

180-#289-# 8097

NORCEN ENERGY RESOURCES LIMITED
ASSESSMENT REPORT
GEOCHEMICAL AND GEOLOGICAL PROGRAM
GROUP XX (WC13 - WC14)

GOLDEN MINING DIVISION,
BRITISH COLUMBIA

Claims: WC13 (318)
WC14 (319)

Location: 52 km South of Golden, British Columbia

Latitude: 50°50'N

Longitude: 116°49'W

Owner and Operator: Norcen Energy Resources Limited
August 17 and 29, 1979



June 9, 1980

A handwritten signature in cursive script, appearing to read "L. Smith".

L. Smith, P.Geol.

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APPENDIX I

Geochemical Assay Certificates

MAPS

1. Land Holdings Map; Crystal Creek Project, British Columbia, (Two Copies).
2. Regional Geology, Crystal Creek Project, British Columbia.
3. Regional Soil Geochemical Map, Crystal Creek Project, British Columbia.

SUMMARY

Regional geological mapping and soil geochemical sampling was performed within the boundaries of Group XX (WC13 - WC14) on August 17 and 29, 1979. A total of thirteen (13) B horizon soil samples were collected and geochemically analysed in parts per million for copper, lead, zinc and silver. All bedrock outcrops noted during the geochemical sampling were geologically mapped and are presented at the same scale as the soil geochemical data.

LOCATION AND ACCESS (See Land Holdings Maps, Crystal Creek Project, British Columbia)

The claims are located in the Purcell Mountains approximately 52 kilometres south of Golden, British Columbia. Access is provided by Provincial Highway 95 south from Golden to Parson, followed by 51 kilometres along a gravelled logging road along Vowell Creek.

CLAIM STATUS

The WC13 and WC14 claims form part of the Crystal Creek Property. The WC13 and WC14 claims have been grouped into Group XX (WC13 - WC14).

<u>Claim Name</u>	<u>Record Number</u>	<u>Recorded Date</u>	<u>Unit Dimensions</u>	<u>No. of Units</u>
WC13	318	June 18, 1979	3S X 4W	12
WC14	319	June 18, 1979	3S X 4E	12

LEGEND

-  PAVED HIGHWAY
-  GRAVEL LOGGING ROAD
-  C. P. RAIL LINE
-  RIVER / CREEK
-  NORCEN LAND HOLDINGS

GOLDEN

Nicholson

Kicking Horse River

1

95

COLUMBIA RIVER

Parson

North Fork

Bobbie Burns Creek

51°00'N

Malachite Cr.

RUTH-VERMONT MINE SITE

Vermont Cr.

Crystal Cr.

Crystalline Cr.

Conrad Cr.

Malloy Cr.

Creek

Bobbie Burns Creek

South Fork

Norcen
Energy Resources Limited

(COCHRANE OIL & GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
LOCATION MAP

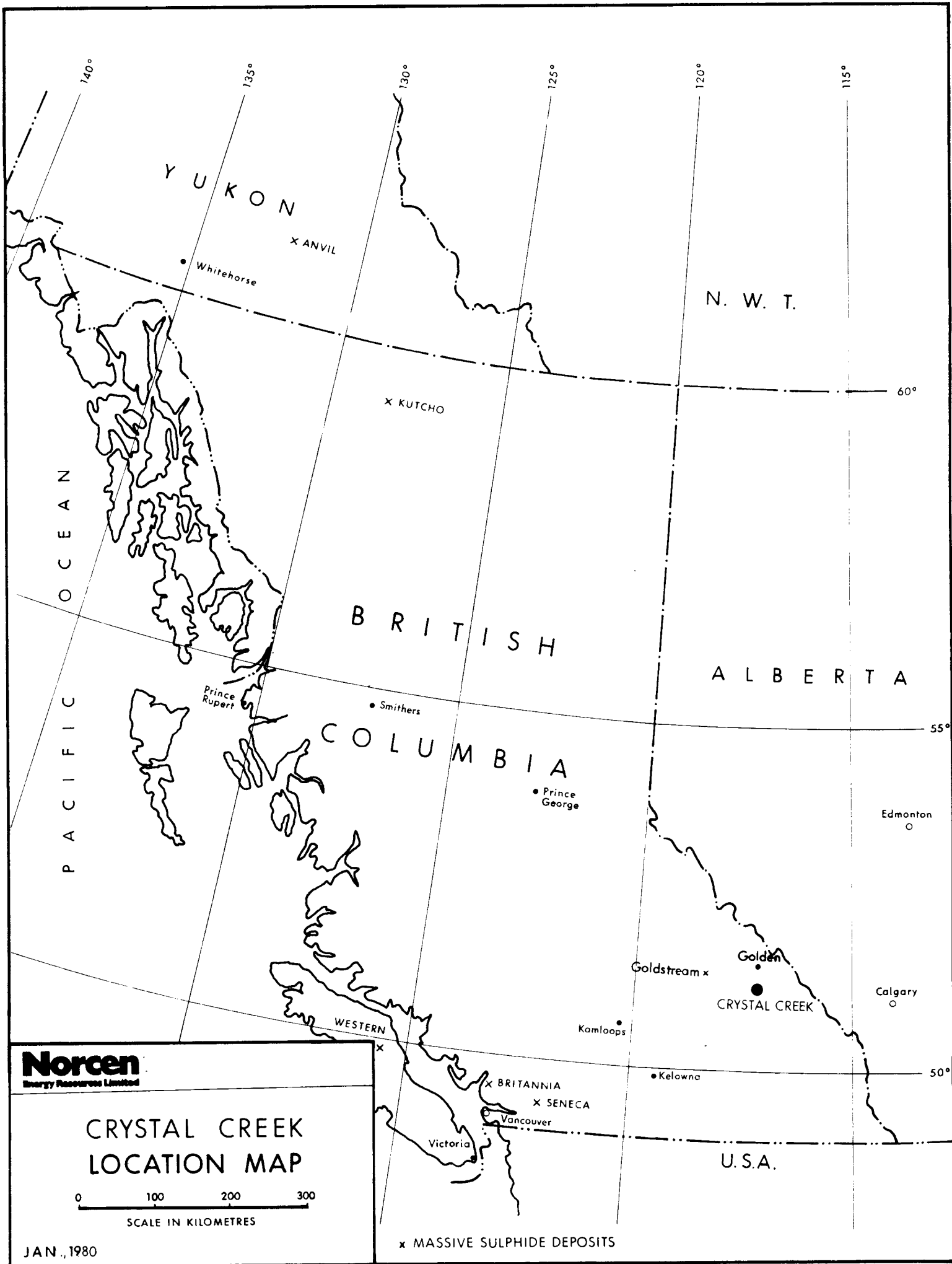
0 5 10 Km.

SCALE 1:250,000

NTS 82-K-14E, 82-K-15W, 82-K-15E

Nov. 1979





GEOCHEMICAL SOIL SAMPLING

A total of thirteen (13) B horizon soil samples were collected within the boundaries of claims WC13 and WC14. All samples were sent to Loring Laboratories Limited of 629 Beaverdam Road, N.E., Calgary, Alberta and geochemically analysed in parts per million by atomic absorption.

Previous soil geochemical sampling in the area had shown that anomalous base metal B horizon soil samples reflected close proximity to bedrock base metal mineralization. Based upon the statistical analysis of two hundred and five (205) B horizon soil samples collected in the region over Norcen Energy Resources Limited claim blocks anomalous values are defined by values in excess of: 32 ppm lead, 108 ppm zinc, 0.9 ppm silver, and 38 ppm copper.

One anomalous sample was collected during the 1979 geochemical sampling from the WC13 and WC14 claims. This was:

<u>Sample No.</u>	<u>ppm Pb</u>	<u>ppm Zn</u>	<u>ppm Ag</u>	<u>ppm Cu</u>
GW-29-1	22	87	*1.4	18

* anomalous geochemical values

GEOLOGICAL MAPPING

All bedrock exposures encountered during the geochemical soil sampling program were investigated and geologically mapped. The rock types encountered included phyllites, arkoses, and coarser grained grits of the Horse Thief Creek Series of Proterozoic age. No economic base metal mineralization was located during the regional geological mapping.

STATEMENT OF QUALIFICATIONS

I, Laurie James Smith, of the City of Calgary in the Province of Alberta, do hereby state:

1. I am a graduate of the University of Calgary with a BSc degree in Geology.
2. I have been involved in all phases of geological exploration in many areas of Canada (British Columbia, Alberta, Saskatchewan, Northwest Territories, Ontario, Quebec, Nova Scotia, and New Brunswick) since graduation.
3. I personally supervised the geochemical soil sampling and geological mapping on Group XX (WC13 - WC14).
4. I am a member of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.
5. I am the holder of valid Free Miners Licence Number 197331.

Laurie J. Smith

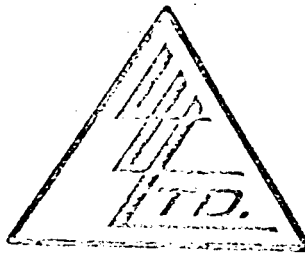
ITEMIZED COST STATEMENT

A.	Geochemical Sampling and Geological Mapping	
	L. Smith, Supervision (August 29, 1979)	
	L. Smith, Report Writing (June 4, 1980)	
	1 day @\$125/day	\$ 125.00
	1 day @\$175/day	175.00
	M. Anderson - Geologist (August 17 and 29, 1979)	
	G. Wilson - Geologist (August 25, 1979)	
	3 days @\$90/day	270.00
	R. Kostiuik - Geochemical Sampler (August 17 and 29, 1979)	
	D. Desjardins - Geochemical Sampler (August 29, 1979)	
	3 days @\$75/day	225.00
B.	Transport	
	4 Wheel Drive Vehicle Rental	
	\$30.00/day X 3 days	90.00
	Fuel for Vehicle \$5.00/day X 3 days	15.00
C.	Accommodation and Meals	
	7 man days X \$25/day	175.00
D.	Assaying	
	13 Geochemical Assays @\$5/sample	<u>65.00</u>
		\$1 140.00

APPENDIX I

Geochemical Assay Certificates

NORON ENERGY RESOURCES LIMITED
 715 - 5th Avenue S.W.
 Calgary, Alberta
 T2P 2X7
 ATTN: L. J. Smith



File No. 17658
 Date Sept. 4, 1979
 Samples Lake Sediment

Certificate of
 ASSAY
 LORING LABORATORIES LTD.

Page 1

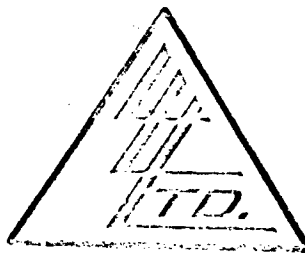
SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
17/13	14	16	62	0.6
17/14	15	15	67	0.9
17/15	26	13	42	0.7
17/16	30	20	88	0.8
17/17	34	19	79	0.8
17/18	31	18	84	0.9
17/19	36	20	77	0.7

I Heroby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Retained one month.
 Retained one month
 specific arrangements
 in advance.


 Licensed Assayer of British Columbia

TO: NOROEN ENERGY RESOURCES LIMITED
 715-5th Avenue S.W., 27th Flr.
 Calgary, Alberta T2P 2X7



File No. 17716
 Date September 17, 1979
 Samples Soil

ATTN: L. Smith

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

Page # 3

SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
GM-A-29/1	18	22	87	1.4
29/2	18	18	68	0.6
29/3	13	15	59	0.4
<p>I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES</p>				

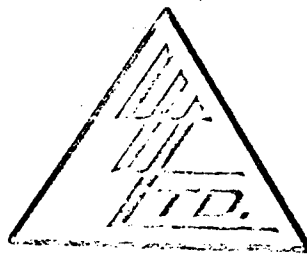
(*)-To Follow

Specimens Retained one month.
 Specimens Retained one month
 For specific arrangements
 please advise in advance.

L. M. J. Mac

Licensed Assayer of British Columbia

TO: NORCEL ENERGY RESOURCES LIMITED
 715-5th Avenue S.W., 27th Flr.
 Calgary, Alberta T2P 2X7



File No. 17716
 Date September 17, 1979
 Samples Soil

ATTN: L. Smith

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

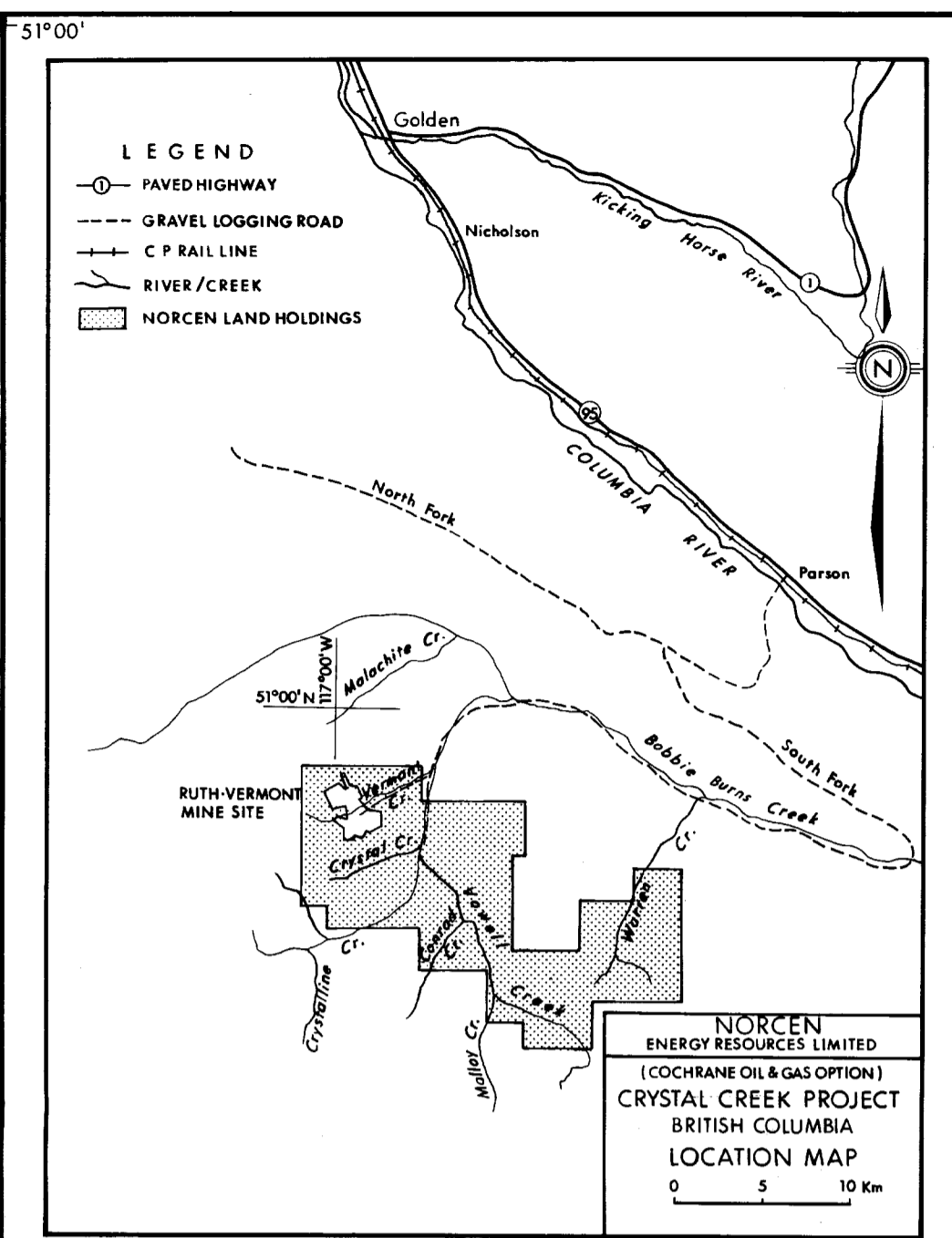
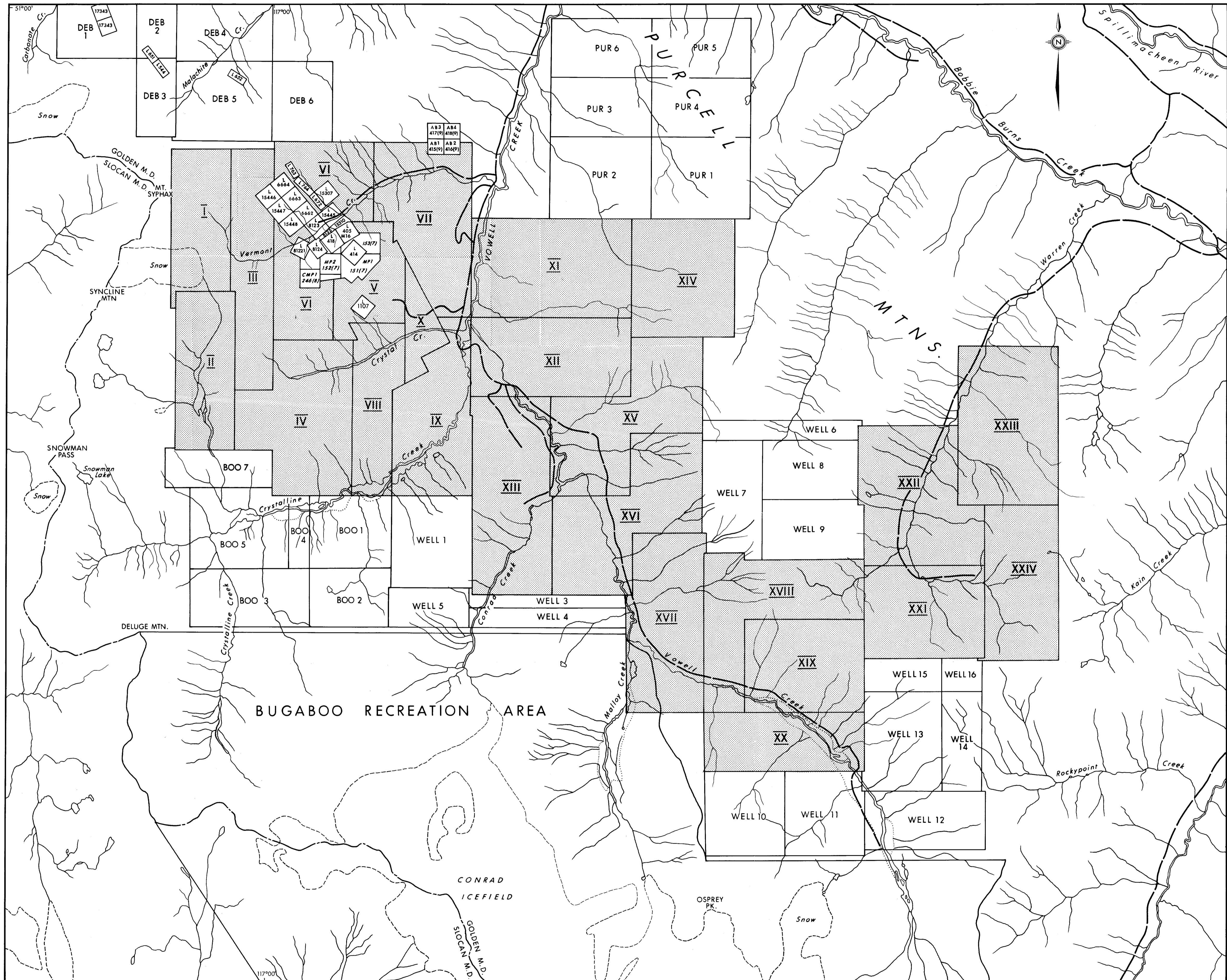
Page # 2

SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
11-A-29/1	32	21	64	0.9
29/2	18	16	78	0.7
29/3	17	15	80	0.6

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Objects Retained one month.
 Retained one month
 specific arrangements
 in advance.

Licensed Assayer of British Columbia

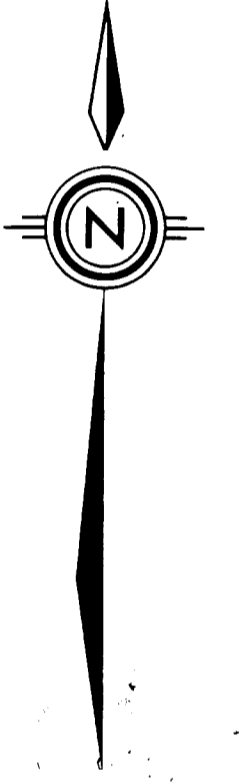
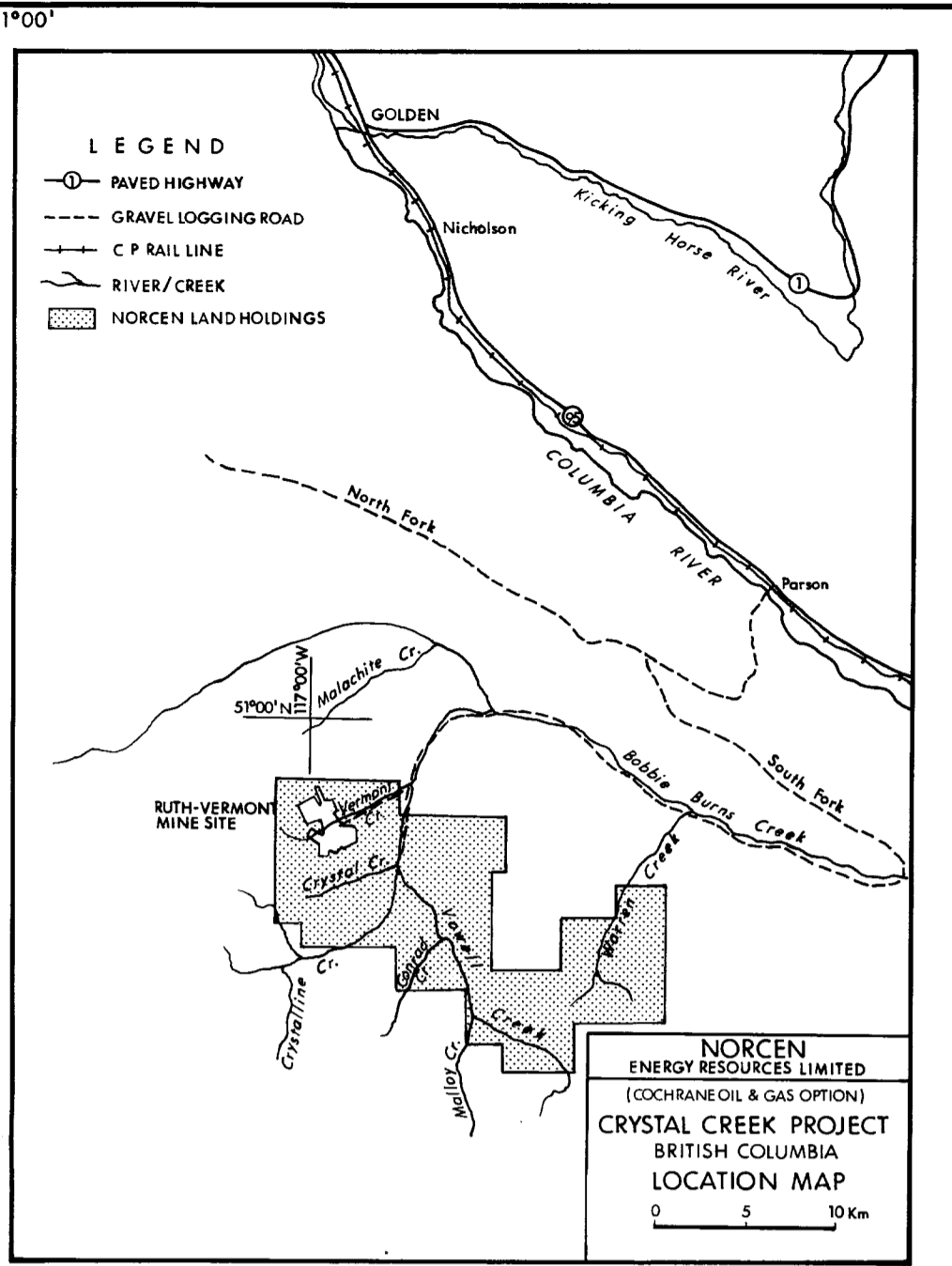
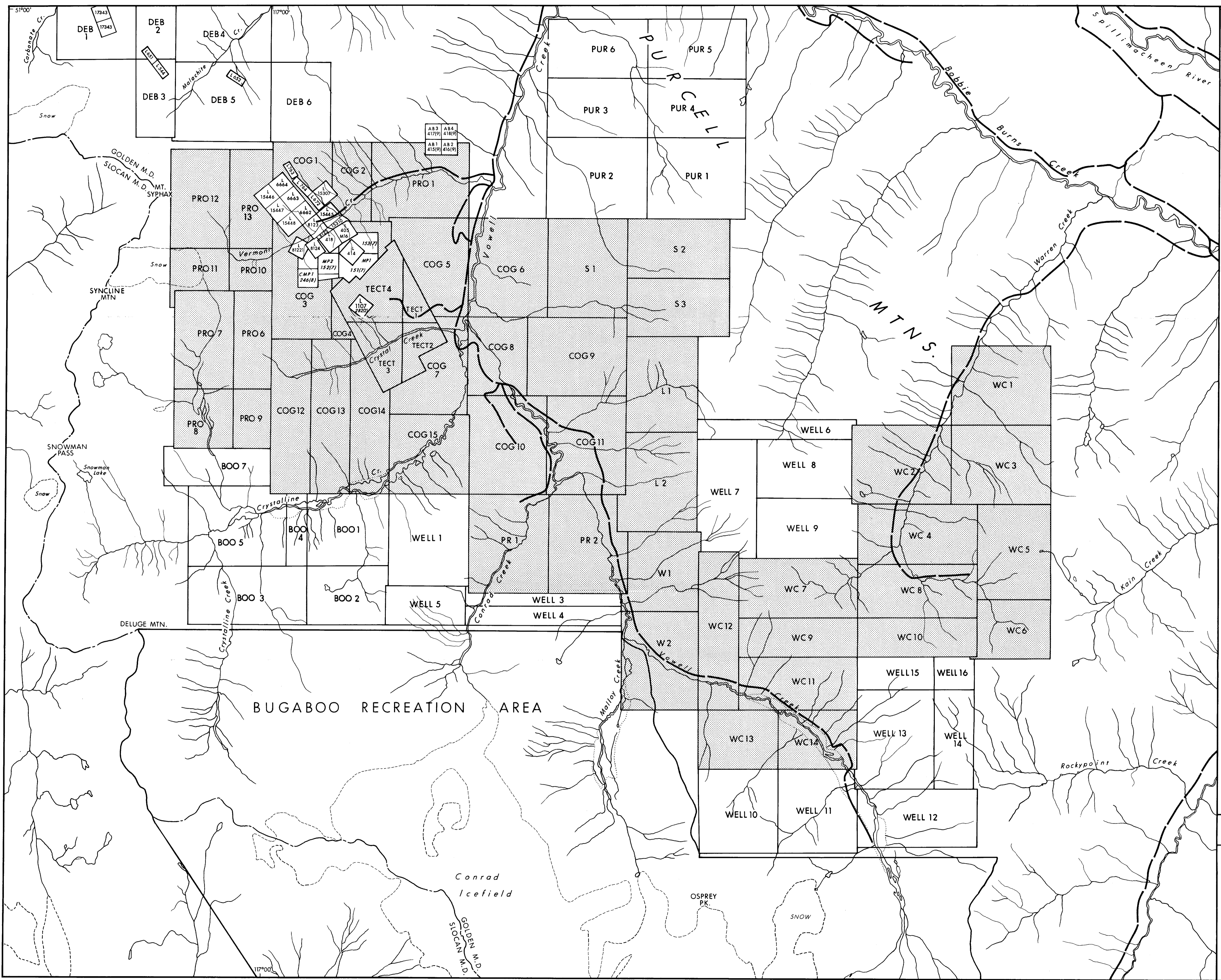




GROUP	Number of units
I	27
II	24
III	37
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
XI	40
XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32
TOTAL	825

8097
 Part 1 of
Norcen
 Energy Resources Limited
 2

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
LAND HOLDINGS MAP

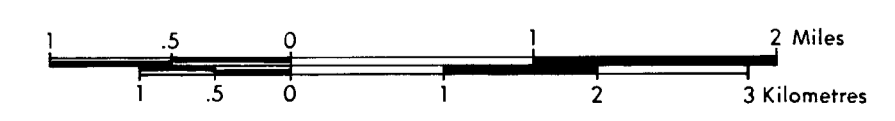
0 5 10 Km
 SCALE IN KILOMETRES

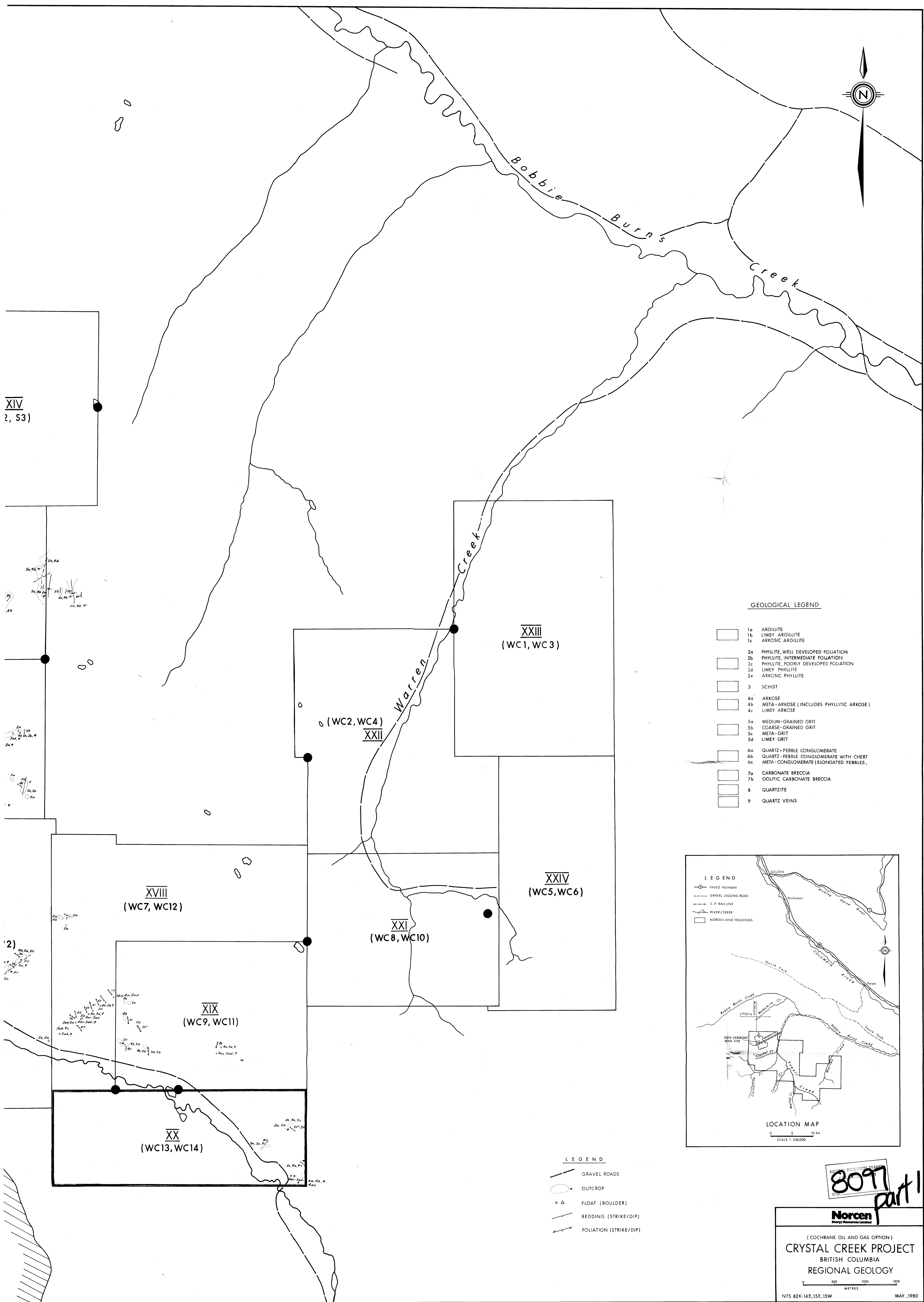
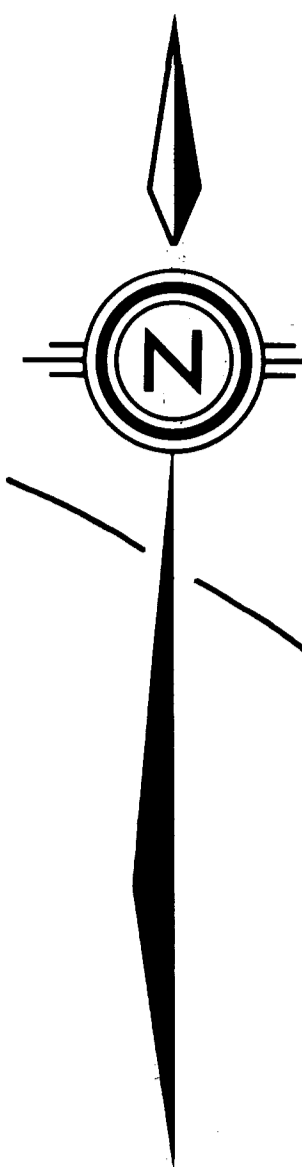


 NORCEN LAND HOLDINGS
 TRUCK ROAD

part of **8097**
Norcen
 Energy Resources Limited
 (COCHRANE OIL AND GAS OPTION)

CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
LAND HOLDINGS MAP



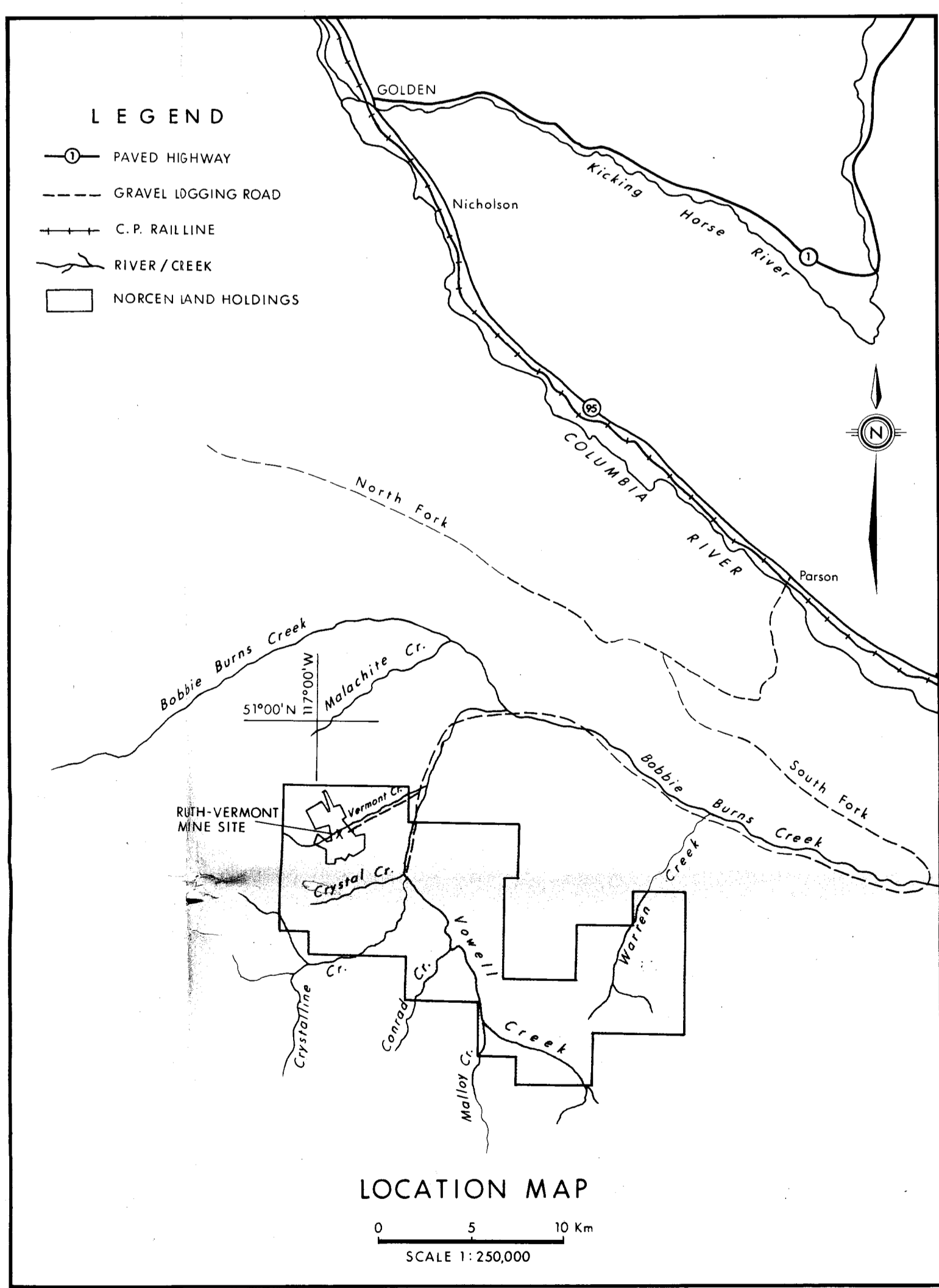


XIV
(S3)

2)

GEOLOGICAL LEGEND

- 1a ARGILLITE
- 1b LIMY ARGILLITE
- 1c ARKOSIC ARGILLITE
- 2a PHYLLITE, WELL DEVELOPED FOLIATION
- 2b PHYLLITE, INTERMEDIATE FOLIATION
- 2c PHYLLITE, POORLY DEVELOPED FOLIATION
- 2d LIMY PHYLLITE
- 2e ARKOSIC PHYLLITE
- 3 SCHIST
- 4a ARKOSE
- 4b META-ARKOSE (INCLUDES PHYLLITIC ARKOSE)
- 4c LIMY ARKOSE
- 5a MEDIUM-GRAINED GRIT
- 5b COARSE-GRAINED GRIT
- 5c META-GRIT
- 5d LIMY GRIT
- 6a QUARTZ-PEBBLE CONGLOMERATE
- 6b QUARTZ-PEBBLE CONGLOMERATE WITH CHERT
- 6c META-CONGLOMERATE (ELONGATED PEBBLES,
- 7a CARBONATE BRECCIA
- 7b OOLITIC CARBONATE BRECCIA
- 8 QUARTZITE
- 9 QUARTZ VEINS



LEGEND

- GRAVEL ROADS
- OUTCROP
- FLOAT (BOULDER)
- BEDDING (STRIKE/DIP)
- FOLIATION (STRIKE/DIP)

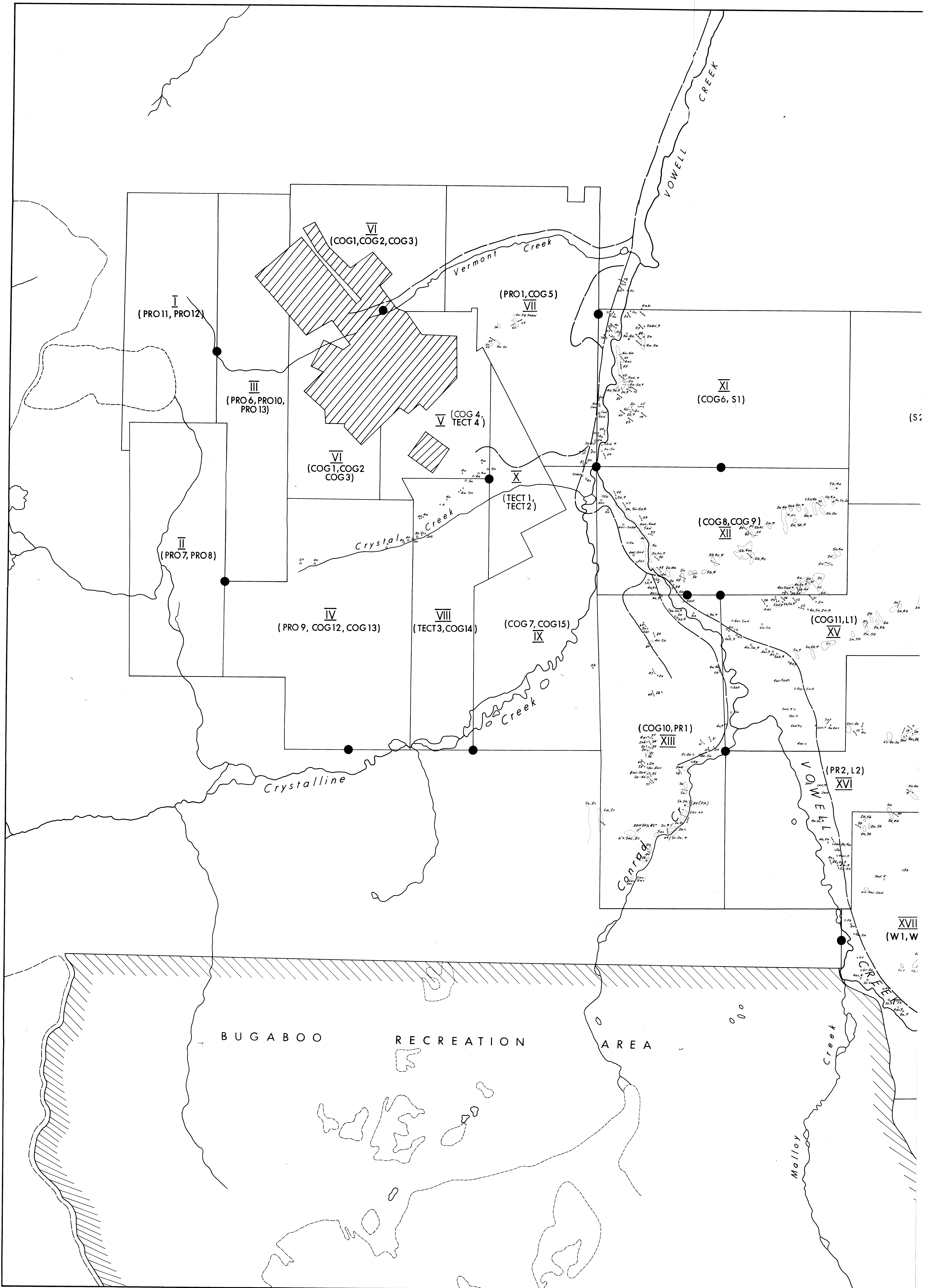
8097
part 1 of 2

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
REGIONAL GEOLOGY

0 500 1000 1500
METRES

NTS 82K-14E,15E,15W

MAY, 1980





XIV
(2, S3)

Bobbie Burns
Creek

XXIII
(WC1, WC3)

XXII
(WC2, WC4)

XXIV
(WC5, WC6)

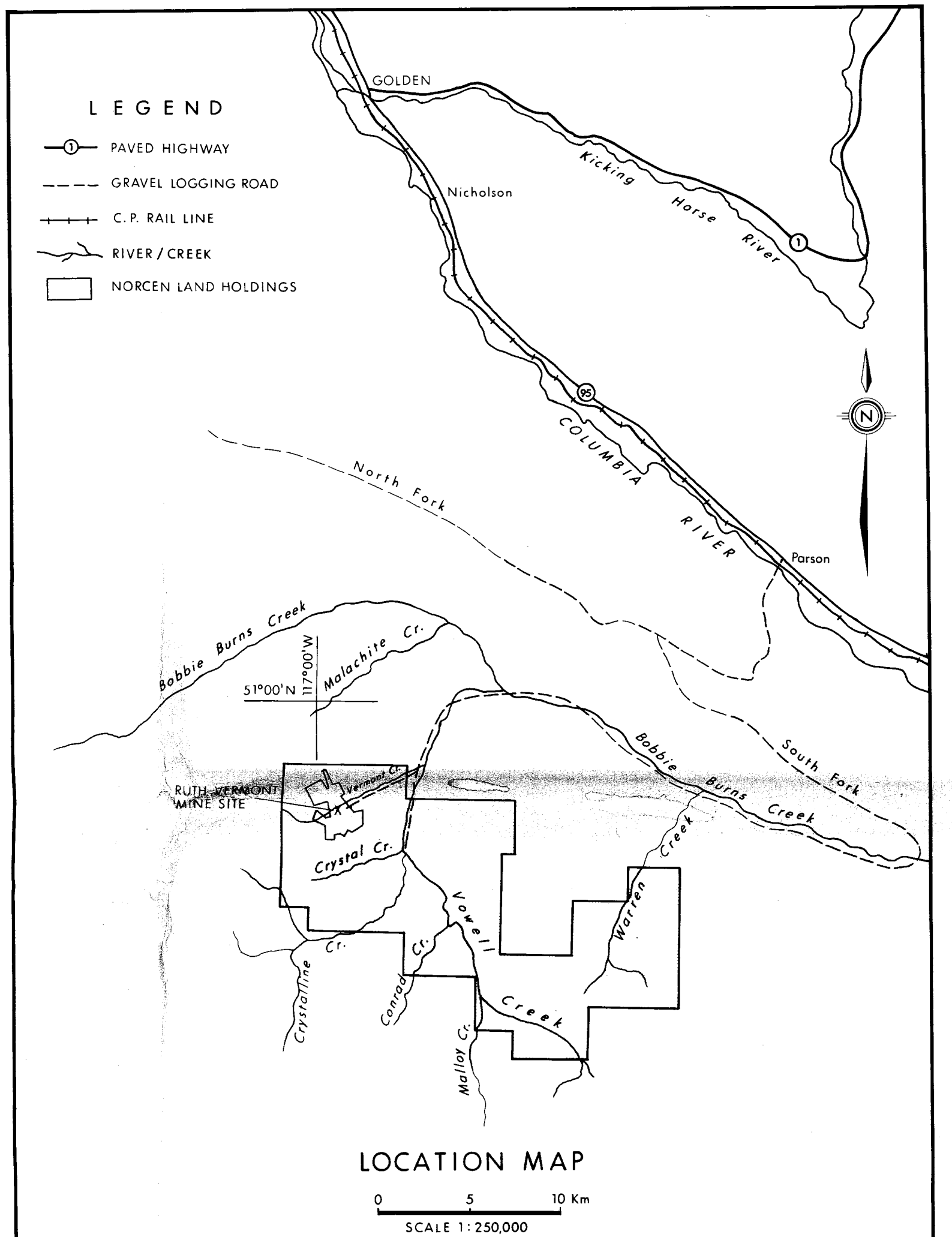
XVIII
(WC7, WC12)

XXI
(WC8, WC10)

XIX
(WC9, WC11)

XX
(WC13, WC14)

ppm	ppm
Cu	Pb
ppm	ppm
Zn	Ag



8097
part 1 of 2
Norcen
Energy Resources Limited

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
REGIONAL SOIL GEOCHEMICAL MAP

NTS 82K-14E,15E,15W METRES MAY, 1980

GRAVEL ROADS

