

180-#293-#8098

NORCEN ENERGY RESOURCES LIMITED
ASSESSMENT REPORT
GEOCHEMICAL AND GEOLOGICAL PROGRAM
GROUP XVII (W1 - W2)
GOLDEN MINING DIVISION,
BRITISH COLUMBIA

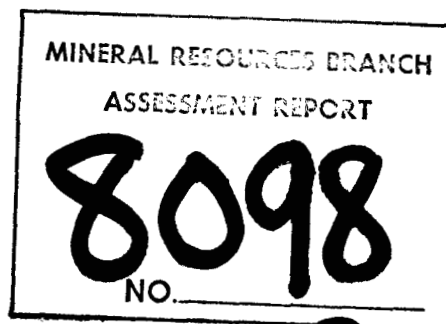
Claims: W1 (340)
W2 (341)

Location: 49 km South of Golden, British Columbia

Latitude: 50°53'N

Longitude: 116°51'W

Owner and Operator: Norcen Energy Resources Limited
August 26 and 27, 1979



part 182

June 9, 1980

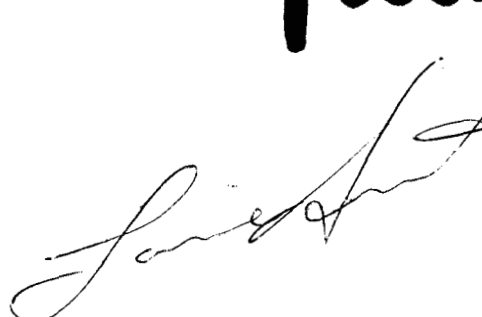
 L. Smith, P.Geol.

TABLE OF CONTENTS

	<u>Page No.</u>
SUMMARY	1
LOCATION AND ACCESS	1
CLAIM STATUS	1
GEOCHEMICAL SOIL SAMPLING	2
GEOLOGICAL MAPPING	2
STATEMENT OF QUALIFICATIONS	3
ITEMIZED COST STATEMENT	4

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 XVII (W1 - W2) on August 26 and 27, 1979. A total of twenty (20) 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.

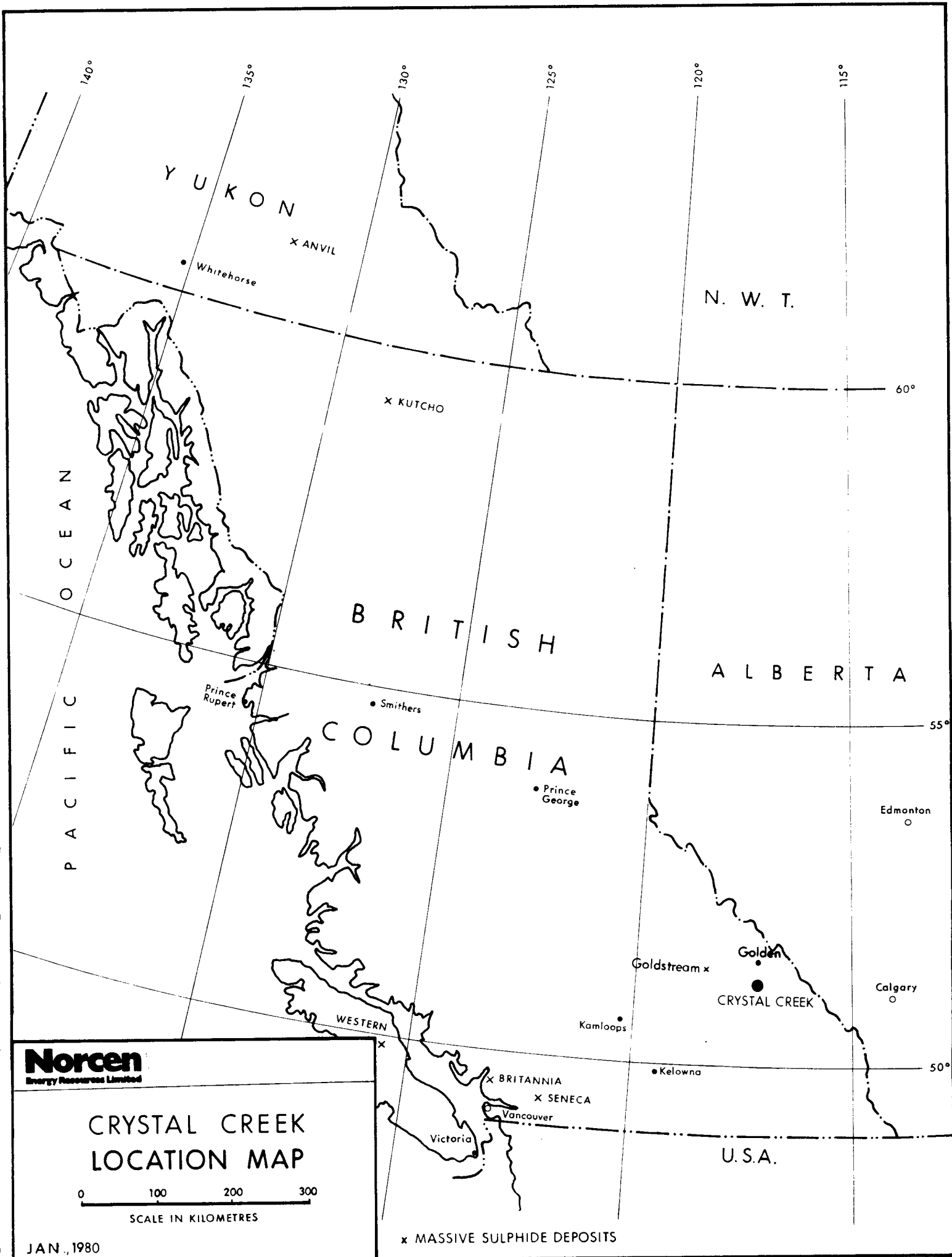
LOCATION AND ACCESS (See Land Holdings Maps, Crystal Creek Project, British Columbia)

The claims are located in the Purcell Mountains approximately 49 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.


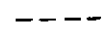
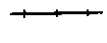

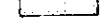
CLAIM STATUS

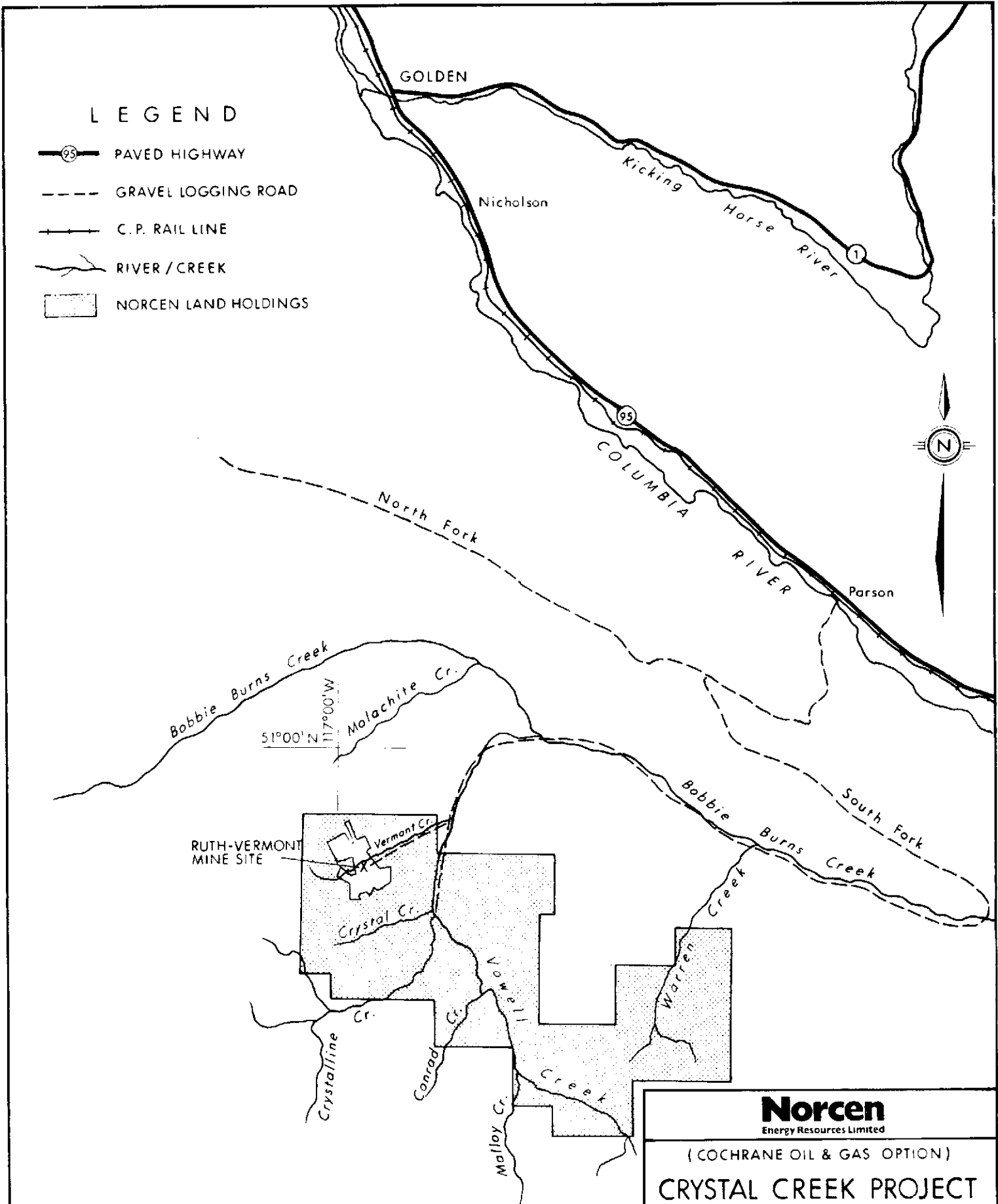
The W1 and W2 claims form part of the Crystal Creek Property. The W1 and W2 claims have been grouped into Group XVII (W1 - W2).

<u>Claim Name</u>	<u>Record Number</u>	<u>Recorded Date</u>	<u>Unit Dimensions</u>	<u>No. of Units</u>
W1	340	June 18, 1979	4N X 4E	16
W2	341	June 18, 1979	4E X 5S	20



LEGEND

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



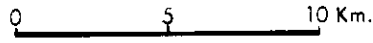
Norcen
Energy Resources Limited

(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 twenty (20) B horizon soil samples were collected within the boundaries of claims W1 and W2. 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.

No anomalous samples were collected during the 1979 geochemical sampling from the W1 and W2 claims.

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 XVII (W1 - W2).
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

1 -

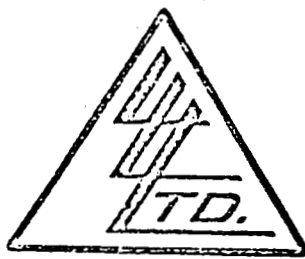
ITEMIZED COST STATEMENT

A.	Geochemical Sampling and Geological Mapping	
	L. Smith, Supervision (August 24, 1979)	
	L. Smith, Report Writing (May 26, 1980)	
	1 day @\$125/day	\$ 125.00
	1 day @\$175/day	175.00
	M. Anderson - Geologist (August 26, 1979)	
	G. Wilson - Geologist (August 27, 1979)	
	2 days @\$90/day	180.00
	R. Kostiuik - Geochemical Sampler (August 26, 1979)	
	D. Desjardins - Geochemical Sampler (August 27, 1979)	
	2 days @\$75/day	150.00
B.	Transport	
	4 Wheel Drive Vehicle Rental	
	\$30.00/day X 2 days	60.00
	Fuel for Vehicle \$5.00/day X 2 days	10.00
C.	Accommodation and Meals	
	5 man days X \$25/day	125.00
D.	Assaying	
	20 Geochemical Assays @\$5/sample	<u>100.00</u>
		\$925.00

APPENDIX I

Geochemical Assay Certificates

To: NORGEN 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 OF
 LORING LABORATORIES LTD.**

Page 2

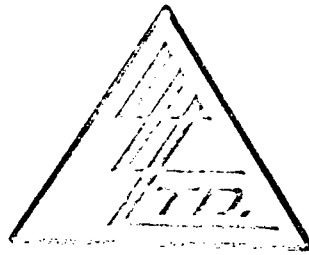
SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
MA-A.				
17/29	15	11	34	0.5
17/30	12	10	34	0.5
17/31	18	15	49	0.5
17/32	10	11	34	0.5
17/33	8	9	39	0.5
17/34	13	15	45	0.5
MA-A-19/1	16	15	36	0.3
19/2	26	16	77	0.7
19/3	13	17	40	0.5
19/4	36	14	86	0.7

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

jects Retained one month.
 In Retained one month
 le specific arrangements
 ide in advance.

L. J. Smith
 Licensed Assayer of British Columbia

ORION ENERGY RESOURCES LIMITED
 115-5th Avenue S.W., 27th Flr.
 Calgary, Alberta T2P 2X7



File No.17716.....
 DateSeptember 17, 1979.....
 Samples ...Soil.....

ATTN: L. Smith

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

Page # 1

SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
26/1	17	13	82	0.5
26/2	25	17	85	0.6
26/3	16	16	62	0.5

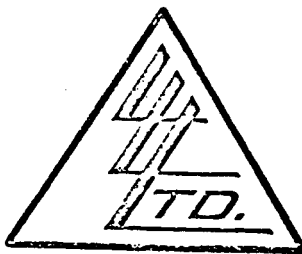
I Herby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

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

Licensed Assayer of British Columbia

To: NORCEN 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
MA-A-26/4	14	17	68	0.6
26/5	15	11	32	0.5
26/6	21	12	68	0.5
26/7	24	14	74	0.6

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

Specimens Retained one month.

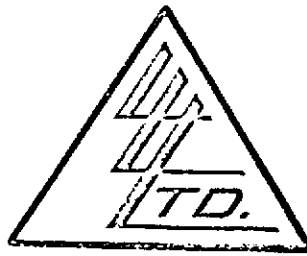
Specimens Retained one month
 unless specific arrangements
 made in advance.

L. Smith

Licensed Assayer of British Columbia

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

File No.17716.....
 DateSeptember 17, 1979
 SamplesSoil.....



ATTN: L. Smith

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

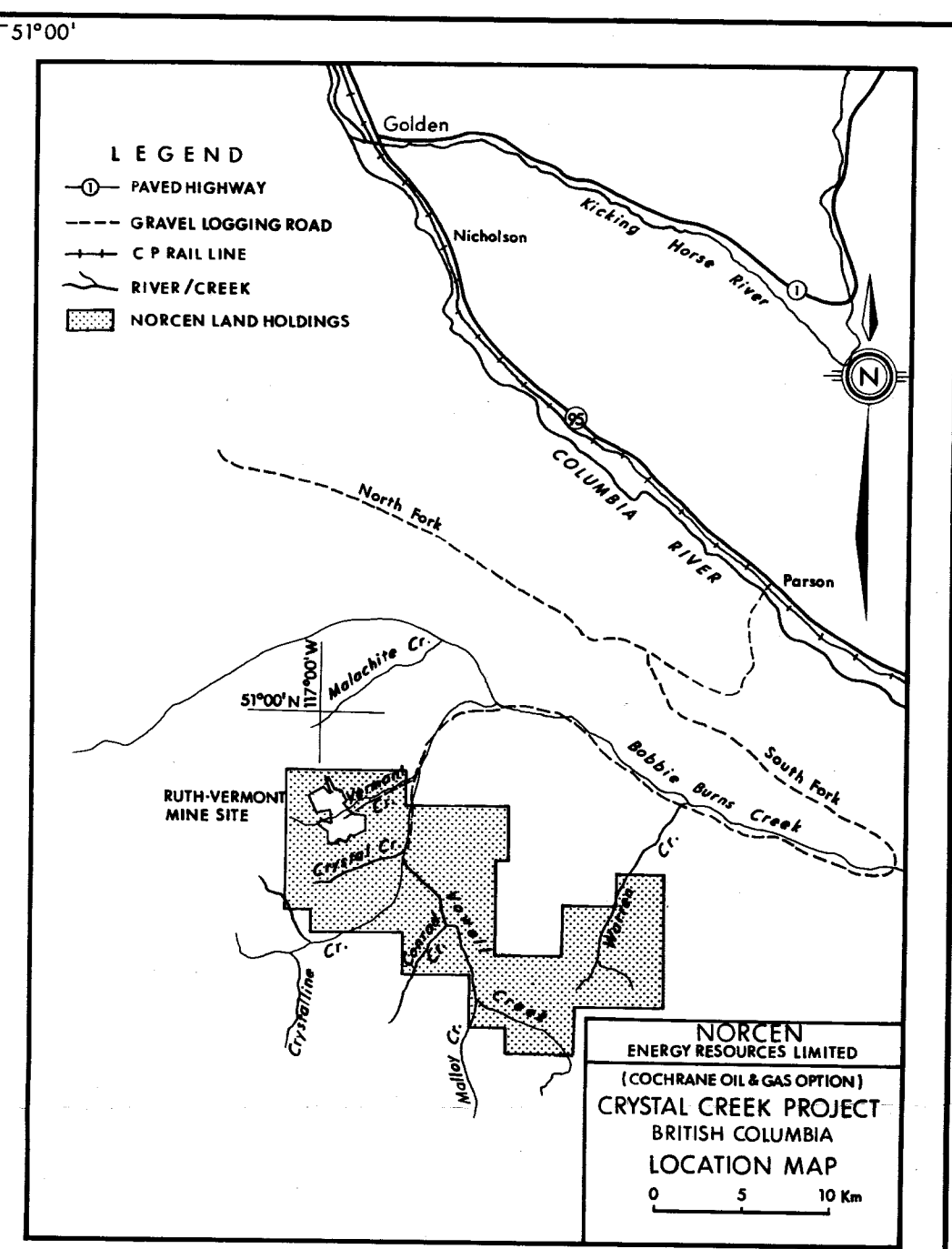
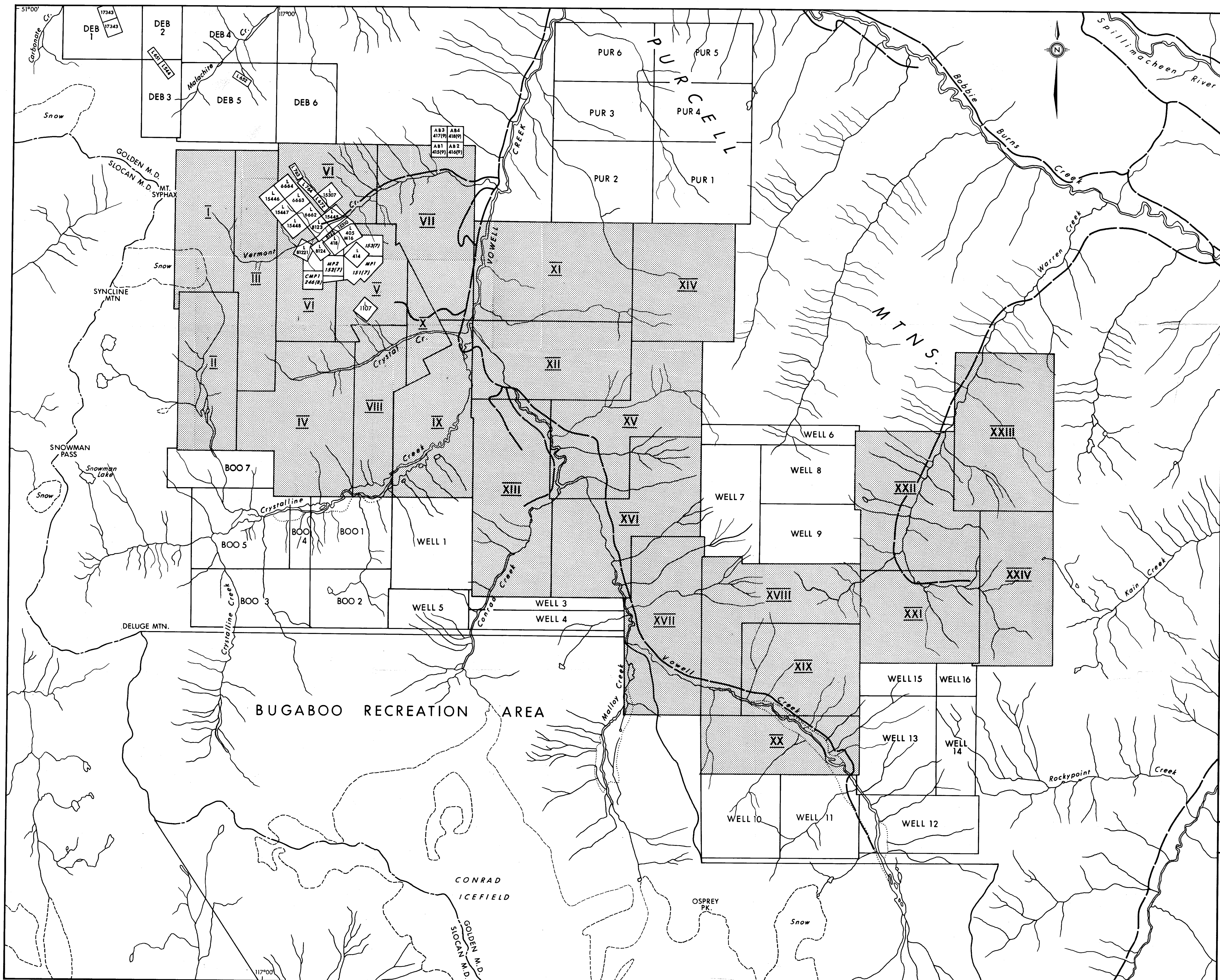
Page # 3

SAMPLE No.	PPM Cu	PPM Pb	PPM Zn	PPM Ag
GN-A-27/1	12	12	40	0.5
27/2	19	27	57	0.6
27/3	14	11	49	0.5

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
 made in advance.

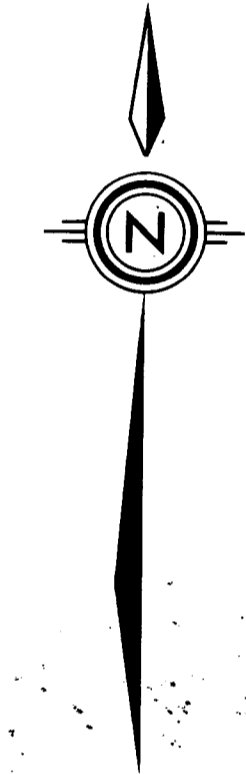
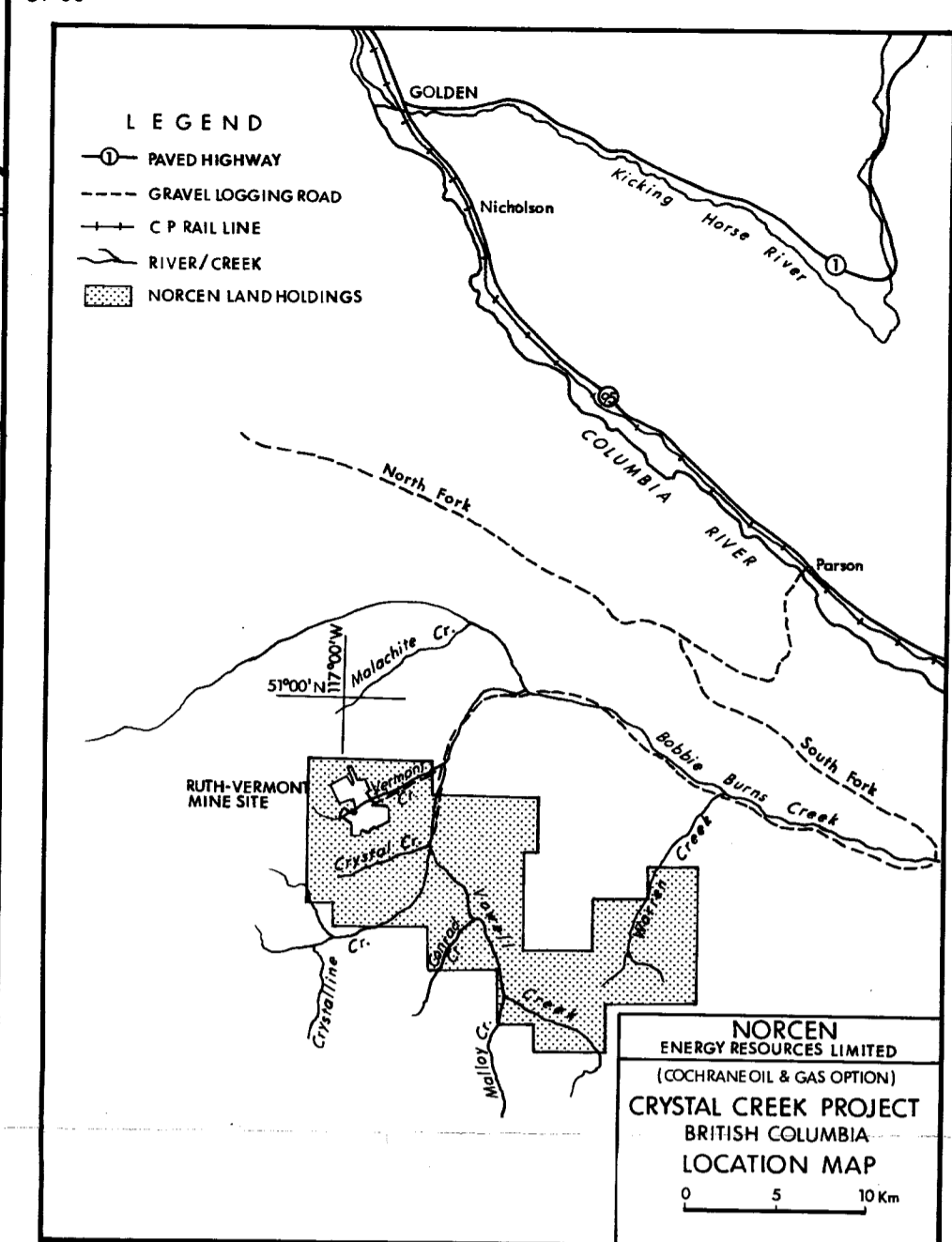
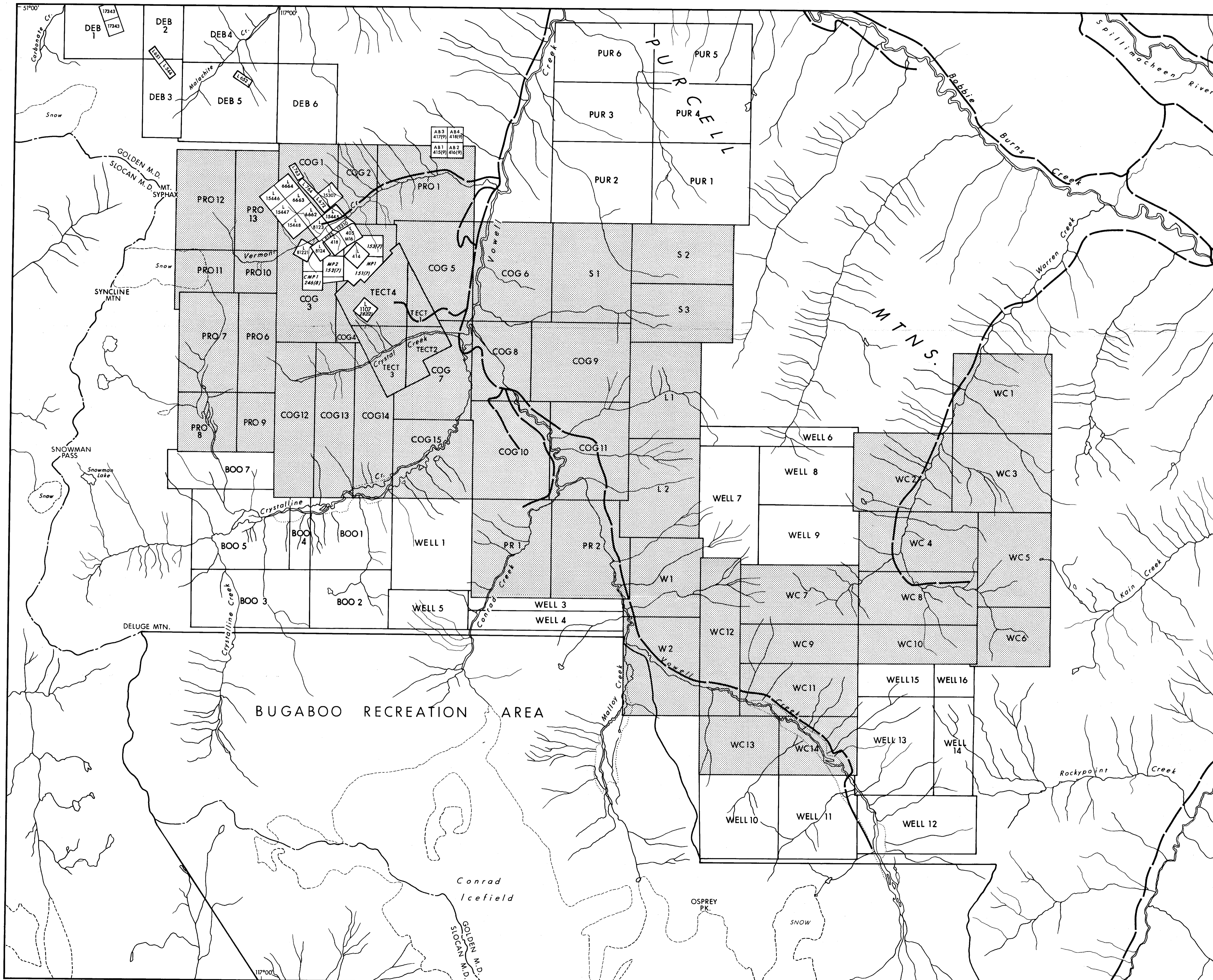
L. M. Isaac



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
	825

MINERAL RIGHTS INCH
ASSESSMENT REPORT TRUCK ROAD
8098 part 182
NO.

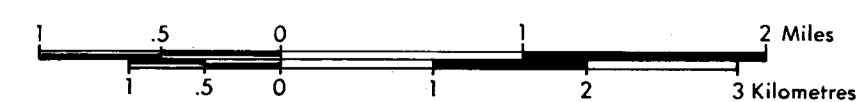
Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
LAND HOLDINGS MAP
SCALE IN KILOMETRES
0 1 2 3

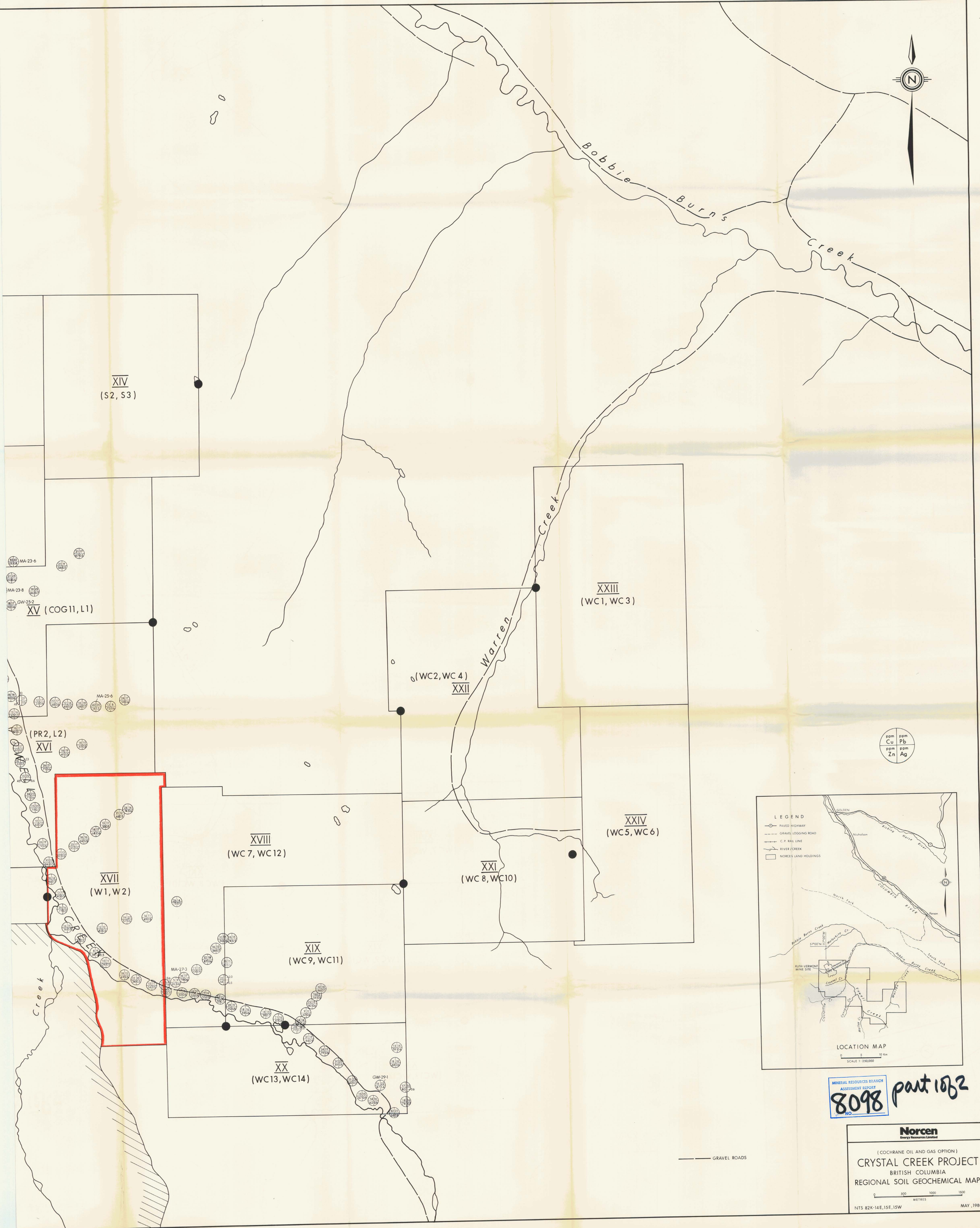


MINERAL RESOURCES BRITISH COLUMBIA
 ASSESSMENT REPORT TRUCK ROAD
8098 part 102
 NO.

Norcen
 Energy Resources Limited

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





XIV
(S2, S3)

XXIII
(WC1, WC3)

(WC2, WC4)
XXII

XXIV
(WC5, WC6)

XXI
(WC8, WC10)

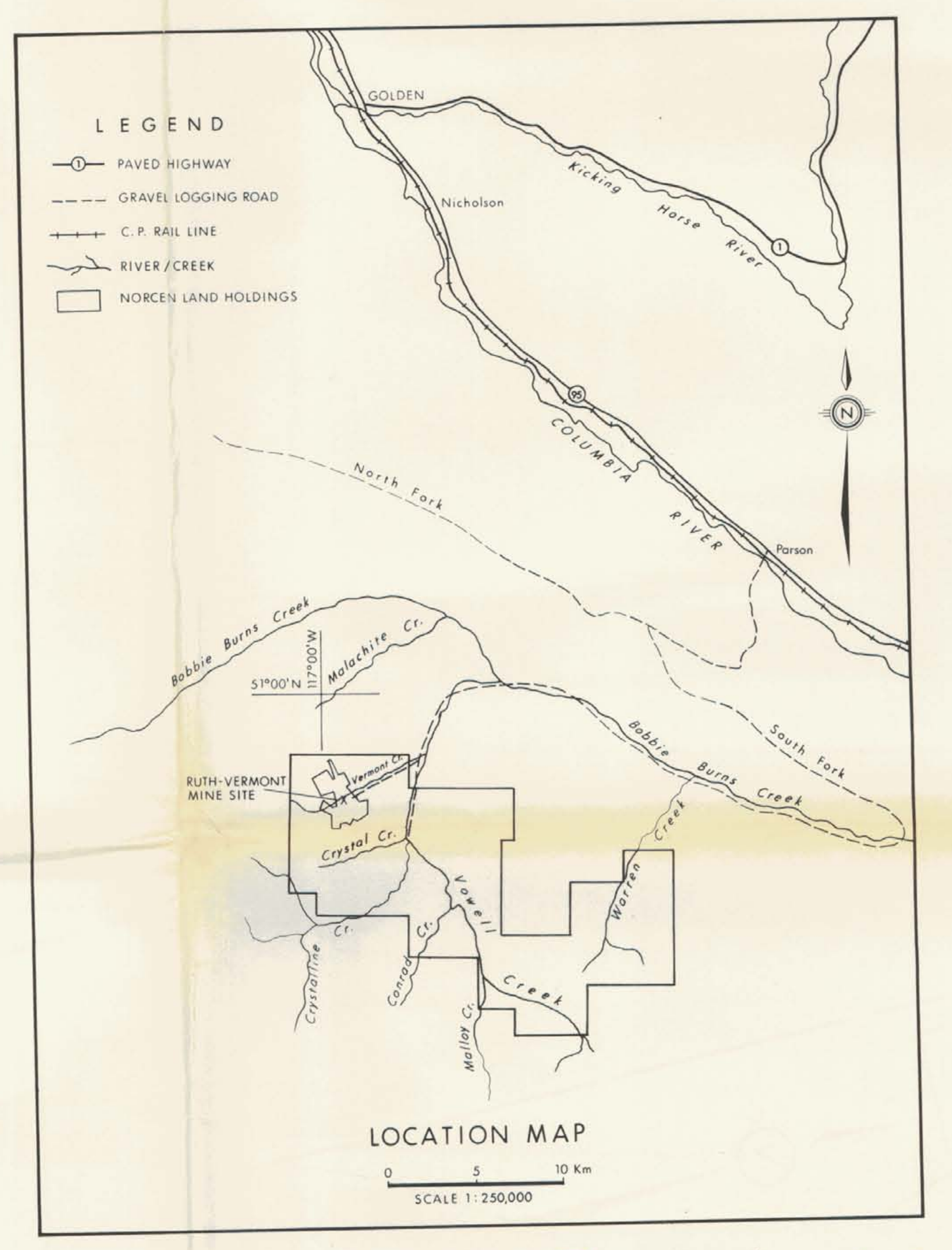
XVIII
(WC7, WC12)

XVII
(W1, W2)

XIX
(WC9, WC11)

XX
(WC13, WC14)

ppm	ppm
Cu	Pb
ppm	ppm
Zn	Ag



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

8098 part 1082

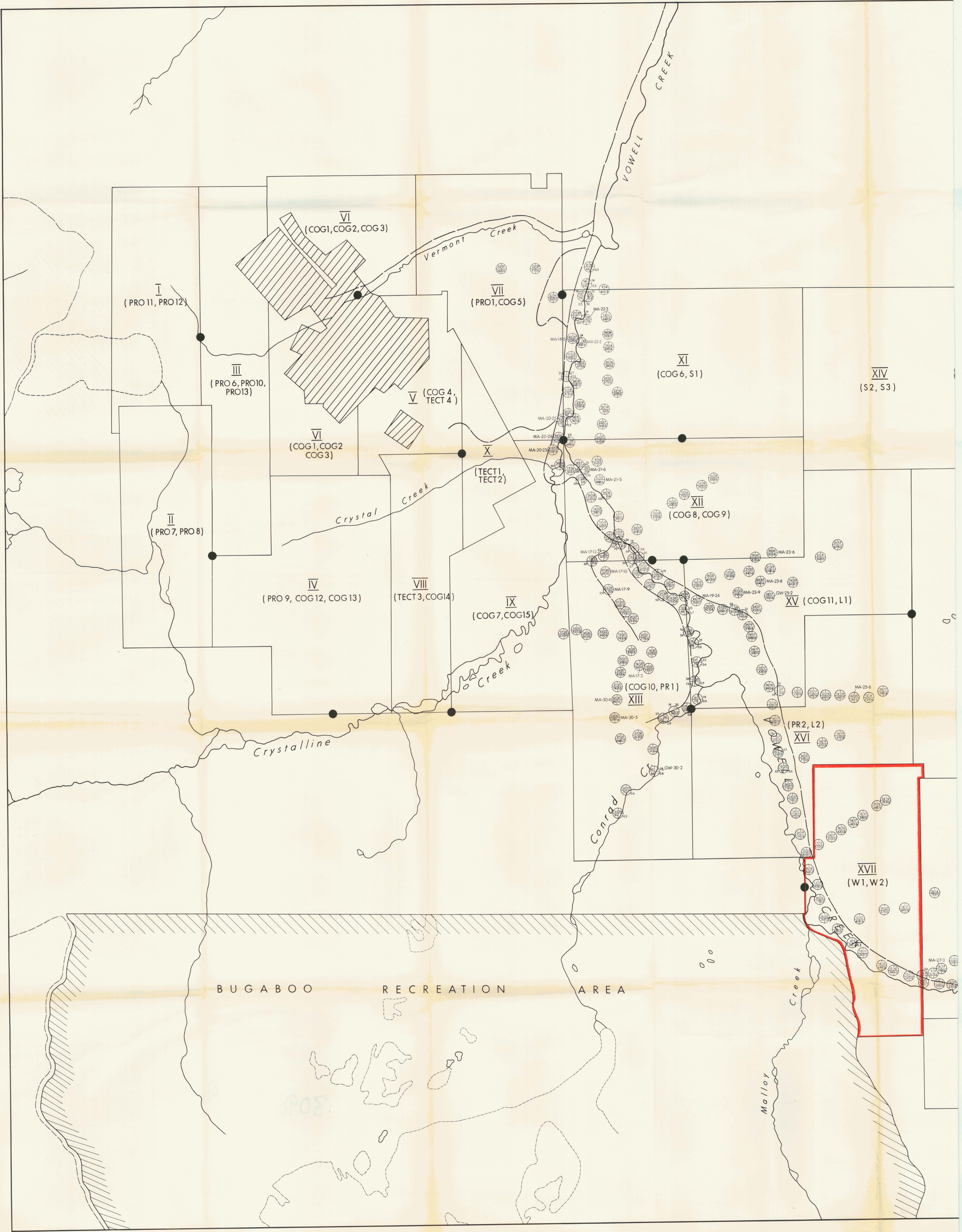
Norcen
Energy Resources Limited

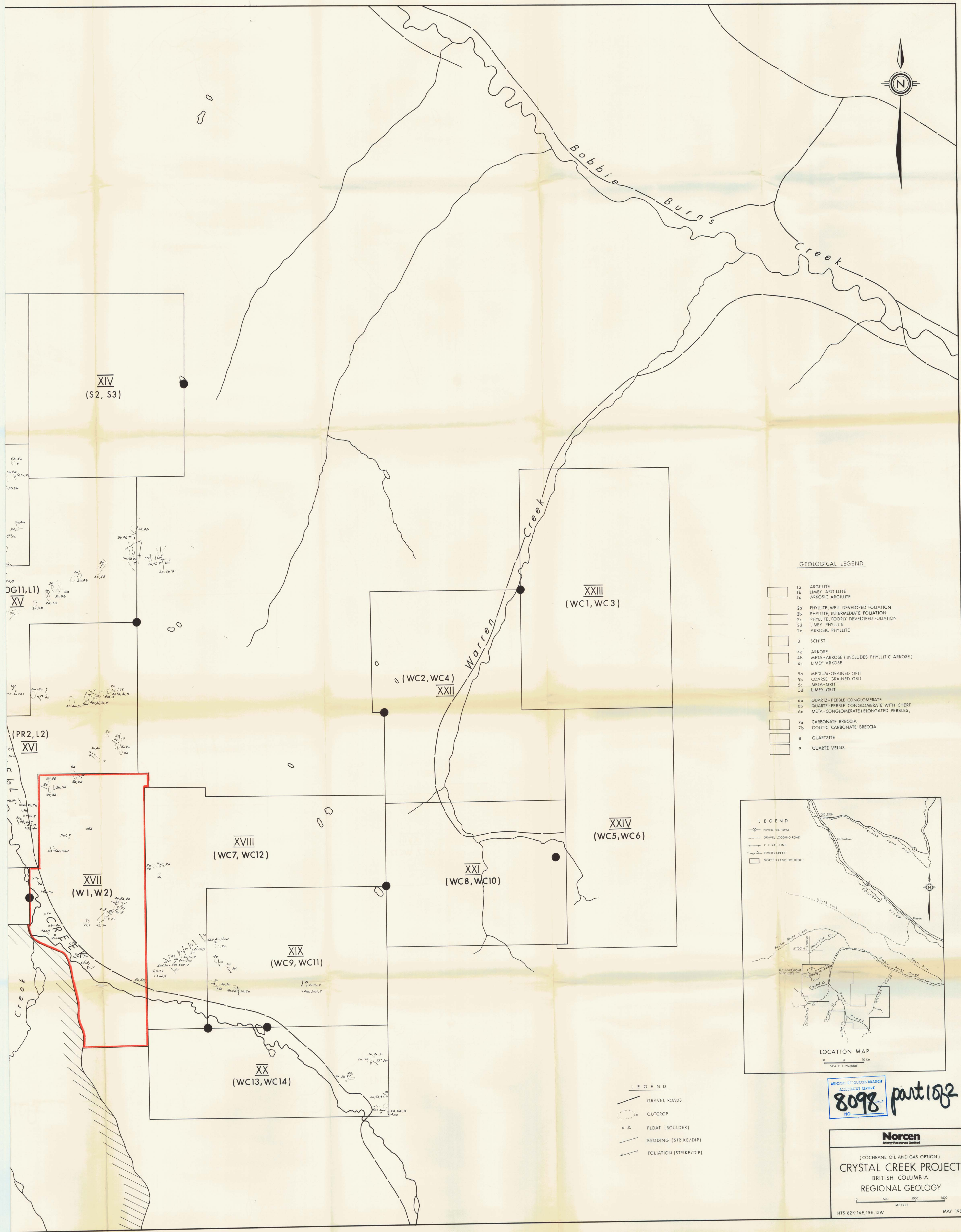
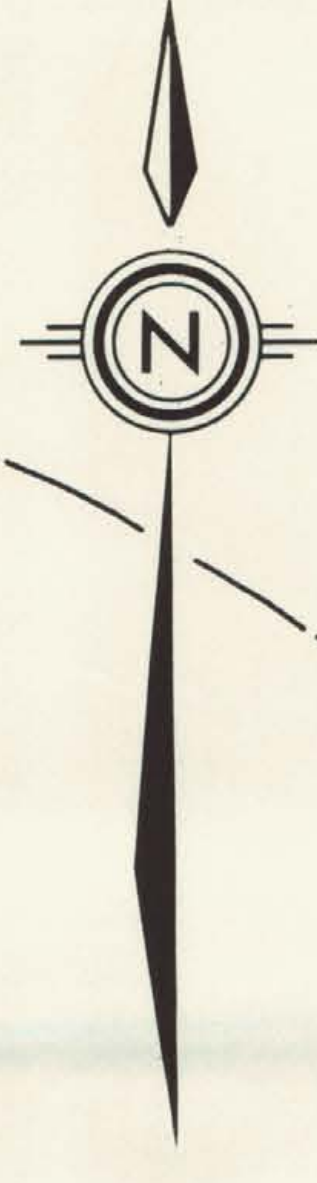
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
REGIONAL SOIL GEOCHEMICAL MAP

0 500 1000 1500 METRES

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

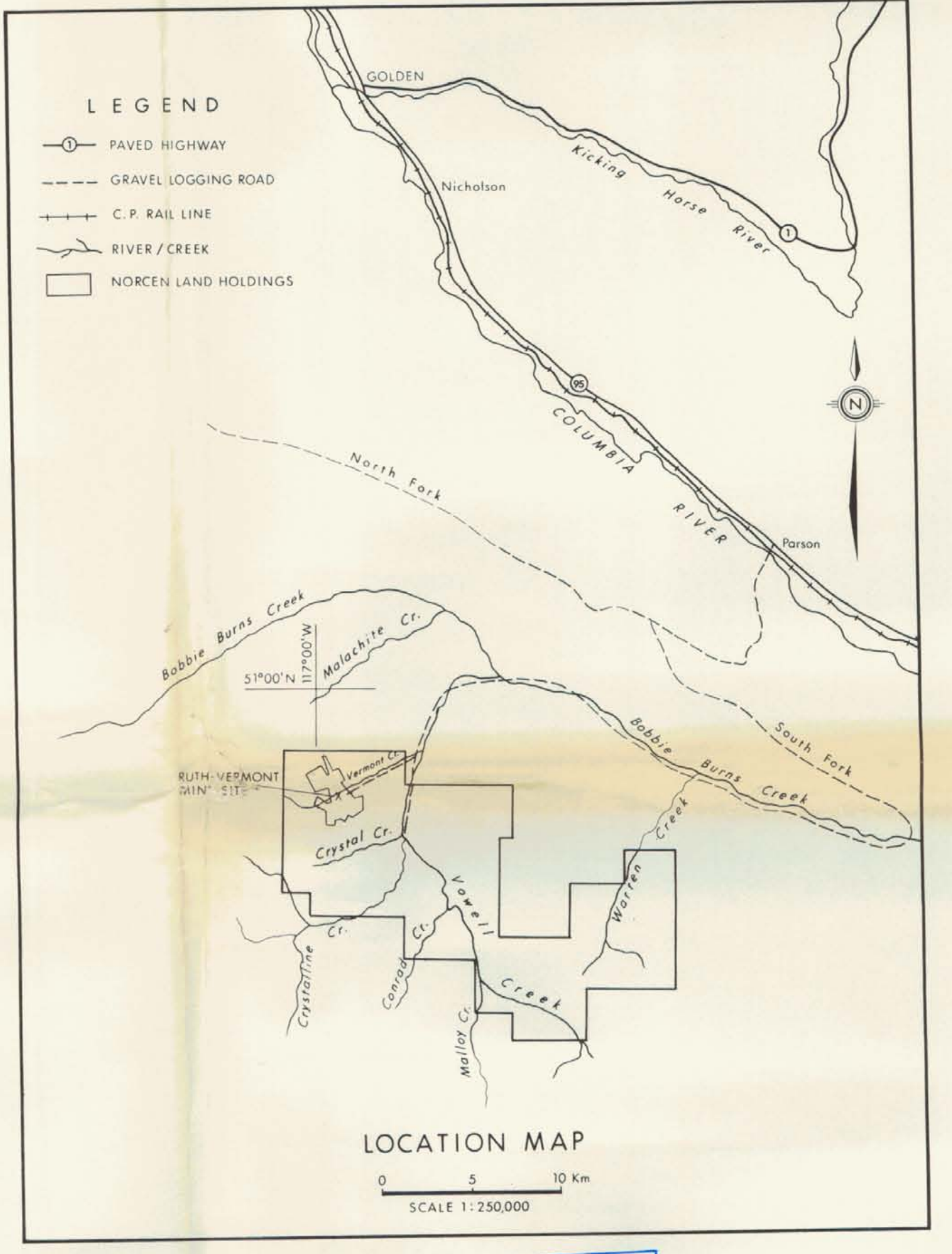
GRAVEL ROADS





GEOLOGICAL LEGEND

- 1a ARGILLITE
- 1b LIMY ARGILLITE
- 1c ARKOSIC ARGILLITE
- 2a PHYLITE, WELL DEVELOPED FOLIATION
- 2b PHYLITE, INTERMEDIATE FOLIATION
- 2c PHYLITE, POORLY DEVELOPED FOLIATION
- 2d LIMY PHYLITE
- 2e ARKOSIC PHYLITE
- 3 SCHIST
- 4a ARKOSE
- 4b META-ARKOSE (INCLUDES PHYLITIC 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 CHEST
- 6c META-CONGLOMERATE (ELONGATED PEBBLES)
- 7a CARBONATE BRECCIA
- 7b OLIGITIC CARBONATE BRECCIA
- 8 QUARTZITE
- 9 QUARTZ VEINS



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

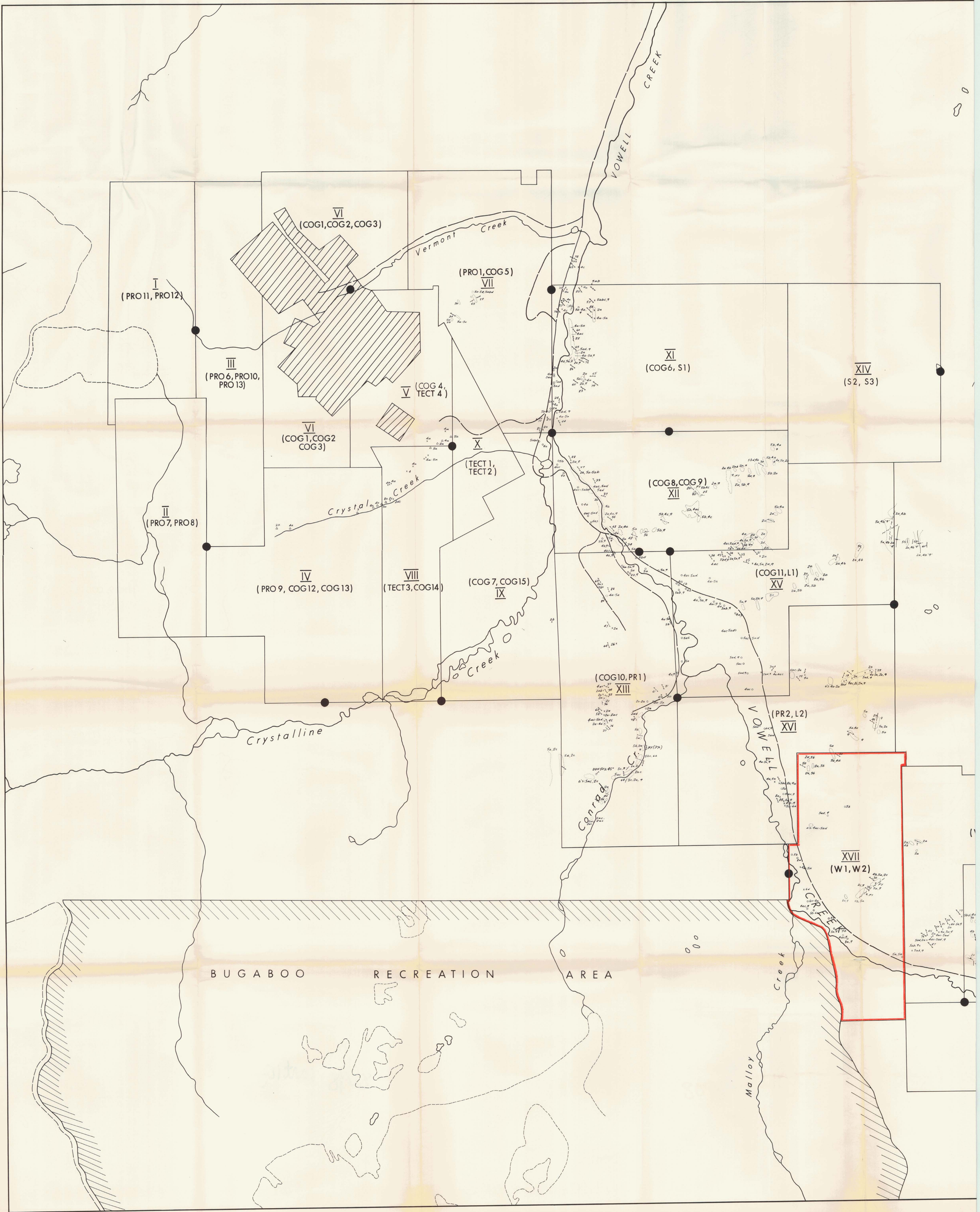
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8098 part 1 of 2

Norcen
Energy Resources Limited

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

0 500 1000 1500
METRES

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



I
(PRO11, PRO12)

III
(PRO6, PRO10,
PRO13)

II
(PRO7, PRO8)

IV
(PRO9, COG12, COG13)

VI
(COG1, COG2, COG3)

VI
(COG1, COG2
COG3)

V
(COG4,
TECT4)

VIII
(TECT3, COG14)

VII
(PRO1, COG5)

X
(TECT1,
TECT2)

IX
(COG7, COG15)

XI
(COG6, S1)

XII
(COG8, COG9)

XV
(COG11, L1)

XIII
(COG10, PR1)

XVI
(PR2, L2)

XVII
(W1, W2)

XIV
(S2, S3)

BUGABOO RECREATION AREA

Vermont Creek

Crystal Creek

Crystalline

Creek

Conrad

VOWELL
CREEK

Malloy
Creek