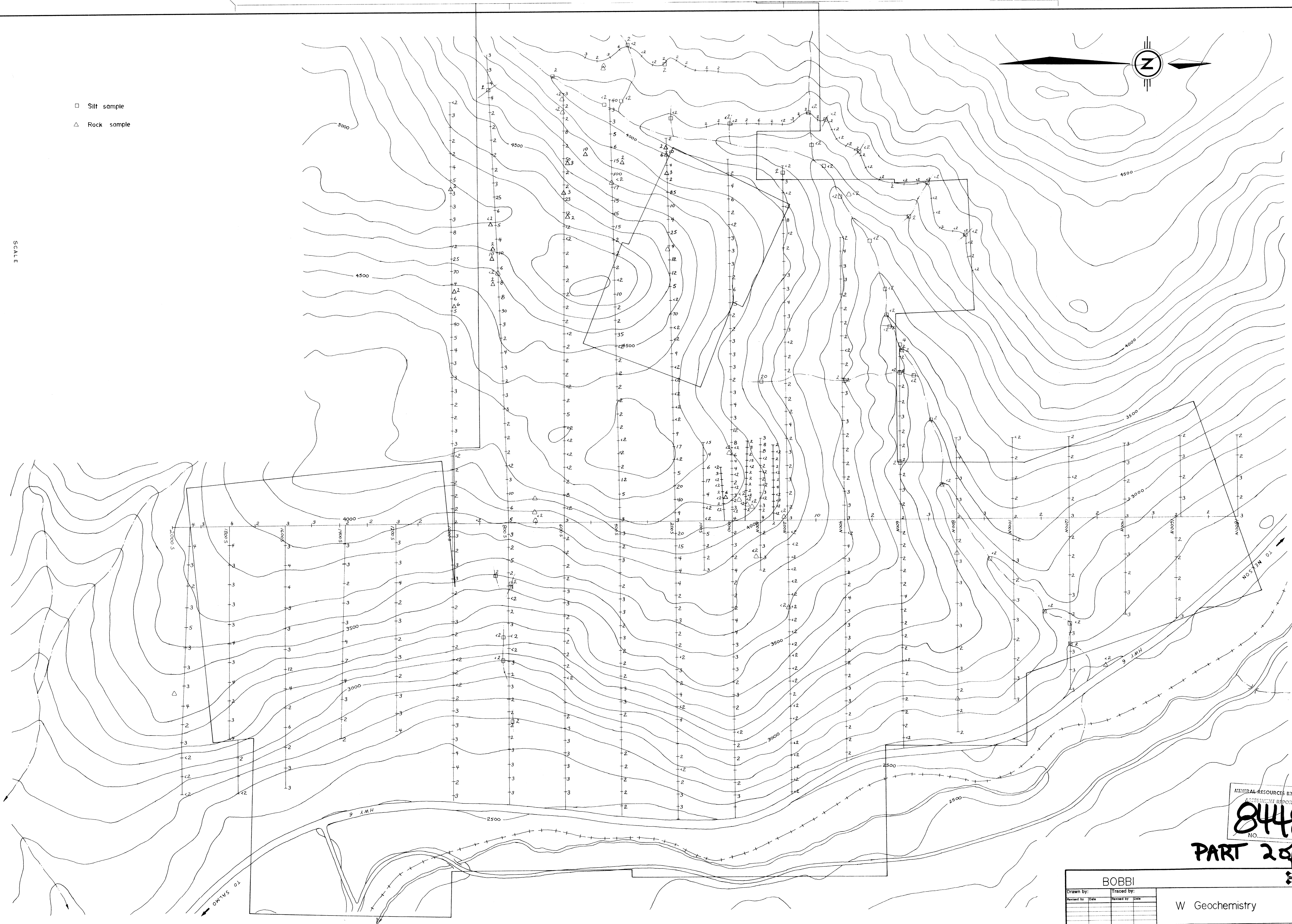
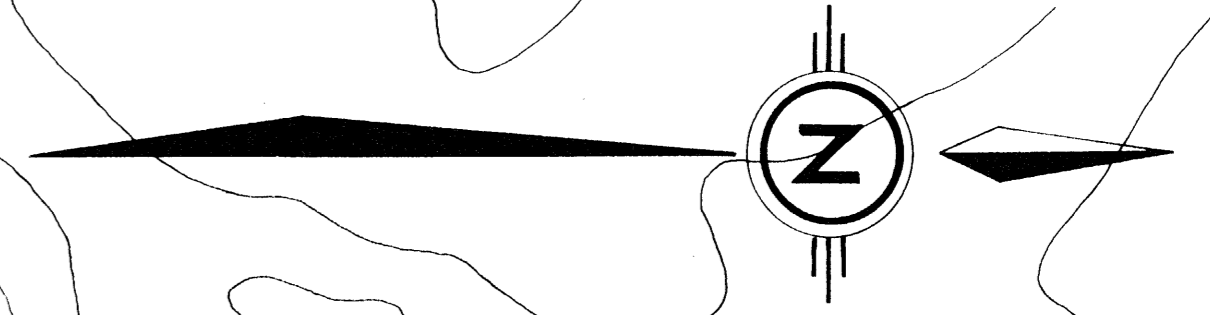
PART 2 of 2

BOBBI PROPERTY		82F/6	
Drawn by: TWH	Traced by:		
Revised by:	Date:	Revised by:	Date:
Mo Geochemistry		Scale:	Date:
			Plate:

- Silt sample
- △ Rock sample

0 50 100 200 300 400 METRES

SCALE



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8448
NO.

PART 2 of 2

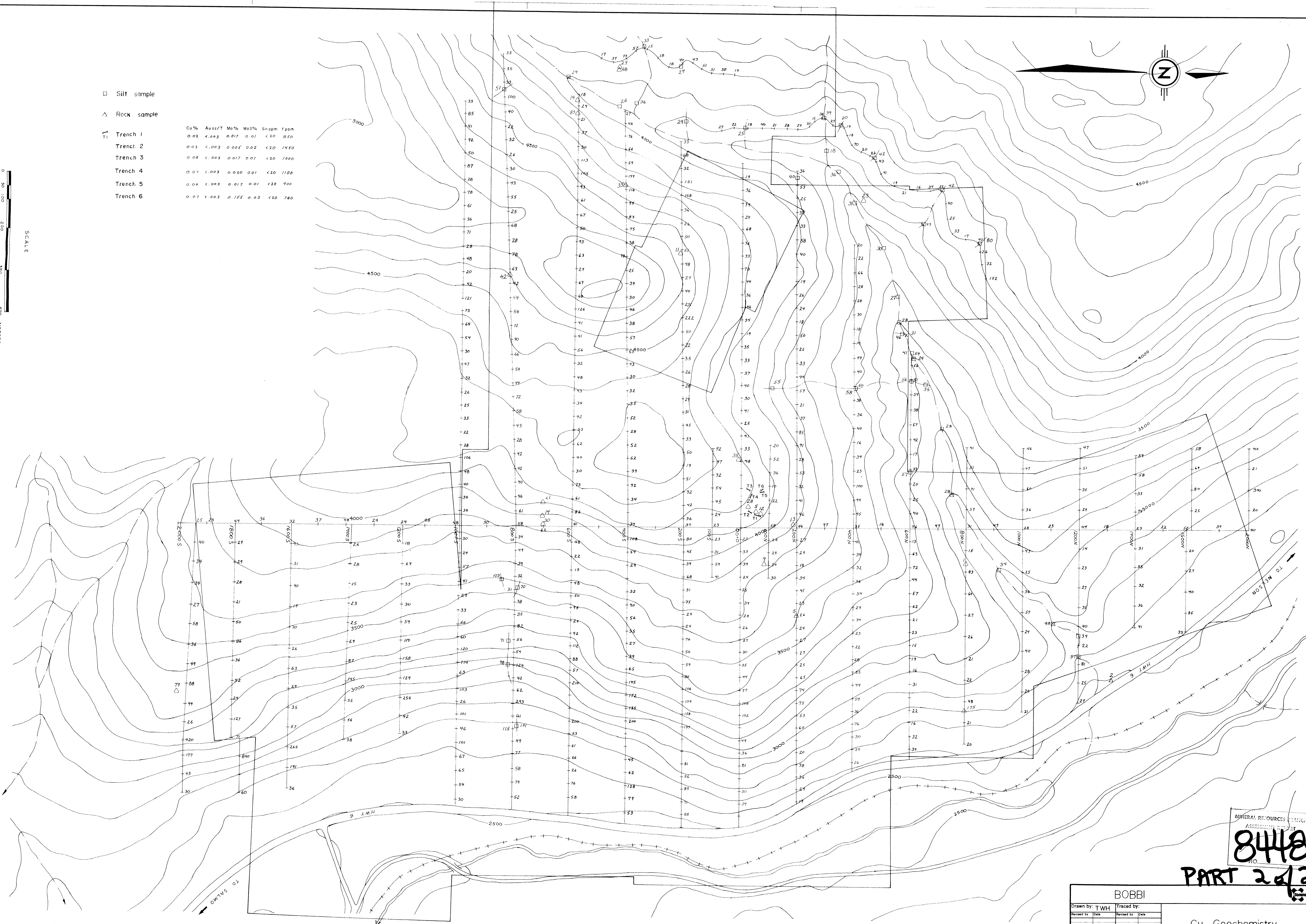
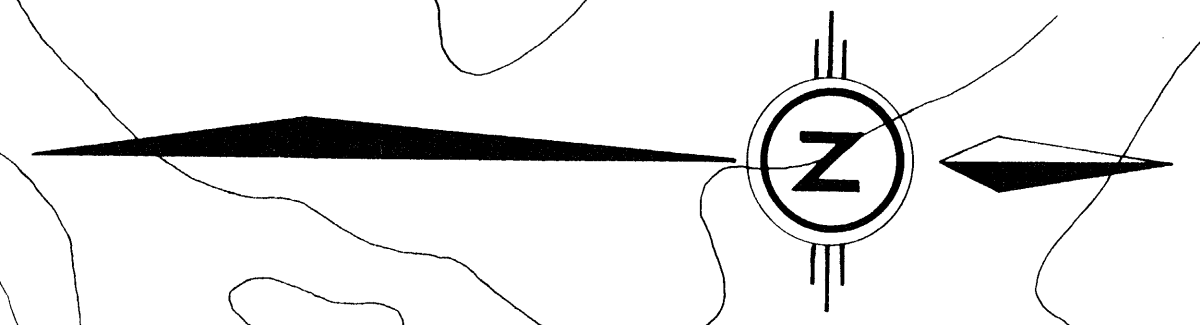
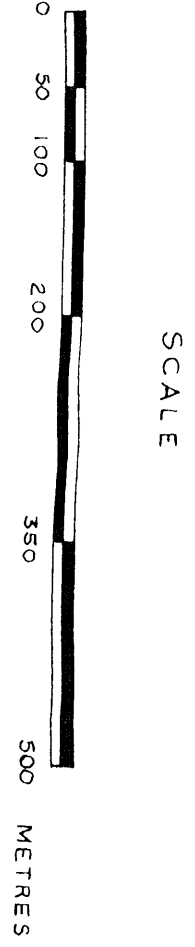
BOBBI		W Geochemistry	
Drawn by:	Traced by:	Scale:	Date:
Revised by:	Revised by:		

□ Silt sample

△ Rock sample

- Trench 1
- Trench 2
- Trench 3
- Trench 4
- Trench 5
- Trench 6

Cu%	Au:1/T	Mo%	W:3%	Snppm	Epmm
0.02	<.003	0.017	0.01	<20	830
0.03	<.003	0.005	0.02	<20	1450
0.08	<.003	0.017	0.01	<20	1000
0.07	<.003	0.020	0.01	<20	1100
0.04	<.003	0.017	0.01	<20	900
0.07	<.003	0.155	0.03	<20	780



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
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No.

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BOBBI

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TWH	

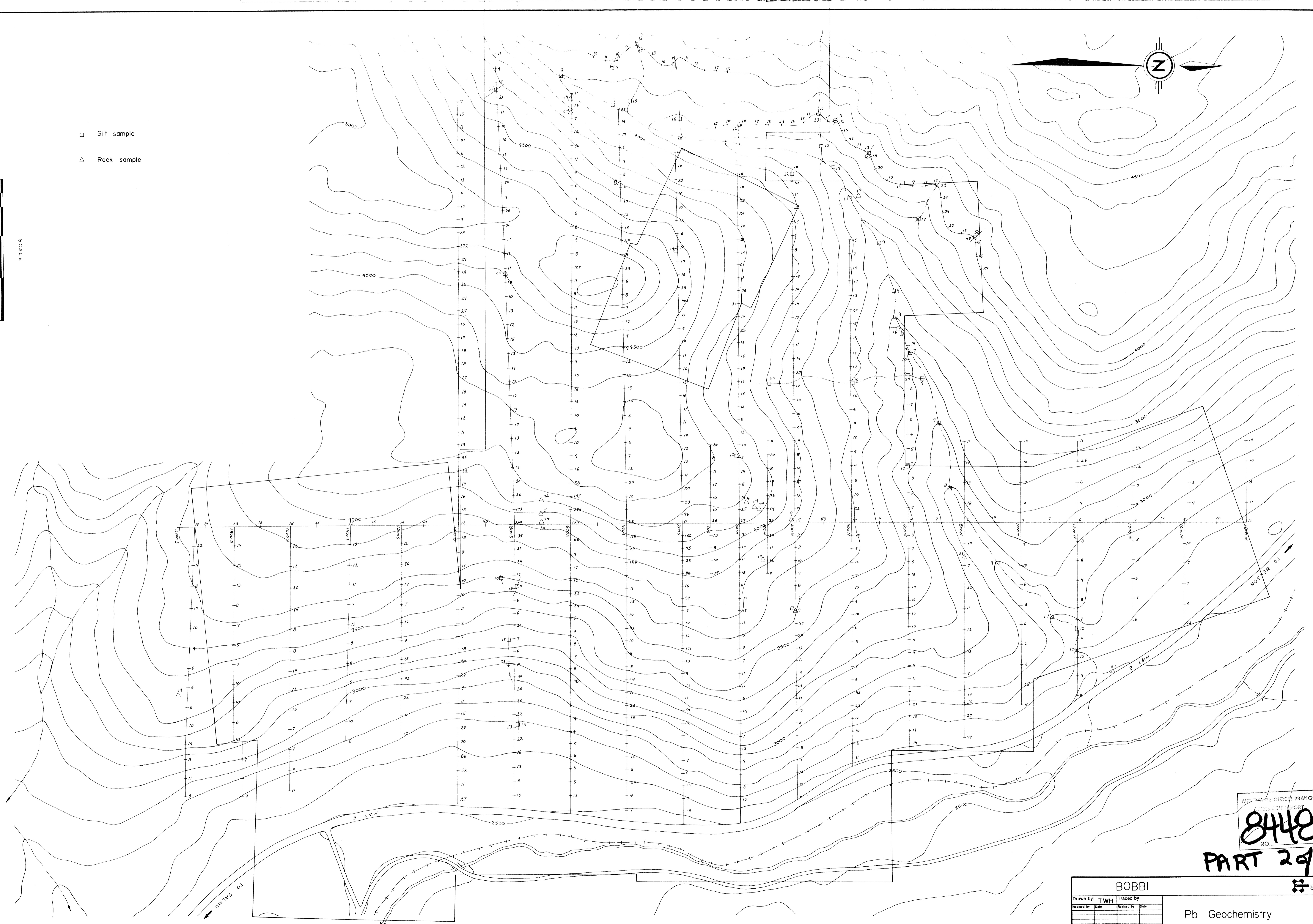
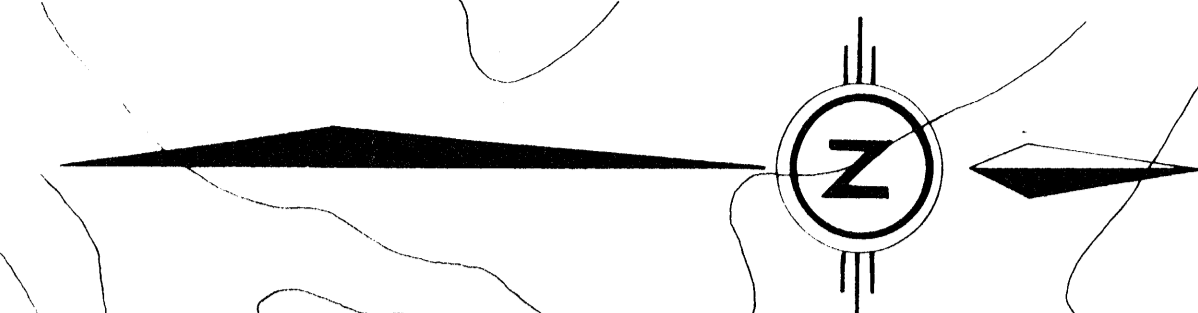
Cu Geochemistry

Scale: 1:5000 Date: Sept., 1980 Plate: 827/6

- Silt sample
- △ Rock sample

0
50
100
200
300
500 METRES

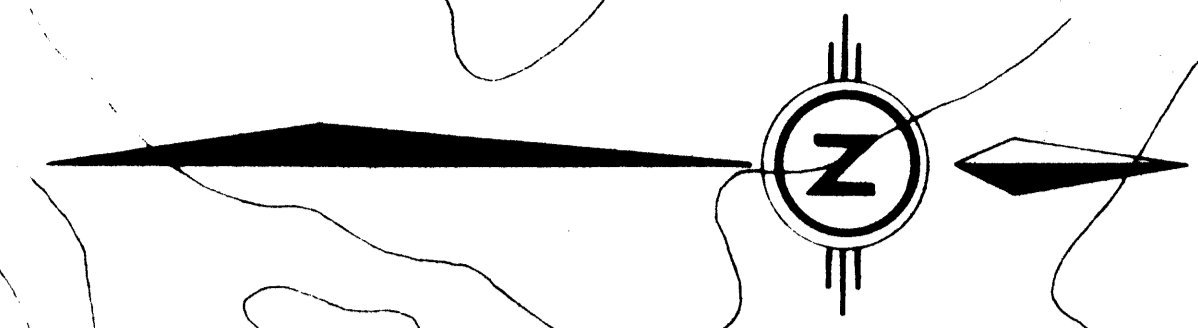
SCALE



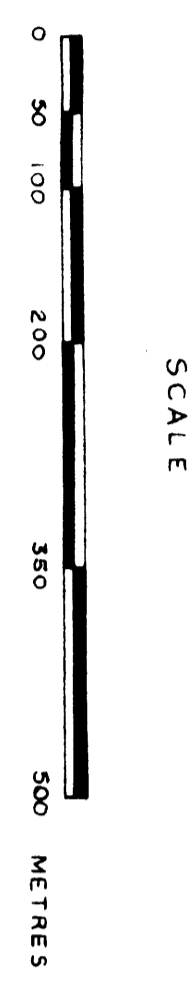
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8448
NO.

PART 2 of 2

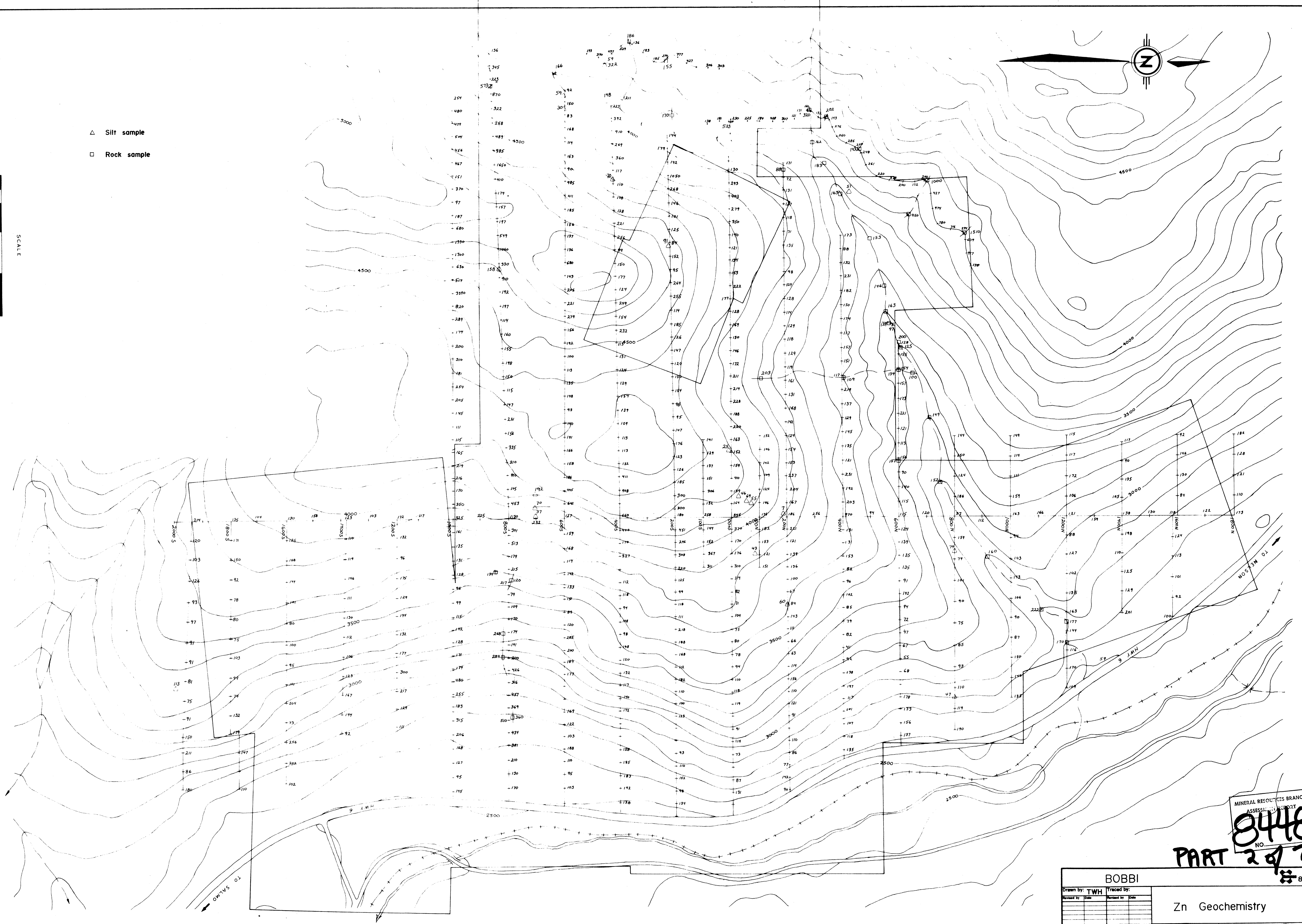
BOBBI		82F/6
Drawn by: TWH	Traced by:	
Revised by: []	Revised by: []	
Pb Geochemistry		
Scale: 1:5000	Date: Sept., 1980	Plate:



- △ Silt sample
- Rock sample



SCALE



MINERAL RESOURCES BRANCH
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NO.
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82F/6

BOBBI	
Drawn by: TWH	Traced by:
Revised by: []	Revised by: []
Date: []	Date: []
Zn Geochemistry	
Scale: 1:5000	Date: Sept., 1980
Plate: []	