

COMINCO LTD.

EXPLORATION  
NTS: 82E/4W

WESTERN DISTRICT

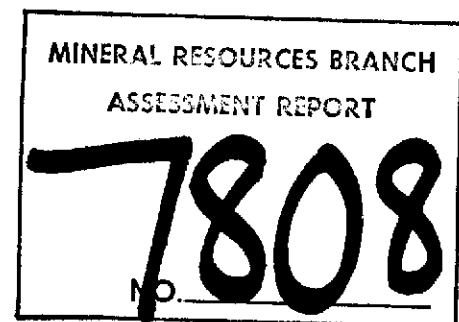
GEOLOGICAL MAPPING AND SOIL GEOCHEMICAL

SURVEY ON THE OK MINERAL CLAIMS

KEREMEOS AREA

OSOYOOS MINING DISTRICT, B.C.

49°02'N; 119°52'W



JANUARY 1980

R.L. WRIGHT

TABLE OF CONTENTS

SUMMARY. . . . . 1  
LOCATION . . . . . 1  
HISTORY. . . . . 1  
OWNERSHIP. . . . . 2  
SOIL GEOCHEMISTRY AND ANALYTICAL PROCEDURE . . . . . 2  
GEOLOGY. . . . . 2  
RESULTS AND INTERPRETATION . . . . . 3  
CONCLUSIONS. . . . . 3

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ATTACHMENTS

PLATE 1	LOCATION MAP - OK CLAIMS	SCALE 1:125,000
PLATE 2	OK GROUP CLAIM MAP	SCALE 1: 50,000
PLATE 3	GEOLOGY	SCALE 1: 10,000
PLATE 4	MOLYBDENUM-TUNGSTEN GEOCHEMISTRY	SCALE 1: 10,000

APPENDIX I	STATEMENT OF EXPENDITURES ON OK CLAIMS
APPENDIX II	AFFIDAVIT
APPENDIX III	STATEMENT OF QUALIFICATIONS

COMINCO LTD.

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WESTERN DISTRICT  
21 JANUARY 1980

GEOLOGICAL MAPPING AND SOIL GEOCHEMICAL

SURVEY ON THE OK MINERAL CLAIMS

KEREMEOS AREA

OSOYOOS MINING DISTRICT, B.C.

SUMMARY

A geological mapping and soil sampling program was carried out on the OK claims which cover a portion of the northern contact of the Similkameen Batholith, located 26 kilometres SSE of Keremeos, B.C. The work consisted of semi-detailed geological mapping and prospecting, and sampling of the soils at 100-metre intervals along contours to determine broad patterns of geochemical enrichment in soils which might represent mineralization in underlying bedrock. Sampling consisted of 438 soil samples and 12 stream silts. All samples were analysed for molybdenum and tungsten.

Results show a number of broad anomalous areas and scattered high values for both molybdenum and tungsten. These anomalies are not related to any mineralization known at this time.

Further work is recommended to follow-up these scattered anomalous values.

LOCATION

Latitude : 49<sup>0</sup>02'N  
Longitude: 119<sup>0</sup>52'W  
NTS : 82E/4W  
Osoyoos Mining District, B.C.

The claims are at the headwaters of Snehumption Creek which drains eastward into the Similkameen River south of Keremeos, B.C. They are accessible by helicopter, the nearest heliport being Penticton, which is 52 km to the NNE. Elevation ranges from approximately 1600 to 2600 metres, with open forest at lower levels giving way to alpine meadow around 2100 metres.

HISTORY

Interest in the general area has been strong in recent years. A significant discovery of tungsten-bearing skarns to the north on ground held by Dankoe Mines Ltd., and the occurrence of numerous molybdenum and tungsten showings in the area have resulted in continued interest in the area.

No previous work had been done by Cominco in this area prior to 1979.

OWNERSHIP

13 claims comprising 94 units owned 100% by Cominco Ltd.  
 OK 1-13, Record Nos. 622(1) to 634(1) inclusive.  
 Date Recorded : January 25, 1979  
 Date Assessment Work Due: January 25, 1980

SOIL GEOCHEMISTRY AND ANALYTICAL PROCEDURE

The field work was conducted by R.L. Wright, M.Sc. 1974, assisted by J.C. Haskins, B.Sc. 1979, R.M. Eyre and G.G. Connolly.

Soil samples were collected from evenly-spaced contour lines, generally about 500 vertical feet apart at an interval of 100 metres along the lines. Fill-in lines at 250 ft. contour interval were sampled in areas of low slope, and hence, widely-spaced contours. Stream silts were collected from several locations to provide representative values for a larger area, and to verify the Canadian Occidental Petroleum Ltd. data.

Soil and silt samples were dried and sieved to minus 80 mesh and weighed into 200 mg. portions. Molybdenum was analysed by nitric-perchloric acid extraction followed by thiocyanate colourimetry with butyl acetate extraction. Tungsten was analysed by potassium pyrosulphate fusion and HCl extraction followed by zinc dithiol colourimetry. All analytical work was performed by Cominco's Vancouver Research Laboratory.

All soil analyses were statistically treated to determine thresholds, means and standard deviations.

GEOLOGY

The claim group overlies the Cretaceous Similkameen Batholith, part of the Nelson Plutonic Rocks, which intrudes Permo-Triassic oceanic sediments and volcanics of the Barslow, Independence, Shoemaker and Old Tom Formations. The intrusion in the area of the claims is quite heterogeneous, but predominantly a porphyritic quartz monzonite composed of 3-5 cm pink Kspar phenocrysts in a coarse to medium-grained matrix of grey quartz, white plagioclase, muscovite and biotite. Also present, apparently in gradational contact with the quartz monzonite are diorite and granodiorite, resulting from a gradual change in proportions of the rock forming minerals rather than separate phases of intrusion.

The country rock is exposed along the northwest edge of the claim group. It consists predominantly of metamorphosed ribbon cherts and amphibolite, with minor argillite, limestone and tuffaceous rocks. Foliation in these rocks is variable but averages north to north-west striking, and dipping steeply eastward.

Mineralization on the property occurs in two locations. A number of boulders with traces of  $\text{MoS}_2$  were found on the crest of the ridge on OK 11. A narrow discontinuous quartz vein (up to 25 cm) with minor galena

3.

and chalcopyrite was located on the spur extending SW from Snowy Mountain. Both occurrences are located on the geology map. (Plate 3).

#### RESULTS AND INTERPRETATION

Sample locations and analytical results are presented in Plate 4.

#### Molybdenum

Molybdenum analyses range from 2 to 65 ppm in soils, with a geometric mean of 3 ppm. The threshold for anomalous molybdenum values is 10 ppm based on the frequency histogram for all analyses. Anomalous molybdenum values are clustered in several areas, at the north end of OK-2, over a broad area in OK-8, and along Snehumption Creek on OK-11 and OK-13. No molybdenum mineralization is known in these areas.

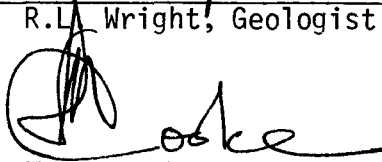
#### Tungsten


Tungsten analyses range from 2 to 240 ppm in soils, with a geometric mean of 3 and a threshold of 10 ppm. Anomalous tungsten values occur on OK-2 and OK-8 over broad areas roughly coincident with the molybdenum anomalies. It is interesting to note that anomalous tungsten values are not associated with the molybdenum anomalies on OK-11 and OK-13.

#### CONCLUSIONS

A program of semi-detailed mapping and soil geochemistry on the OK group, on the northern contact of the Similkameen Batholith, has indicated anomalous values of Mo and W in several areas. Determination of the significance of these values requires further field work, including detailed soil grids, float mapping and trenching.

Report by: R.L. Wright.  
R.L. Wright, Geologist

Endorsed by:   
D.L. Cooke, Senior Geologist

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

RLW/gk

Distribution: Mining Recorder (2) Western District (1)  
Administration (1) RLW/DLC (2)

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EXPLORATION  
NTS: 82E/4W

WESTERN DISTRICT  
21 JANUARY 1980

APPENDIX I

STATEMENT OF EXPENDITURES

Cost of geological mapping and soil geochemistry survey on the OK mineral claims - Keremeos Area, Osoyoos Mining Division, B.C.

SALARIES:

RLW - 13 days @ 128.70/day - July 31 - August 28, 1979	\$ 1,673.10
JCH - 21 days @ 79.20/day - July 31 - August 21, 1979	1,663.20
RME - 21 days @ 63.36/day - July 31 - August 21, 1979	1,330.56
GGC - 21 days @ 63.36/day - July 31 - August 21, 1979	1,330.56
Report Writing	1,000.00

TRANSPORTATION:

Truck Rental - 2 vehicles, August 1979 including gas, oil, servicing, repairs, etc.	977.00
Helicopter (Okanagan Helicopters, Penticton)	2,072.87

FIELD COSTS:

Food and Accommodation - 76 man days @ \$21.08/day	1,602.25
Equipment - tents, field gear, etc.	2,409.99

GEOCHEMISTRY:

438 soils, 12 silts @ \$4.65 for Mo, W	2,092.50
	<u>\$16,152.03</u>

Signed: R.L. Wright  
R.L. Wright, Geologist

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EXPLORATION  
NTS: 82E/4W

WESTERN DISTRICT  
21 JANUARY 1980

APPENDIX II

IN THE MATTER OF THE B.C. MINERAL ACT AND  
IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL  
PROGRAM CARRIED OUT ON THE OK MINERAL CLAIMS  
LOCATED IN THE OSOYOOS MINING DIVISION  
OF THE PROVINCE OF BRITISH COLUMBIA  
MORE PARTICULARLY N.T.S. 82E/4W

A F F I D A V I T

I, ROBERT L. WRIGHT, OF THE CITY OF VANCOUVER, 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 on a geological and geochemical program carried out on the OK mineral claims.
3. THAT the said expenditures were incurred between the thirty-first day of July and the twenty-eighth day of August 1979 for the purpose of mineral exploration on the above noted claims.

Signed: R.L. Wright  
R.L. Wright, Geologist

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EXPLORATION  
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WESTERN DISTRICT  
21 JANUARY 1980

APPENDIX III

STATEMENT OF QUALIFICATIONS

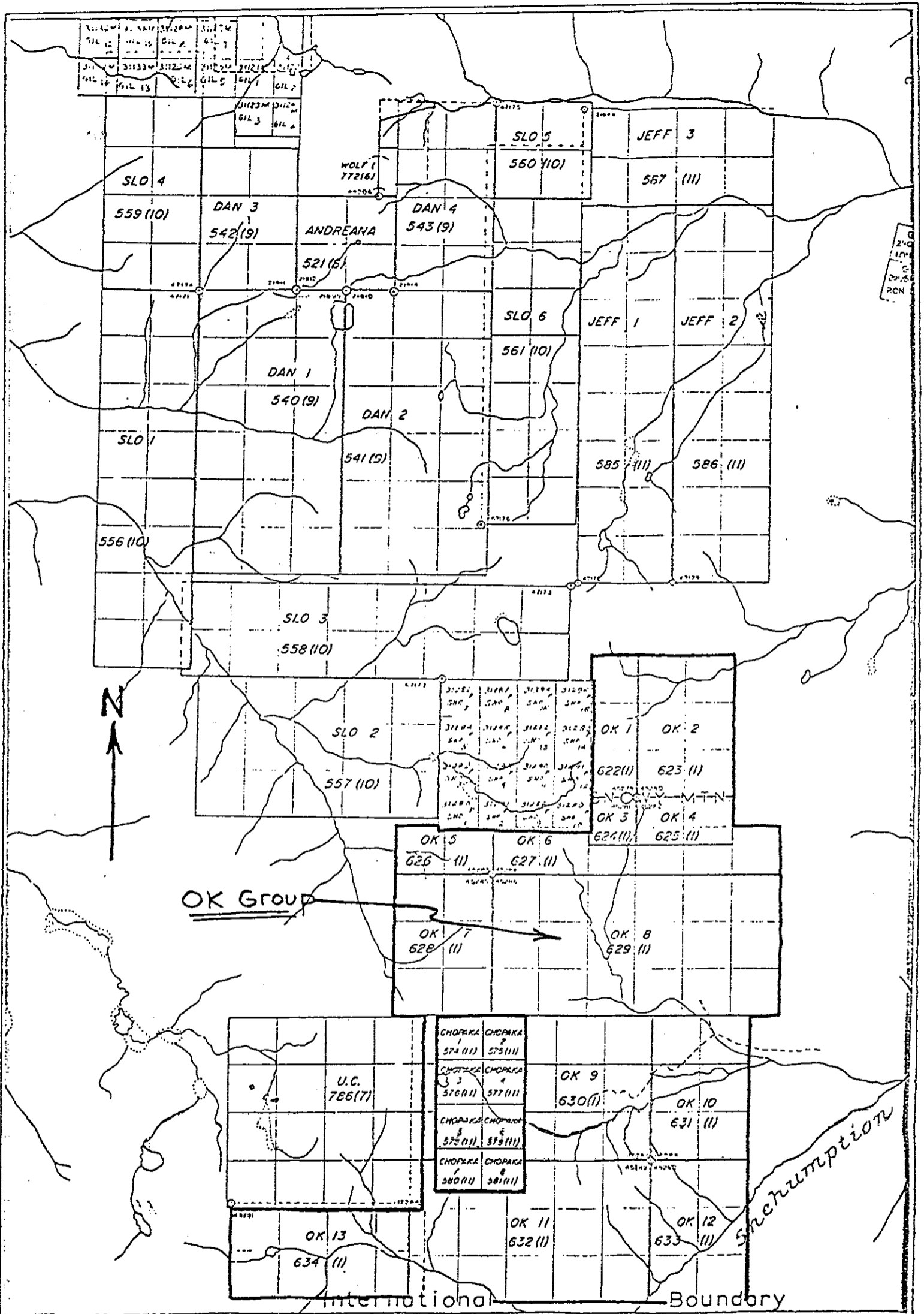
I, ROBERT L. WRIGHT, OF THE CITY OF VANCOUVER, PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I am a Geologist residing at 1859 Napier Street, Vancouver, British Columbia with a business address at 2200-200 Granville Street, Vancouver, British Columbia.
2. THAT I graduated with a B.Sc. in Geology from McMaster University, Hamilton, Ontario in 1971 with a M.Sc. in Geology from the University of British Columbia in 1974.
3. THAT I have practised Geology with Cominco Ltd. from 1975 to 1980.

DATED THIS 21 DAY OF JANUARY 1980 AT VANCOUVER, BRITISH COLUMBIA.

Signed: R.L. Wright  
R.L. Wright, M.Sc.





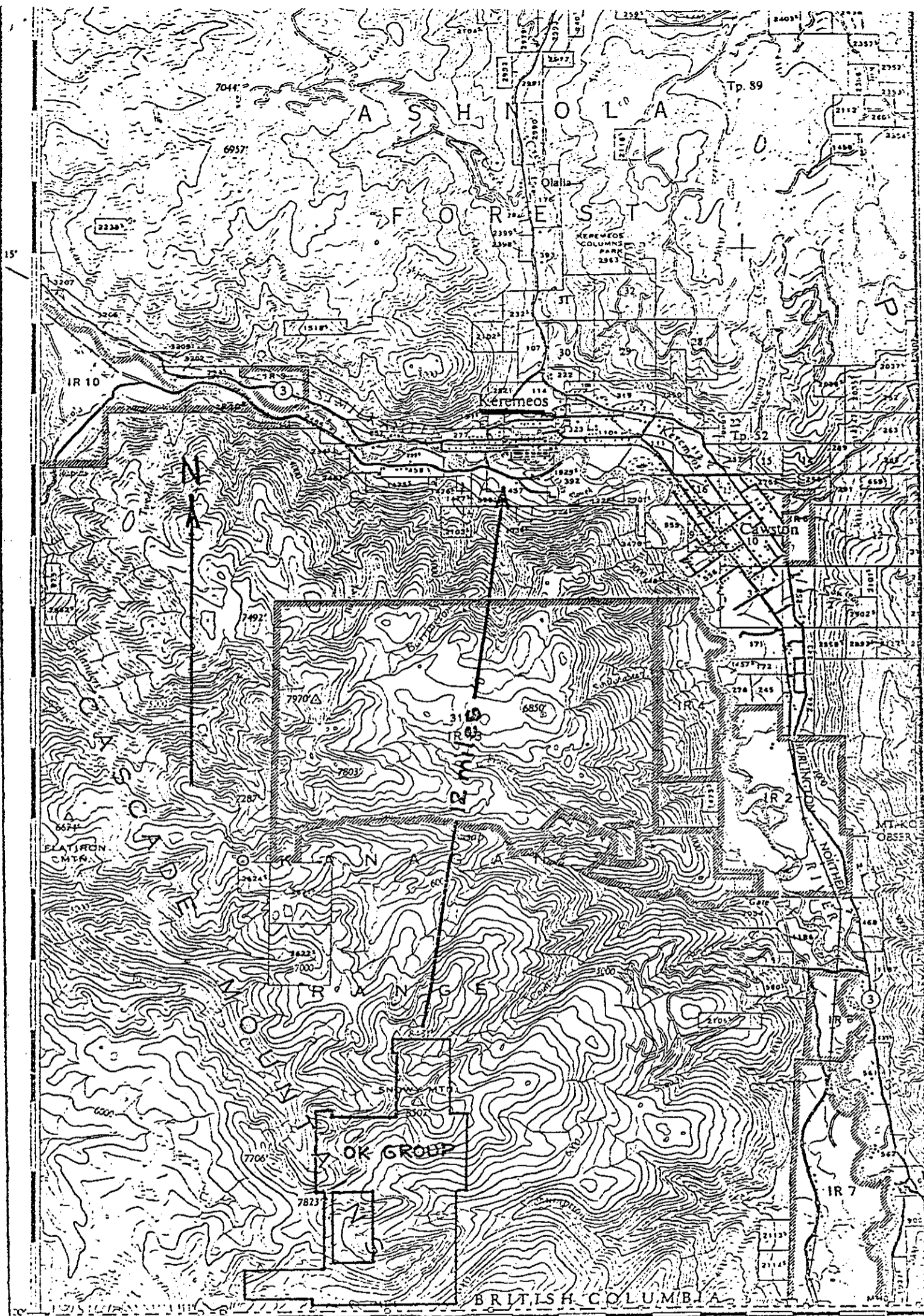
3 DIVISION

NTS  
82E/4W  
MINERAL RESOURCES BRANCH

Drawn by: RLW	Traced by:
Revised by	Date
Revised by	Date

OK GROUP ASSESSMENT REPORT  
Claim Map **7808**

Scale: 1:50,000 Date: Jan 15/80 Plate: OK-2



120°00'

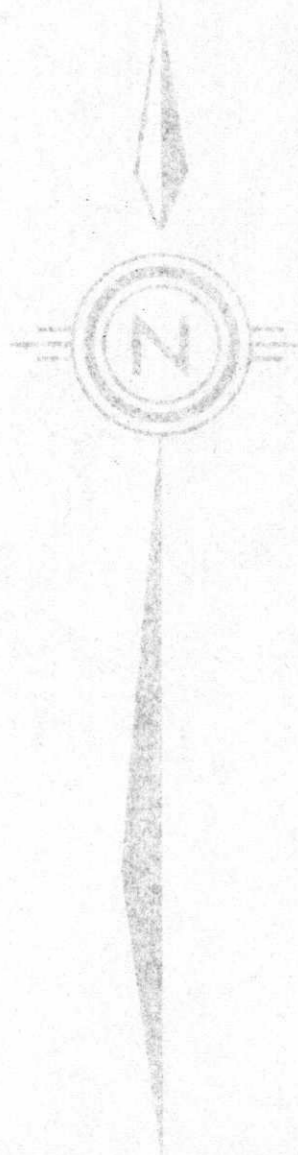
This Edition compiled and prepared by the Map Production Division, Surveys and

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

OK GROUP  
 Location Map  
 Osoyoos M.D.  
 Scale: 1:125,000

NTS  
 82 E/SW  
 MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7808**  
 Date: Feb 2, 1979 Plate OK





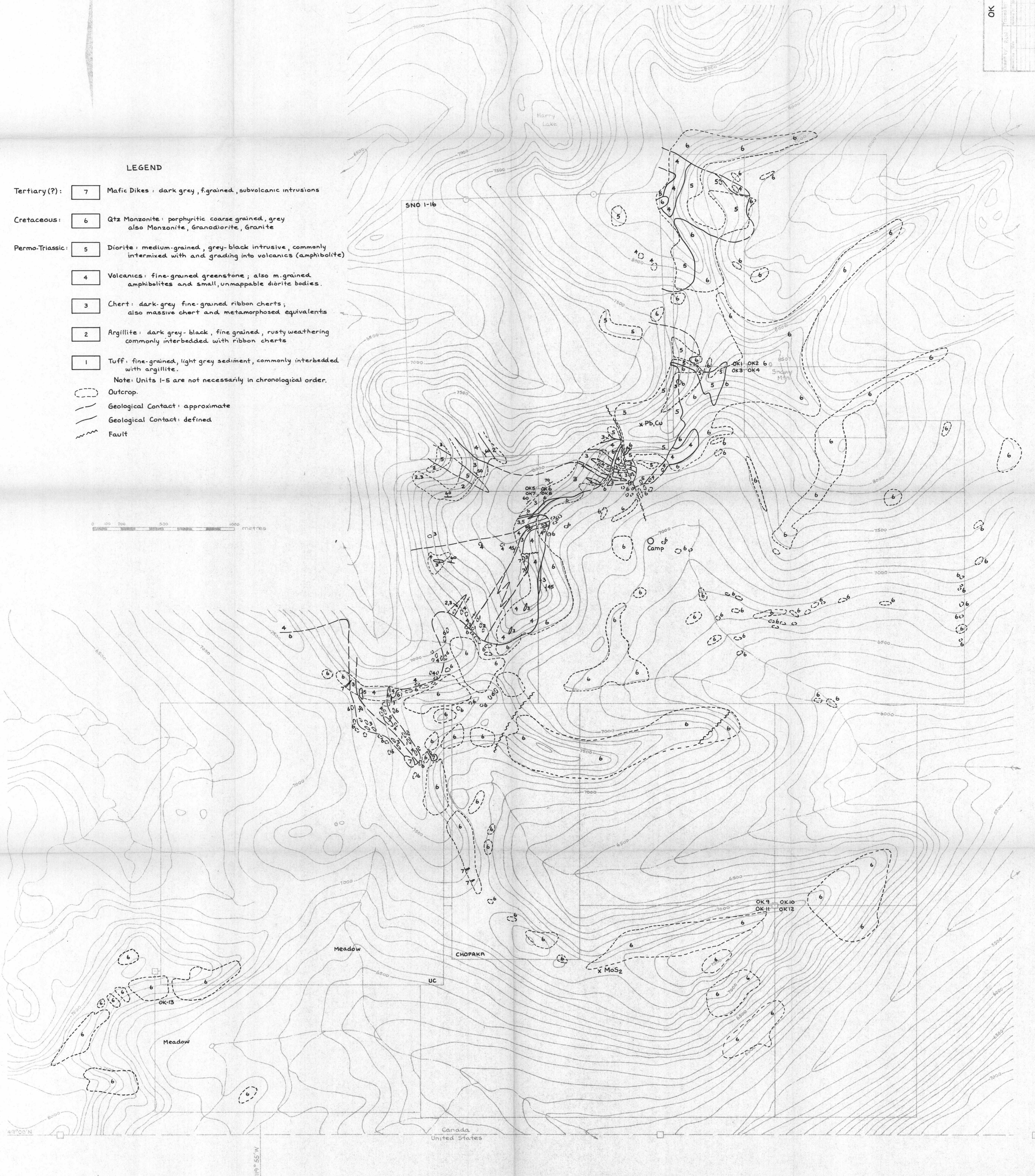
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ASSESSMENT REPORT  
**7808**  
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GEOLOGY

OK GROUP

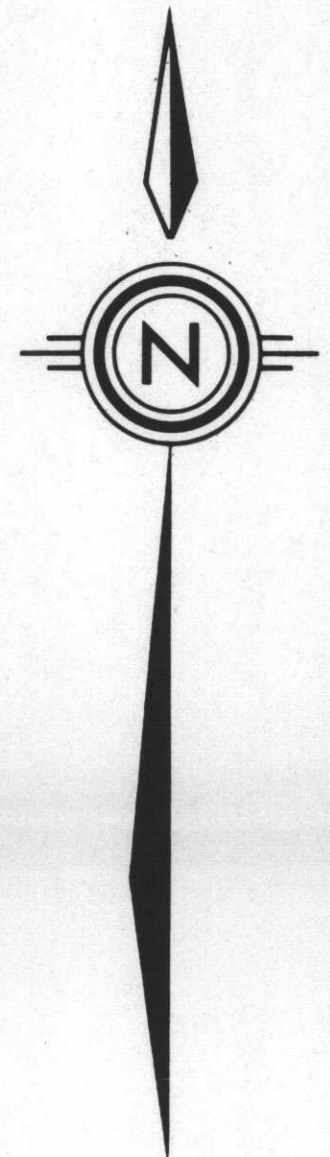
LEGEND

- Tertiary(?): 7 Mafic Dikes: dark grey, f.grained, subvolcanic intrusions
  - Cretaceous: 6 Qtz Monzonite: porphyritic coarse grained, grey also Monzonite, Granodiorite, Granite
  - Permo-Triassic: 5 Diorite: medium-grained, grey-black intrusive, commonly intermixed with and grading into volcanics (amphibolite)
  - 4 Volcanics: fine-grained greenstone; also m.grained amphibolites and small, unmappable diorite bodies.
  - 3 Chert: dark grey fine-grained ribbon cherts; also massive chert and metamorphosed equivalents
  - 2 Argillite: dark grey-black, fine grained, rusty weathering commonly interbedded with ribbon cherts
  - 1 Tuff: fine-grained, light grey sediment, commonly interbedded with argillite.
- Note: Units 1-5 are not necessarily in chronological order.
- Outcrop.
  - Geological Contact: approximate
  - Geological Contact: defined
  - Fault



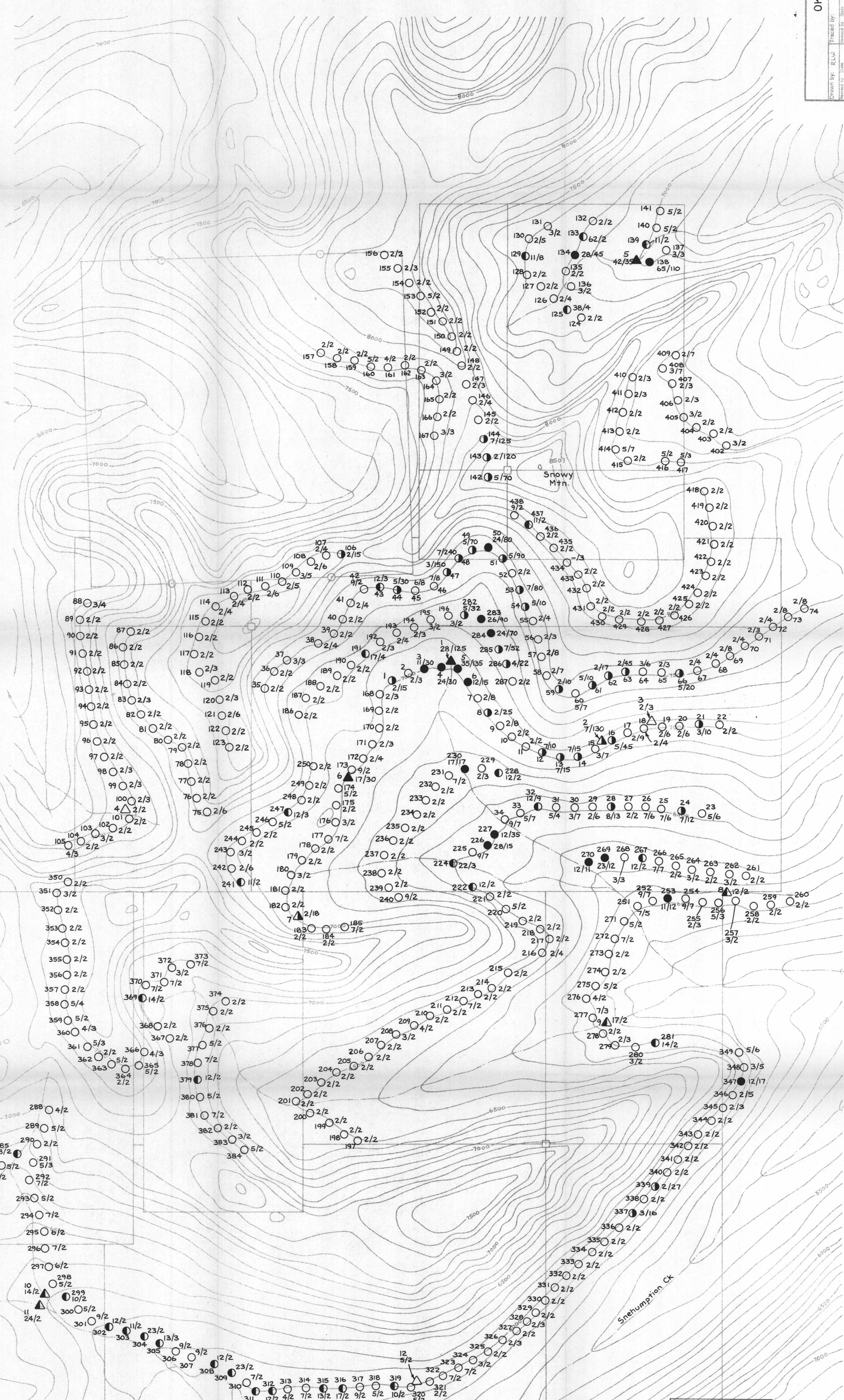
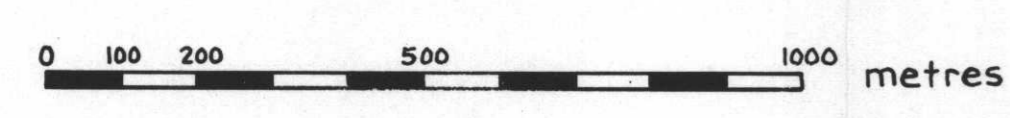
Canada  
United States





LEGEND

- Soil Sample:
  - Field Sample Number
  - Molybdenum (ppm) / Tungsten (ppm)
- △ Stream Silt Sample
- ▲ Anomalous Samples:
  - Mo ≥ 10 ppm
  - W ≥ 10 ppm
  - Mo & W ≥ 10 ppm



MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7808**  
 NO.