

COMINCO LTD.

EXPLORATION
NTS: 94F, 7E, 7W, 2E

WESTERN DISTRICT

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

PELLY GROUP

AKIE RIVER AREA

OMINECA MINING DIVISION

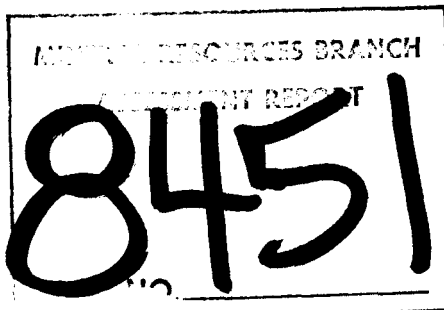
BRITISH COLUMBIA

LATITUDE: 57°16'N LONGITUDE: 124°39'W

PERIOD OF FIELD WORK

MAY 31 to AUGUST 10, 1980

OCTOBER 1980



K.R. PRIDE

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LIST OF CLAIMS - PELLY GROUP

<u>Claim No.</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Recording Data</u>
Pelly 1	2309	20	Nov. 15, 1979
Pelly 2	2310	18	Nov. 15, 1979
Pelly 3	2311	9	Nov. 15, 1979
Pelly 4	2312	9	Nov. 15, 1979
Pelly 5	2313	18	Nov. 15, 1979
Pelly 6	2314	20	Nov. 15, 1979

ASSESSMENT REPORT

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INTRODUCTION

The Pelly Group, totalling 94 units was staked to cover several lead-zinc anomalies on the tributaries of the Akie River in an area of Devonian "Black Clastics". The claims are underlain by the Devonian Gunsteel Formation, which hosts the potentially economic barite-lead-zinc deposit on the Cirque and Elf properties.

Cominco Ltd. performed preliminary silt, soil and rock sampling, geological mapping and prospecting during the period from May 31 to August 10, 1980. Total expenditures on the Pelly Group are estimated to be \$14,549.76.

Preliminary geological mapping on a scale of 1:10,000 was conducted over the central portion of the claim group and approximately 94 silt and soil samples and 12 rock samples were collected over the Devonian "Black Clastics" succession.

LOCATION AND ACCESS

The Pelly claim group is located south of the Akie River and 30 km west of Sikanni Chief Lake on the Fort Ware Map sheet, NTS-94F. The center of the claim group is located at latitude 57°16'N and longitude 124°39'W.

Field work on the Pelly Group was conducted using a Bell 206B, Jet Ranger helicopter, based at Sikanni Chief Lake, 30 km to the east. Logistical support was provided by float equipped aircraft from MacKenzie, 233 km to the south.

REGIONAL GEOLOGY

A northwest trending belt of Devonian "Black Clastics" has been outlined by recent regional mapping programs conducted by the Geological Survey of Canada. The belt is located within the Rocky Mountain thrust and fold belt of the Columbian Orogen and is centered approximately 40 km east of the Rocky Mountain Trench. The Devonian "Black Clastics" are continuous from the Ospika River, northwesterly to Braid Creek, a distance of 200 km. This belt is part of the northwest trending Kechika Trough which may represent a southern extension of the Selwyn Basin.

The Devonian "Black Clastic" succession is divisible into a lower proximal to distal turbidite assemblage formally named the Besa River Formation, which is the basinal equivalent of the Devonian Dunedin Formation, platformal carbonates to the east, and an upper division of silver-blue-grey weathering siliceous argillite, chert and carbonaceous-pyritic-black shale informally named as the Gunsteel Formation.

The Gunsteel Formation hosts four barite-lead-zinc occurrences, namely: Driftpile Creek, Mount Alcock, Cirque, and Elf. These occurrences are comparable to the Tom and Jason barite-lead-zinc prospects of the Selwyn Basin at MacMillan Pass, in the Yukon.

GEOLOGY

Preliminary mapping on the Pelly Group has outlined a northwest trending belt of "Black Clastics" which are structurally overlain by thrust panels of Road River Formation, graptolitic shales and Kechika Group calcareous phyllites and argillaceous limestones.

Kechika Group (Unit 60_K)

The Kechika Group ranges in age from Late Cambrian to Early Ordovician and occurs along the western flanks of the claim group. The rock units consist of at least 400 meters of cream to light grey-weathering, wavy banded calcareous mudstone, argillaceous limestone and calcareous phyllite. The rocks are typically soft and "soapy" indicating the presence of talc.

Road River Formation (Unit OS_{RR})

The Road River Formation, ranging in age from Lower Ordovician to Upper Silurian occurs along the central portion of the claim group. Structurally, Unit OS_{RR} underlies the Kechika Group and is thrust overtop of the Gunsteel Formation. The unit consists of dark grey calcareous shale interbedded with limestone turbidites, black graptolitic shale and interbedded argillite and chert.

Silurian (Unit S_{SS})

Road River Formation rocks are unconformably overlain by up to 250 metres of orange and brown weathering dolomitic siltstone of Silurian age. The prominent lithologies are interbedded platy, thin bedded and thick flaser-bedded dolomitic siltstone. The succession is strongly bioturbated and contains spiral feeding tracks and poorly preserved graptolites (monograptus).

Middle Devonian (Unit MD_L)

Silurian siltstone is unconformably overlain by up to 75 meters of light grey bioclastic limestone of Middle Devonian age believed to be correlative with platformal carbonates of the Dunedin Formation. Unit MD_L is medium grey weathering, thick bedded to massive and contains crinoid and coral debris beds.

Besa River Formation (Unit UD_{BR})

The Besa River Formation unconformably overlies both the Middle Devonian

TABLE 1

TABLE OF GEOLOGICAL FORMATIONS

<u>AGE</u>		<u>DESCRIPTION</u>
Upper Devonian		<u>Gunsteel Formation</u>
"BLACK CLASTICS"	UD _{GS}	Silvery-grey weathering, black siliceous shale, chert and argillite
		<u>Besa River Formation</u>
	UD _{BR}	Tan brown weathering, brownish-black silty shale with interbeds of siltstone and conglomerate
	unconformity	
Middle Devonian	MD _L	Light grey weathering, massive grey fossiliferous limestone.
Silurian	S _{SS}	Light orange to buff weathering, massive dark grey dolomitic siltstone.
	unconformity	
Ordovician-Silurian		<u>Road River Formation</u>
	OS _{RR}	Black to grey weathering, black graphitic graptolitic variably calcareous shale, chert and argillite
Cambro-Ordovician		<u>Kechika Group</u>
	EO _K	Buff to cream weathering, argillaceous wavy banded, silty and nodular limestone to calcareous grey shale.

limestone and the Silurian siltstone units and forms the base of the Devonian "Black Clastics" succession. The unit consists of a very thin accumulation of recessive, brownish black weathering silty shale with thin beds of tan siltstone. Cross-bedding, and graded bedding appear to indicate rapid deposition in a marine environment and probably represents a distal submarine turbidite fan.

Gunsteel Formation (Unit UD_{GS})

Although stratigraphic relationships are not well defined, it appears that Gunsteel rocks unconformably overly the Besa River Formation. The unit is light grey weathering to silver-grey weathering, siliceous black shale, medium bedded siliceous argillite and chert.

GEOCHEMISTRY

During the period May 31 to August 10, 1980, approximately 94 silt and soil and 12 rock samples were collected on the Pelly Group as a preliminary survey for potential stratiform barite-lead-zinc mineralization.

Soil samples were collected from the "B" horizon using picks or mattocks. All samples were packaged in kraft sample bags and sent to the Cominco Laboratory at 1486 East Pender Street, Vancouver, B.C. The silt and soil samples were dried and sieved to -80 mesh, digested in perchloric acid and analysed by atomic absorption for lead and zinc. Soil and silt samples which required barium analyses were treated by X-ray fluorescence. Rock samples were crushed and pulped to -200 mesh and analysed by atomic absorption. All sample pulps from the Pelly Group are presently stored at the Cominco Laboratory in Vancouver.

Thresholds for lead, zinc and barium in soil, silt and rock samples were calculated by cumulative frequency plots to distinguish the response of mineralization from the response of background values and can be seen in Table 2. The resulting calculated thresholds outline the anomalous levels of the Gunsteel Formation. The barium response appears to be the best indicator of the Gunsteel Formation.

The results of the sampling may be noted on the accompanying 1:10,000 scale map - Plate 3.

TABLE 2

TABLE OF CALCULATED THRESHOLDS (ppm)

<u>Sample Type</u>	<u>Possibly Anomalous</u>			<u>Anomalous</u>		
	<u>Pb</u>	<u>Zn</u>	<u>Ba</u>	<u>Pb</u>	<u>Zn</u>	<u>Ba</u>
Soil	40	1000	3000	50	1500	5000
Silt	40	1000	3000	50	1500	5000
Rock	60	1000	2500	100	2000	3000

CONCLUSIONS

Preliminary mapping on the Pelly Group has outlined the Gunsteel Formation which is host for the stratiform barite-lead-zinc occurrences at Driftpile Creek, Mount Alcock, Cirque and Elf properties.

Widely spaced soil and stream silt samples have outlined a number of barium anomalies which are situated over the Gunsteel Formation.

Detailed geological mapping, close spaced grid soil sampling and prospecting will be required to fully assess the barite-lead-zinc potential of the Gunsteel Formation of the Pelly Group.

Report by: K.R. Pride
K.R. Pride
Geologist

Endorsed by: A.B. Mawer
A.B. Mawer
Senior Geologist

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

REFERENCES

- Carne, R.C. (1978): Driftpile Lead-Zinc District, B.C. Ministry of Energy, Mines & Pet. Res., Assessment Report 6666.
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APPENDIX "A"

STATEMENT OF EXPENDITURES

PELLEY CLAIM GROUP

MAY 31 - AUGUST 10, 1980

SALARIES AND WAGES

K.R. Pride	Aug. 2-10	2 days @ \$173.36	= \$	346.72
A.L. MacGregor	May 31, June 2,3, Aug. 10	4 days @ \$130.24	=	520.96
V. Kuran	June 3,4, Aug. 4,9	4 days @ \$105.60	=	422.40
A. Mueller-Wilm	June 3,4, Aug. 4,5	4 days @ \$105.60	=	422.40
I. Kokan	July 1	1 day @ \$ 74.80	=	74.80
S. Melville	May 31, June 1-3	4 days @ \$ 74.80	=	299.20
F. Jay	July 1	1 day @ \$ 80.96	=	80.96
D. Faubert	July 1	1 day @ \$ 68.64	=	68.64

ASSAYS AND GEOCHEMICAL ANALYSIS

Cominco Lab, Vancouver	94 soil samples @ \$6.10/sample	=	573.40
	12 rock samples @ \$7.90/sample	=	94.80

FIELD EQUIPMENT AND SUPPLIES = 1,000.00

CAMP MAINTENANCE 19 man days x \$25/man day = 475.00

TRANSPORTATION

Fuel	264 gal. x \$2.50/gal.	=	660.00
Rotary Wing	Northern Mountain Helicopter 12 hrs. x \$305/hr.	=	3,660.00
Fixed Wing	400 miles x \$1.95/mile	=	780.00
Miscellaneous		=	1,100.00

Total Direct Field Costs = 10,579.28

REPORT WRITING, RESEARCH, DRAFTING

K.R. Pride	7 days @ \$173.36	=	1,213.52
V. Kuran	6 days @ \$105.60	=	633.60
D. Kuran	8 days @ \$117.92	=	943.36

Pencil Manuscript, Pacific Survey, Vancouver, B.C. = 1,180.00

3,970.48

Total Cost = \$14,549.76

APPENDIX "B"

IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL

PROGRAM PERFORMED ON THE PELLY CLAIM GROUP

AIKIE RIVER AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA

A F F I D A V I T

I, K.R. PRIDE OF THE MUNICIPALITY OF BURNABY, IN THE PROVINCE OF BRITISH COLUMBIA, HEREBY DECLARE:-

- (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 "A" to this report is a true copy of expenditures incurred in connection with a geological and geochemical program on the Pelly Claim Group;
- (3) THAT the said expenditures were incurred between the 31st day of May and the 10th day of August, 1980 for the purpose of performing geological and geochemical exploration on the Pelly Claim Group.

Signed: _____

K. R. Pride
K.R. Pride
Geologist

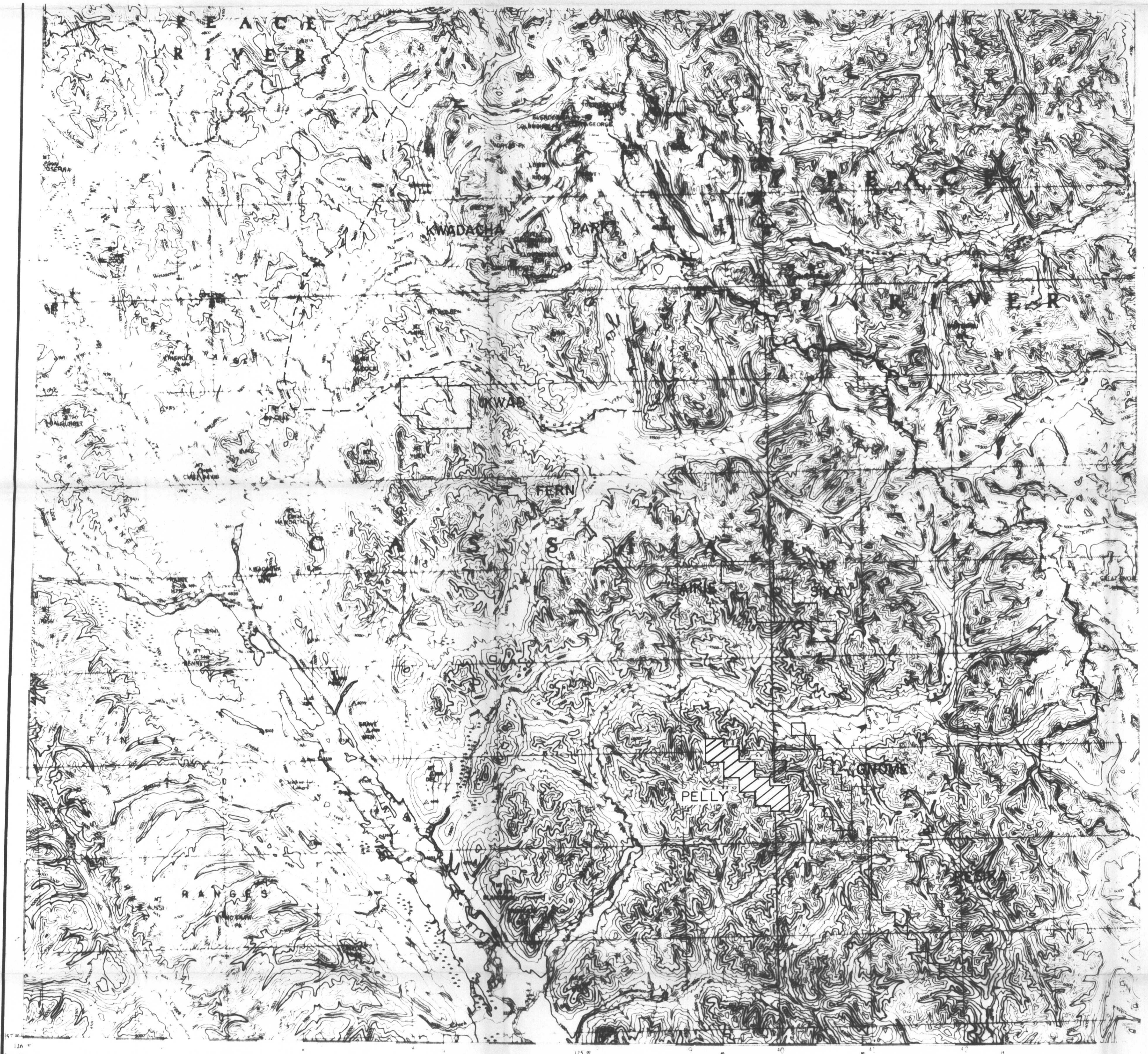
APPENDIX "C"

STATEMENT OF QUALIFICATIONS

I, K.R. PRIDE, GEOLOGIST WITH BUSINESS ADDRESS AT 700-409 GRANVILLE STREET VANCOUVER, BRITISH COLUMBIA AND RESIDENTIAL ADDRESS AT 3770 FIR STREET, BURNABY, BRITISH COLUMBIA, HEREBY CERTIFY THAT:-

- (1) THAT I am a graduate in Geological Sciences with a B.Sc. (Hons.) in 1973 from the University of British Columbia.
- (2) THAT from 1973 to the present I have been employed by Cominco Ltd. as a geologist and have been actively engaged in mineral exploration in British Columbia, Yukon, Northwest Territories, Mexico and Saudi Arabia.
- (3) THAT I personally participated in the field work on the Pelly Claim Group and have interpreted all the data resulting from this work.

Signed: K.R. Pride
K.R. Pride
Geologist

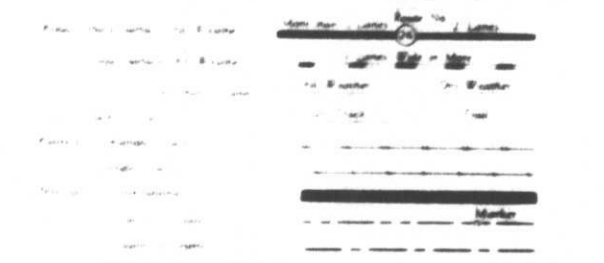


WARE
BRITISH COLUMBIA

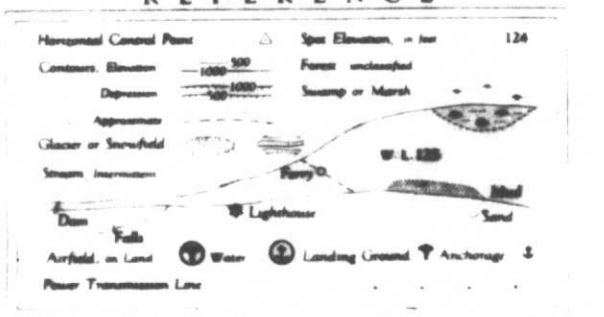
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All Elevations in Feet above Mean Sea Level
North American Datum 1922
Published 1971
Copyright: Ministry of Energy, Mines and Technical Surveys

REFERENCE



REFERENCE

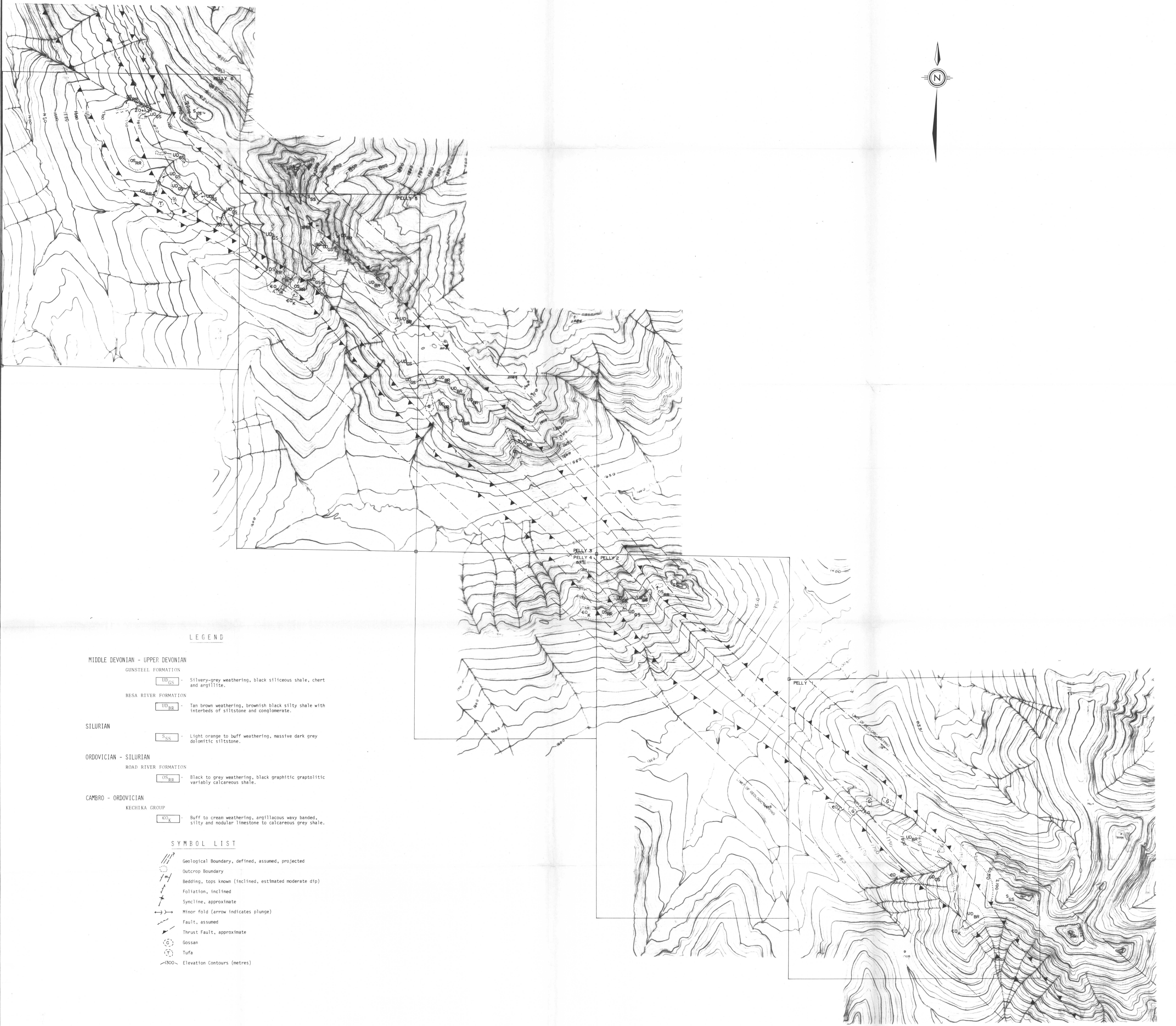


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8451
NO.

AIKIE PROPERTIES - 1980

NTS 94F
2E, 7E, 8W

Drawn by:	Traced by:	PELLEY GROUP LOCATION MAP
Revised by: _____ Date: _____	Revised by: _____ Date: _____	
		Scale: 1:250,000
		Date: October, 1980
		Plate: 1



LEGEND

MIDDLE DEVONIAN - UPPER DEVONIAN

GUNSTEEL FORMATION

UD_GS - Silvery-grey weathering, black siliceous shale, chert and argillite.

BESA RIVER FORMATION

UD_BR - Tan brown weathering, brownish black silty shale with interbeds of siltstone and conglomerate.

SILURIAN

SSS - Light orange to buff weathering, massive dark grey dolomitic siltstone.

ORDOVICIAN - SILURIAN

ROAD RIVER FORMATION

OS_RR - Black to grey weathering, black graphitic graptolitic variably calcareous shale.

CAMBRO - ORDOVICIAN

KECHIKA GROUP

EO_K - Buff to cream weathering, argillaceous wavy banded, silty and nodular limestone to calcareous grey shale.

SYMBOL LIST

- Geological Boundary, defined, assumed, projected
- Outcrop Boundary
- Bedding, tops known (inclined, estimated moderate dip)
- Foliation, inclined
- Syncline, approximate
- Minor fold (arrow indicates plunge)
- Fault, assumed
- Thrust Fault, approximate
- Gossan
- Tufa
- Elevation Contours (metres)



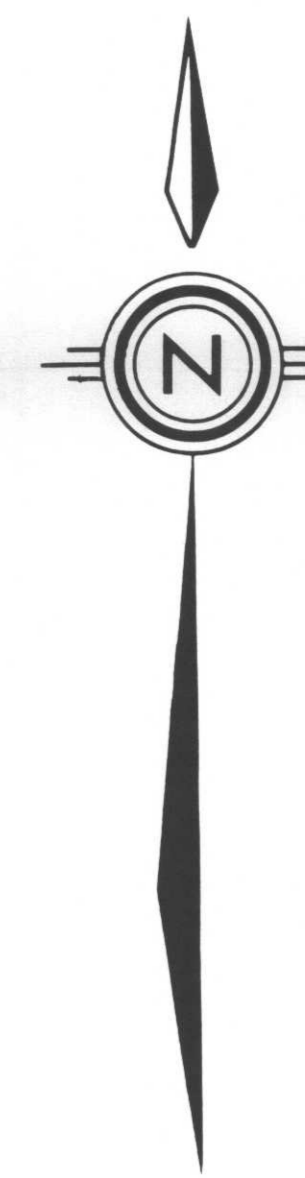
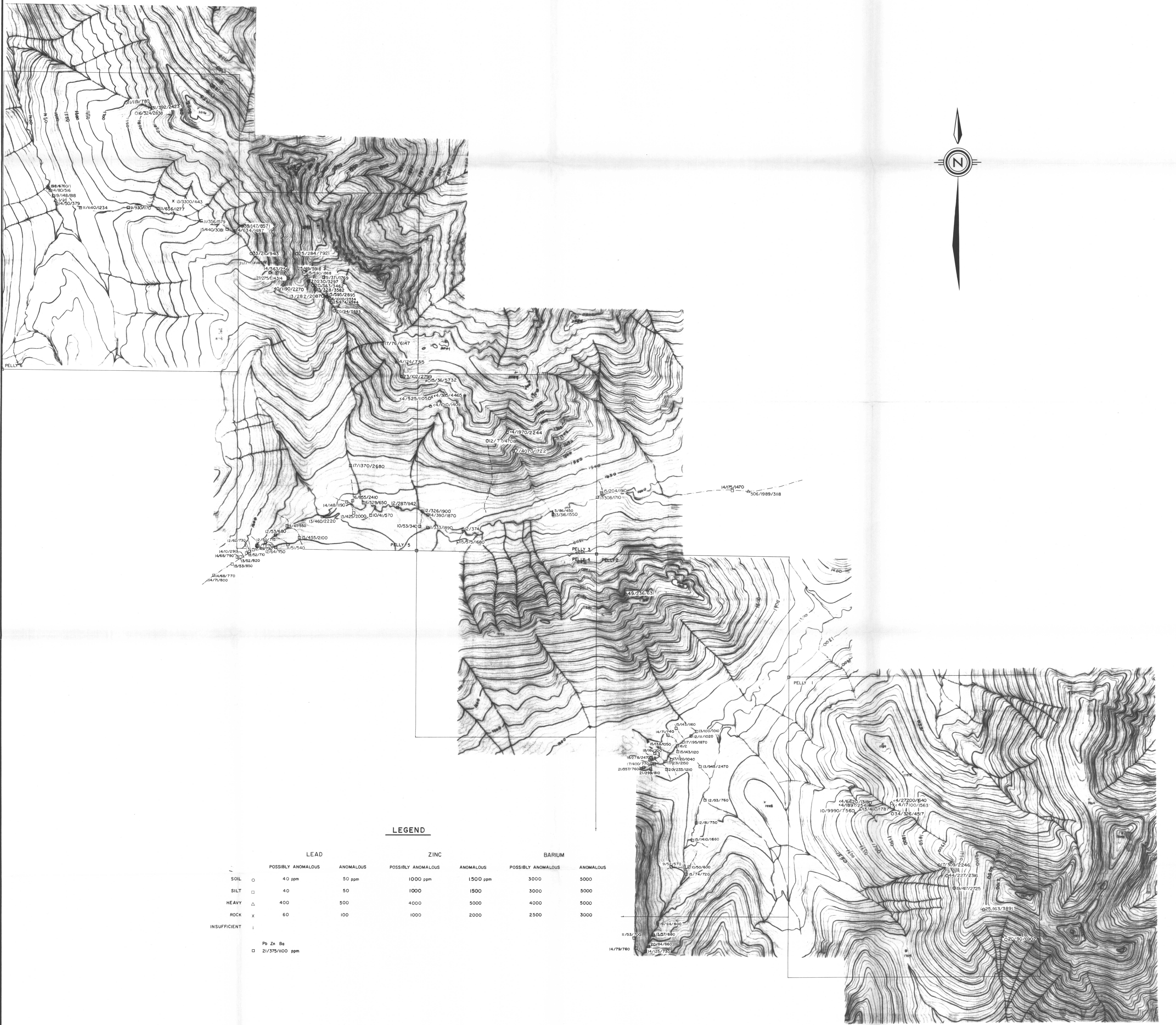
SCALE
0 100 200 300 400 500m

PELLY PROPERTY

8451

GEOLOGY

Scale 1:10,000 Date OCTOBER, 1990 Plate 2



LEGEND

	LEAD		ZINC		BARIUM	
	POSSIBLY ANOMALOUS	ANOMALOUS	POSSIBLY ANOMALOUS	ANOMALOUS	POSSIBLY ANOMALOUS	ANOMALOUS
SOIL ○	40 ppm	50 ppm	1000 ppm	1500 ppm	3000	5000
SILT □	40	50	1000	1500	3000	5000
HEAVY △	400	500	4000	5000	4000	5000
ROCK x	60	100	1000	2000	2500	3000
INSUFFICIENT						
	Pb Zn Ba					
	□ 21/375/100 ppm					

SCALE
0 100 200 300 400 500 m

PELLY PROPERTY

NTS 94 F
7E8W, 2E

8451

Pb,Zn,Ba GEOCHEMISTRY

Scale 1:10,000 Date OCTOBER, 1990 Plate 3