

180-#294-#8099

NORCEN ENERGY RESOURCES LIMITED
ASSESSMENT REPORT
GEOCHEMICAL AND GEOLOGICAL PROGRAM
GROUP XVI (PR2 - L2)
GOLDEN MINING DIVISION,
BRITISH COLUMBIA

Claims: PR2 (343)
L2 (339)

Location: 45 km South of Golden, British Columbia

Latitude: 50°53'N

Longitude: 116°52'W

Owner and Operator: Norcen Energy Resources Limited
August 25 and 26, 1979

MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

8099
PART 1
OF 2

June 9, 1980

L. Smith, P.Geol.

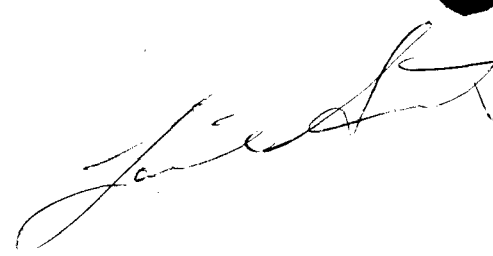


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APPENDIX I

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 XVI (PR2 - L2) on August 25 and 26, 1979. A total of eighteen (18) 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.

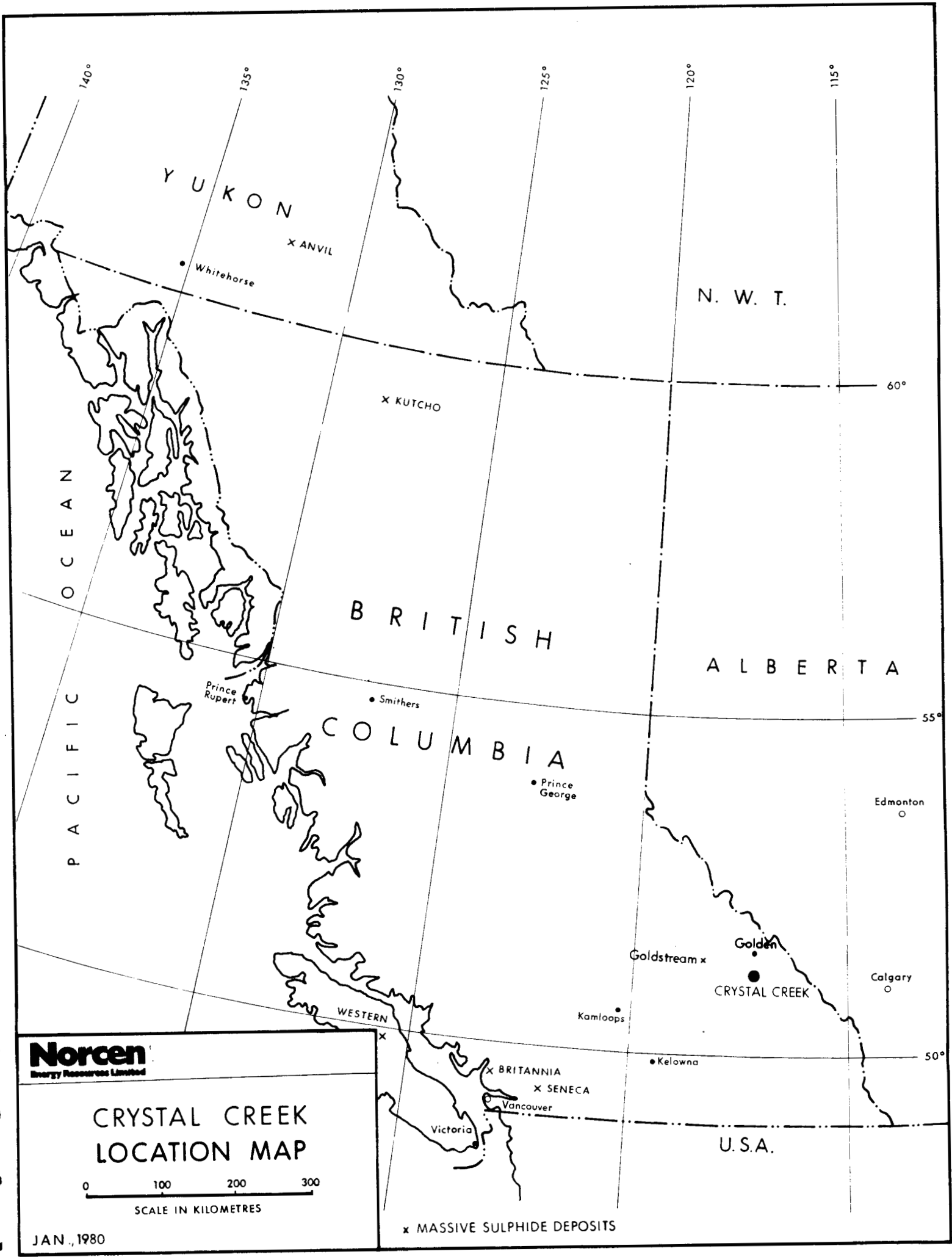
LOCATION AND ACCESS (See Land Holdings Maps, Crystal Creek Project, British Columbia)

The claims are located in the Purcell Mountains approximately 45 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 PR2 and L2 claims form part of the Crystal Creek Property. The PR2 and L2 claims have been grouped into Group XVI (PR2 and L2).

| <u>Claim Name</u> | <u>Record Number</u> | <u>Recorded Date</u> | <u>Unit Dimensions</u> | <u>No. of Units</u> |
|-------------------|----------------------|----------------------|------------------------|---------------------|
| PR2 | 343 | June 18, 1979 | 5S X 4E | 20 |
| L2 | 339 | June 18, 1979 | 4W X 5S | 20 |



YUKON

x ANVIL

• Whitehorse

N. W. T.

x KUTCHO

60°

PACIFIC OCEAN

BRITISH COLUMBIA

ALBERTA

• Prince Rupert

• Smithers

55°

• Prince George

Edmonton ○

Goldstream x

• Golden

CRYSTAL CREEK

Calgary ○

WESTERN x

• Kamloops

50°

• Kelowna

x BRITANNIA

x SENECA

○ Vancouver

• Victoria

U.S.A.

Norcen
Energy Resources Limited


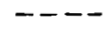
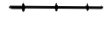


CRYSTAL CREEK LOCATION MAP

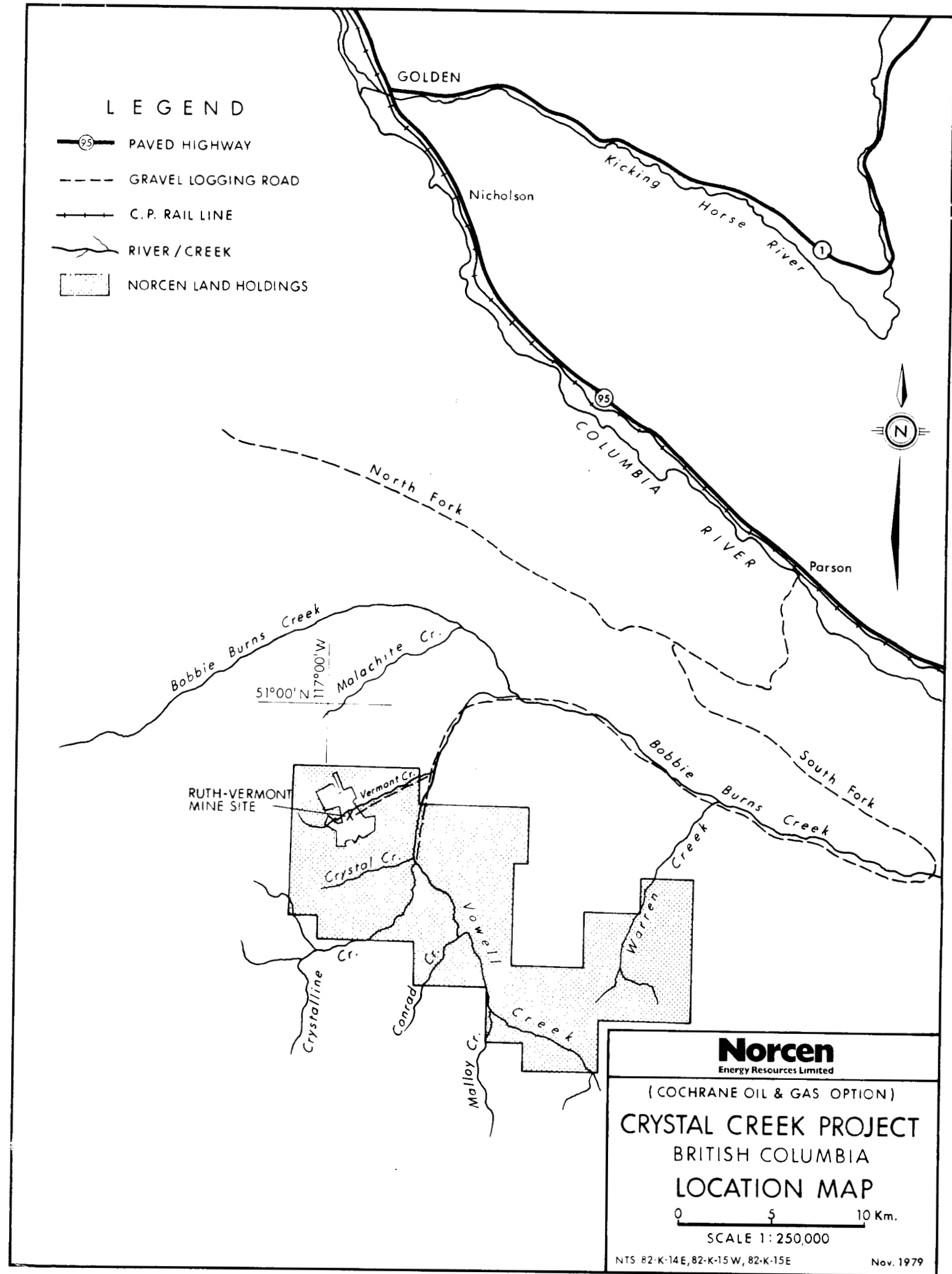


x MASSIVE SULPHIDE DEPOSITS

JAN., 1980

L E G E N D

-  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 eighteen (18) B horizon soil samples were collected within the boundaries of claims PR2 and L2. 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 PR2 and L2 claims. This was:

| <u>Sample No.</u> | <u>ppm Pb</u> | <u>ppm Zn</u> | <u>ppm Ag</u> | <u>ppm Cu</u> |
|-------------------|---------------|---------------|---------------|---------------|
| MA-25-6 | 20 | 18 | *1.5 | *42 |

* 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 XVI (PR2 - L2).
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 25, 1979) | |
| | L. Smith, Report Writing (May 23, 1980) | |
| | 1 day @\$125/day | \$ 125.00 |
| | 1 day @\$175/day | 175.00 |
| | M. Anderson - Geologist (August 25, 1979) | |
| | G. Wilson - Geologist (August 26, 1979) | |
| | 2 days @\$90/day | 180.00 |
| | R. Kostiuik - Geochemical Sampler (August 25, 1979) | |
| | D. Desjardins - Geochemical Sampler (August 26, 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 | |
| | 18 Geochemical Assays @\$5/sample | <u>90.00</u> |
| | | \$915.00 |

APPENDIX I

Geochemical Assay Certificates

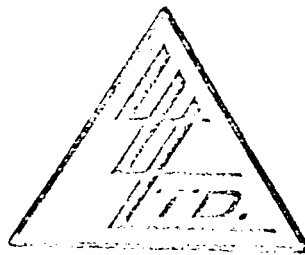
NORWEN ENERGY RESOURCES LIMITED

775 - 5th Avenue S.W.

Calgary, Alberta

ESP 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. | FPM Cu | FPM Pb | FPM Zn | FPM Ag |
|------------|-----------|-----------|-----------|-----------|
|------------|-----------|-----------|-----------|-----------|

| | | | | |
|-------|----|----|----|-----|
| 19/5 | 30 | 23 | 84 | 0.7 |
| 19/6 | 26 | 19 | 79 | 0.8 |
| 19/7 | 19 | 12 | 44 | 0.6 |
| 19/8 | 25 | 20 | 79 | 0.7 |
| 19/9 | 24 | 23 | 71 | 0.6 |
| 19/10 | 15 | 22 | 45 | 0.6 |
| 19/11 | 16 | 23 | 53 | 0.5 |

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

C. L. M. J. J. J.

Licensed Assayer of British Columbia

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

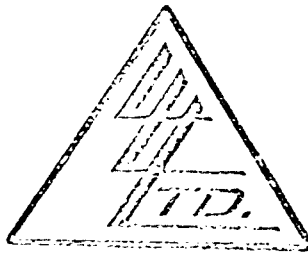
TO: MARCH ENERGY RESOURCES LIMITED

715 - 5th Avenue S.W.

Calgary, Alberta

TR. 217

ATTN: L. J. Smith



File No. 17658

Date Sept. 4, 1979

Samples Lake Sediment

Certificate of
ASSAY OF
LORING LABORATORIES LTD.

Page 3

| SAMPLE No. | PPM Cu | PPM Pb | PPM Zn | PPM Ag |
|------------|-----------|-----------|-----------|-----------|
| MA-A-19/12 | 16 | 17 | 62 | 0.7 |
| 19/13 | 16 | 17 | 55 | 0.7 |

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

Results Retained one month.
If you require more than one month
without specific arrangements
please advise in advance.

A. L. M. J. O. C. C.

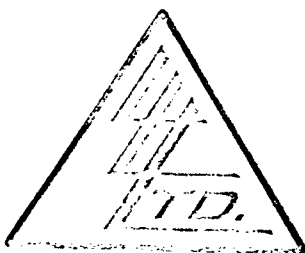
Licensed Assayer of British Columbia

MINERAL ENERGY RESOURCES LIMITED

15-5th Avenue S.W., 27th Flr.

Calgary, Alberta T2P 2X7

Attn: L. Smith



File No. 17716

Date September 17, 1979

Samples Soil

Certificate of
ASSAY of

LORING LABORATORIES LTD.

Page # 1

| SAMPLE No. | PPM Cu | PPM Pb | PPM Zn | PPM Ag |
|------------|-----------|-----------|-----------|-----------|
| 25/3 | 22 | 17 | 68 | 0.6 |
| 25/4 | 12 | 16 | 48 | 0.5 |
| 25/5 | 18 | 19 | 64 | 0.7 |
| 25/6 | 42 | 20 | 18 | 1.5 |
| 25/7 | 13 | 18 | 72 | 0.6 |
| 25/8 | 24 | 17 | 59 | 0.4 |

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

R. M. G. J. O. A. C.

Licensed Assayer of British Columbia

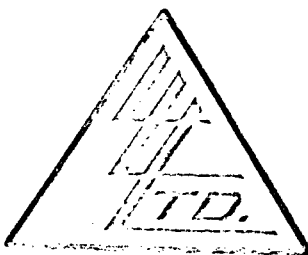
Retained one month.

signed one month

specific arrangements
in advance.

To: NORCON 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 |
|------------|-----------|-----------|-----------|-----------|
| CW-A-26/1 | 26 | 21 | 71 | 0.6 |
| 26/2 | 16 | 19 | 41 | 0.5 |
| 26/3 | 14 | 15 | 61 | 0.5 |

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

Subjects Retained one month.
 Samples Retained one month
 for specific arrangements
 made in advance.

L. M. L. L. L.
 Licensed Assayer of British Columbia

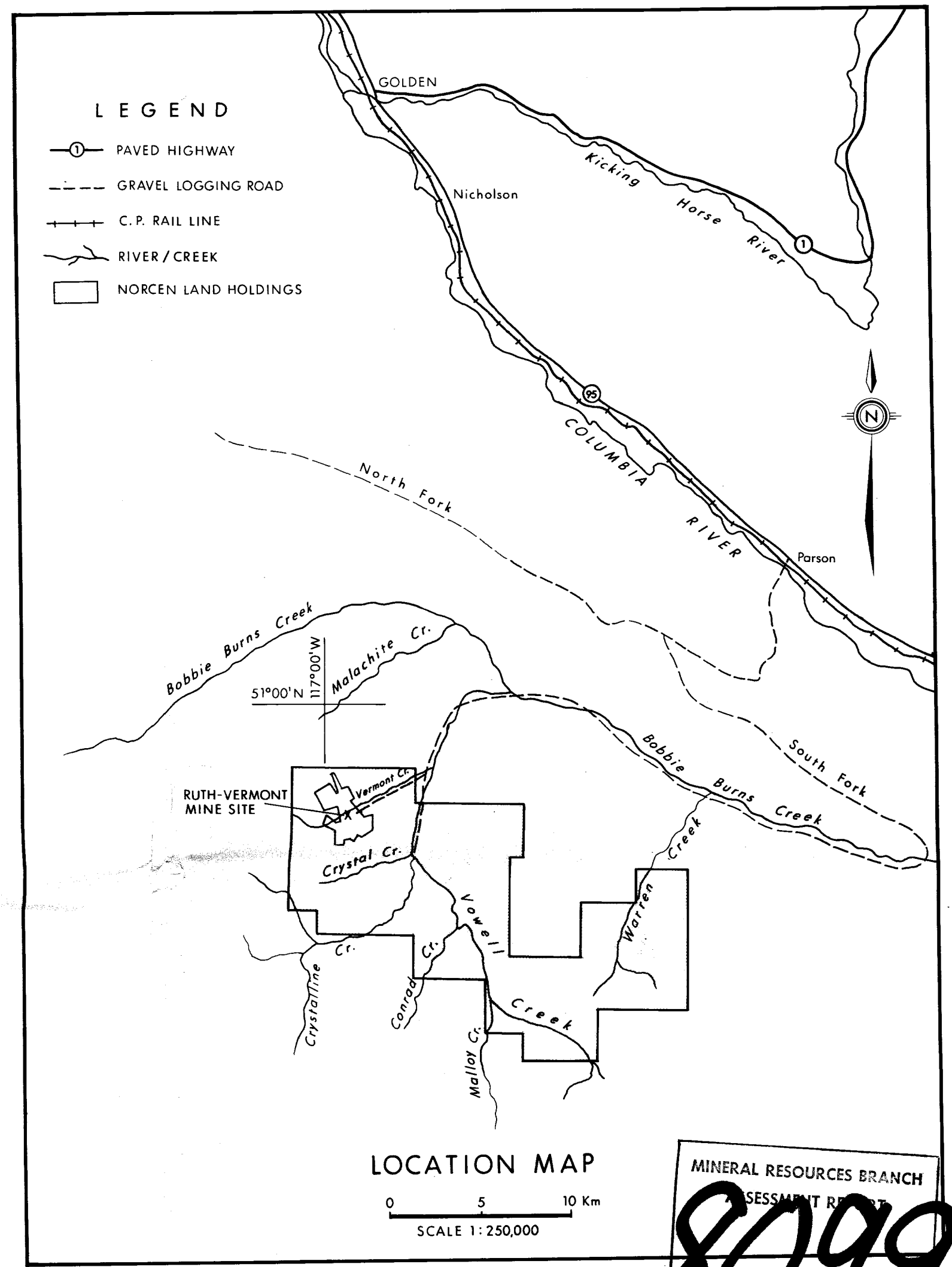


XIV
2, S3)

I
/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

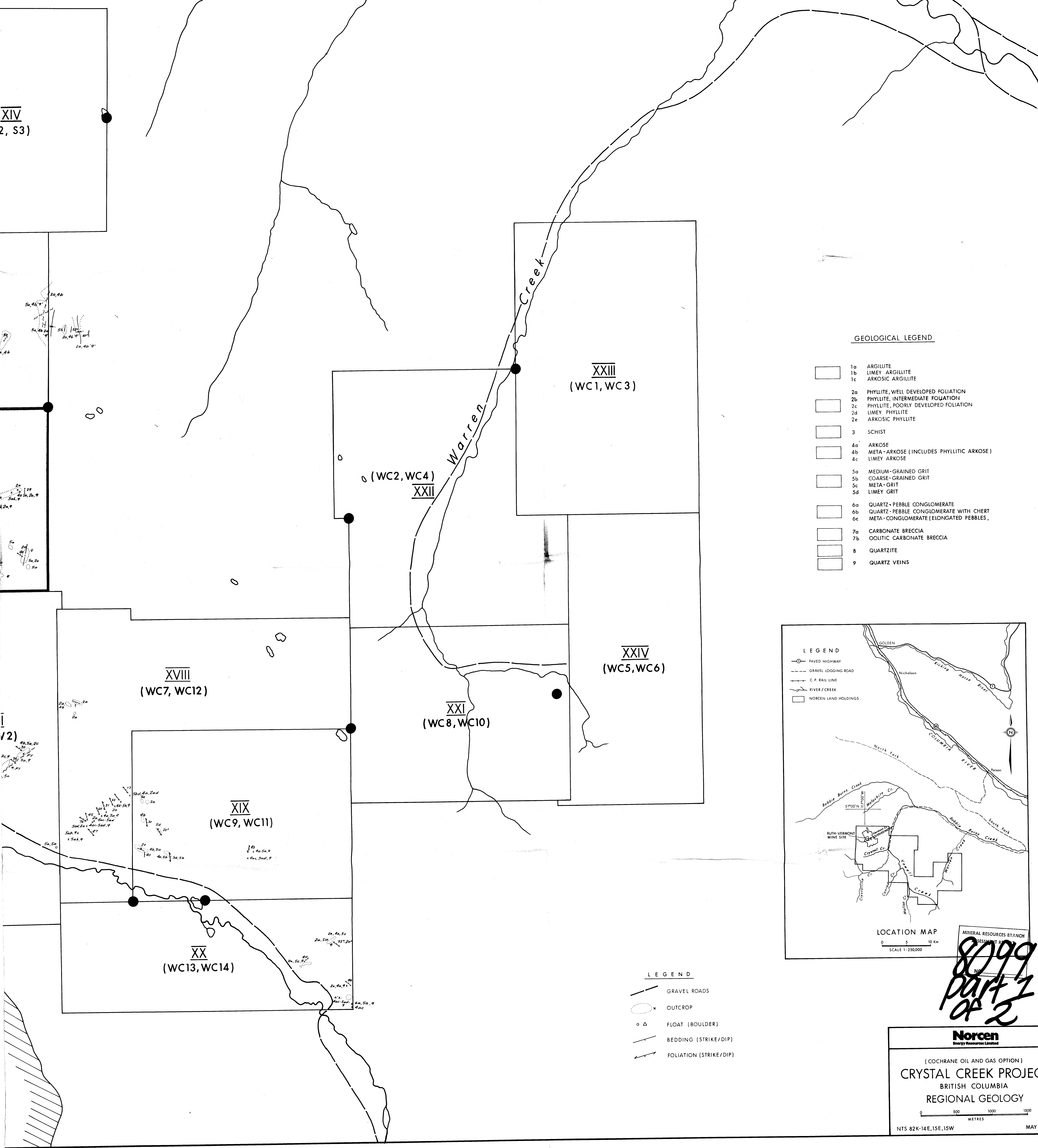
- GRAVEL ROADS
- OUTCROP
- FLOAT (BOULDER)
- BEDDING (STRIKE/DIP)
- FOLIATION (STRIKE/DIP)

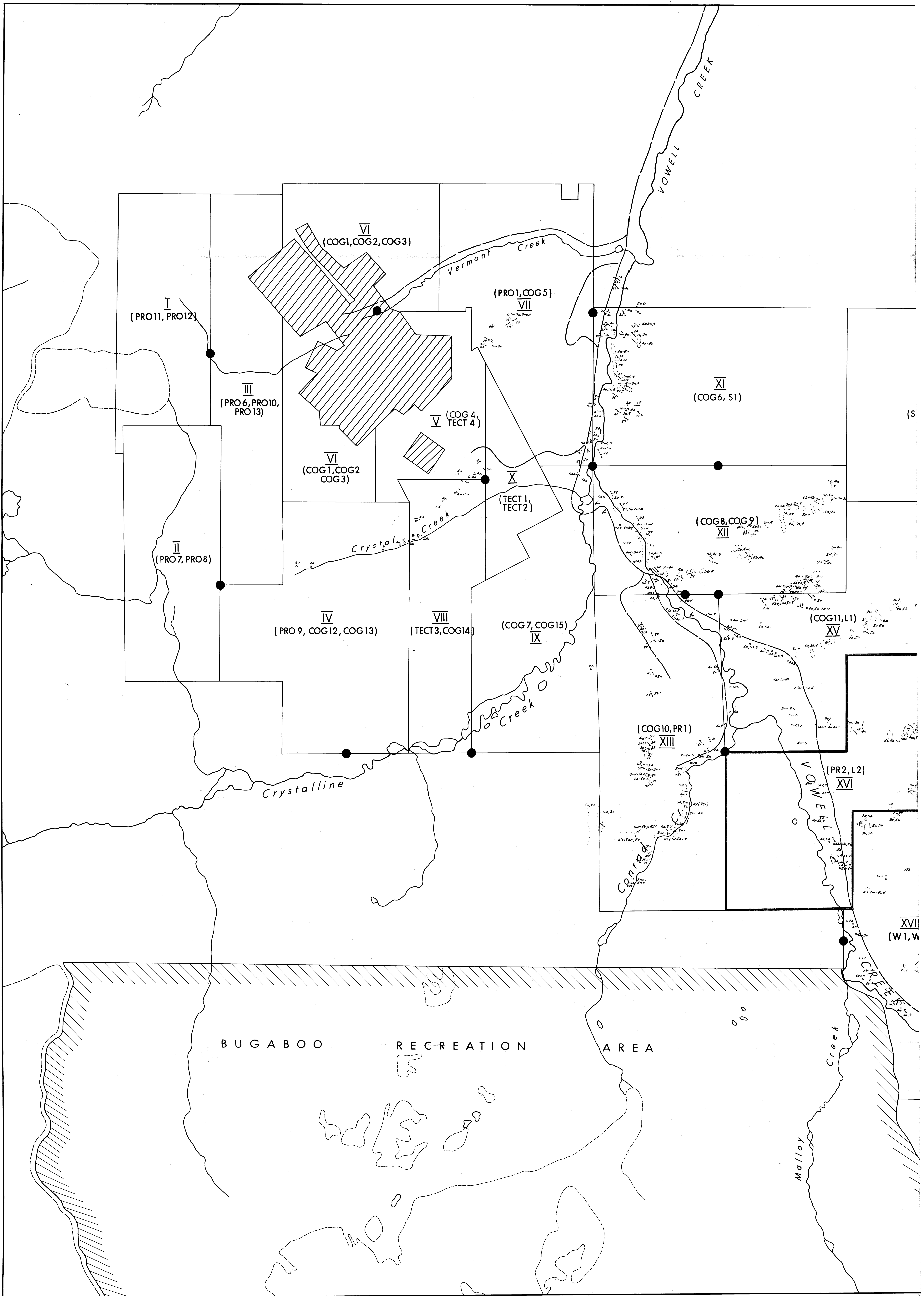
Norcen
Energy Services Limited

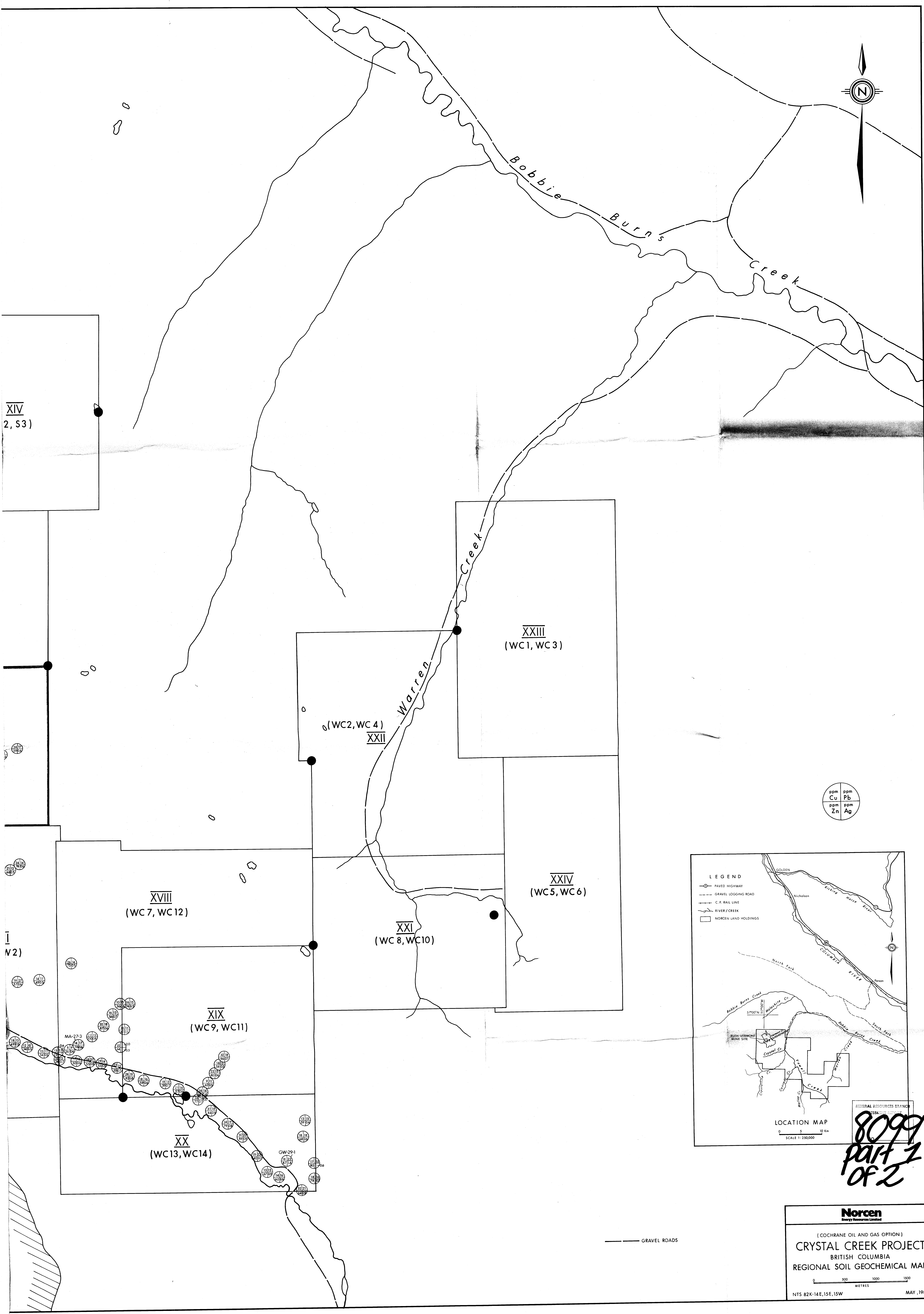
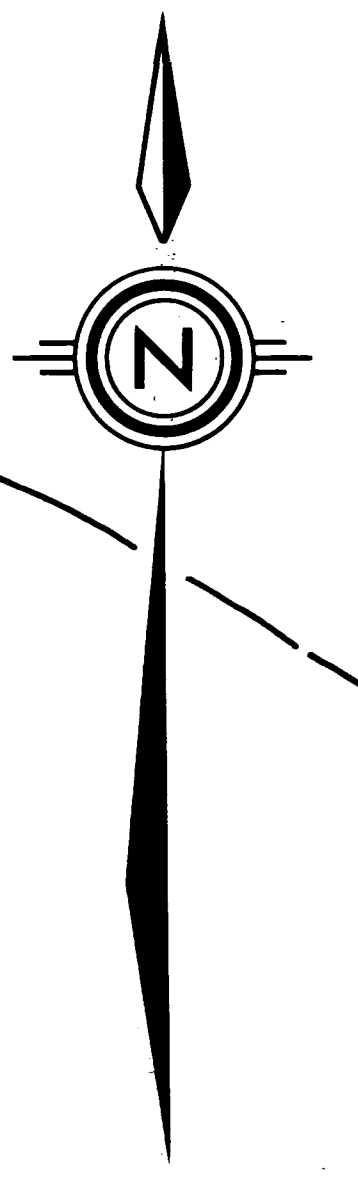
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
REGIONAL GEOLOGY

0 500 1000 1500
METRES

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







XIV
(2, S3)

XXIII
(WC1, WC3)

(WC2, WC4)
XXII

XXIV
(WC5, WC6)

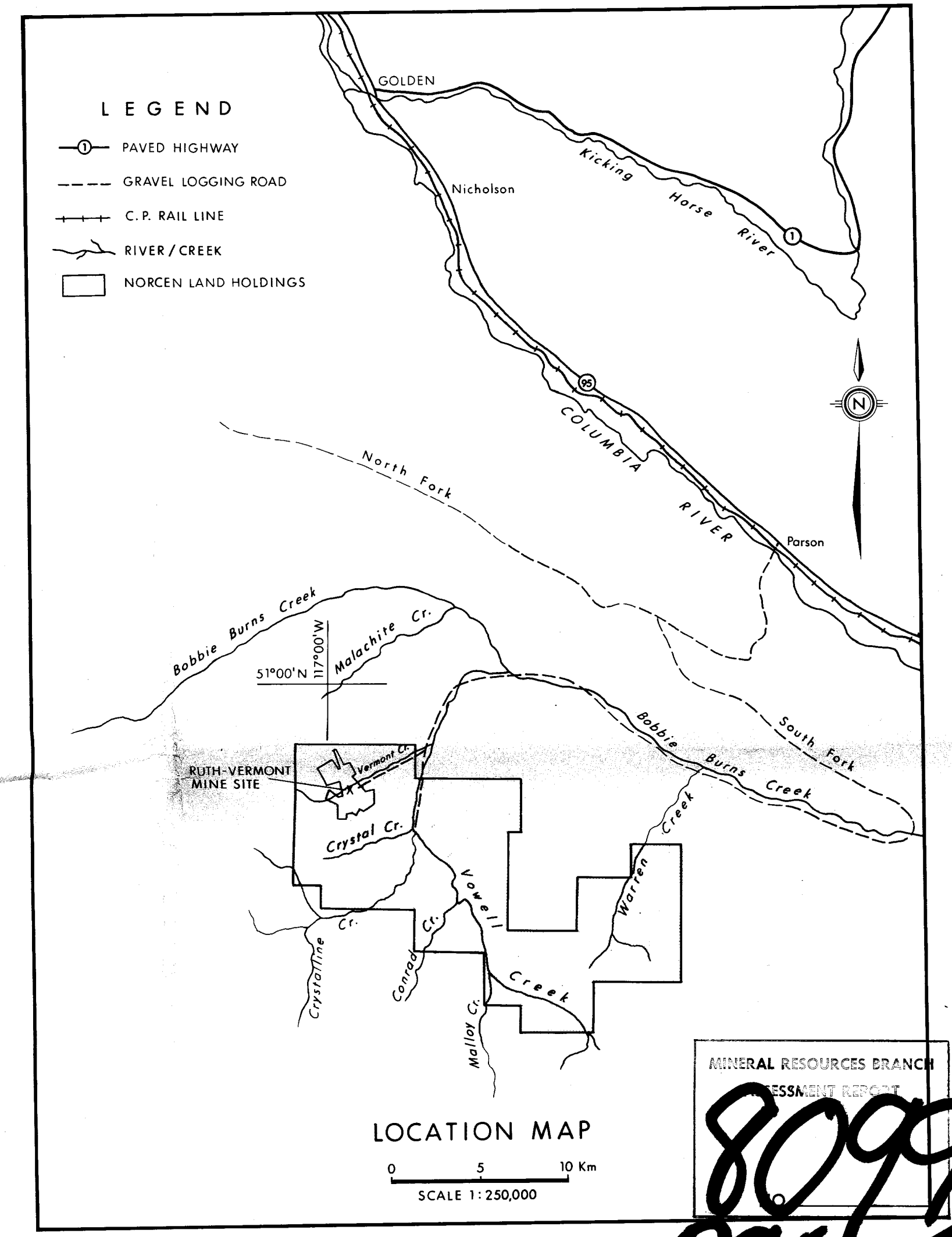
XVIII
(WC7, WC12)

XXI
(WC8, WC10)

XIX
(WC9, WC11)

XX
(WC13, WC14)

| | |
|-----|-----|
| ppm | ppm |
| Cu | Pb |
| ppm | ppm |
| Zn | Ag |



8099
part 1
of 2

Norcen
Energy Services Limited

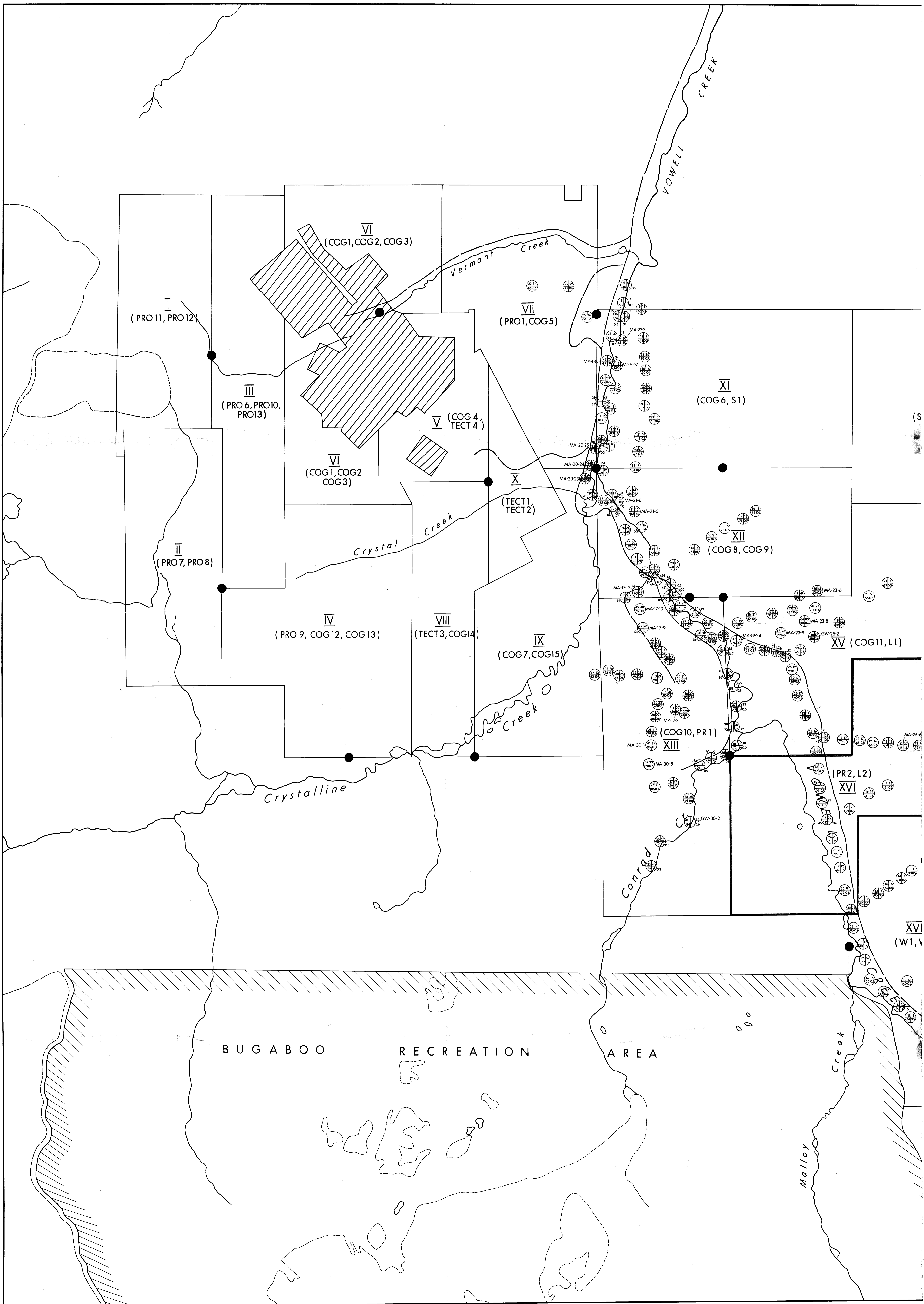
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
REGIONAL SOIL GEOCHEMICAL MAP

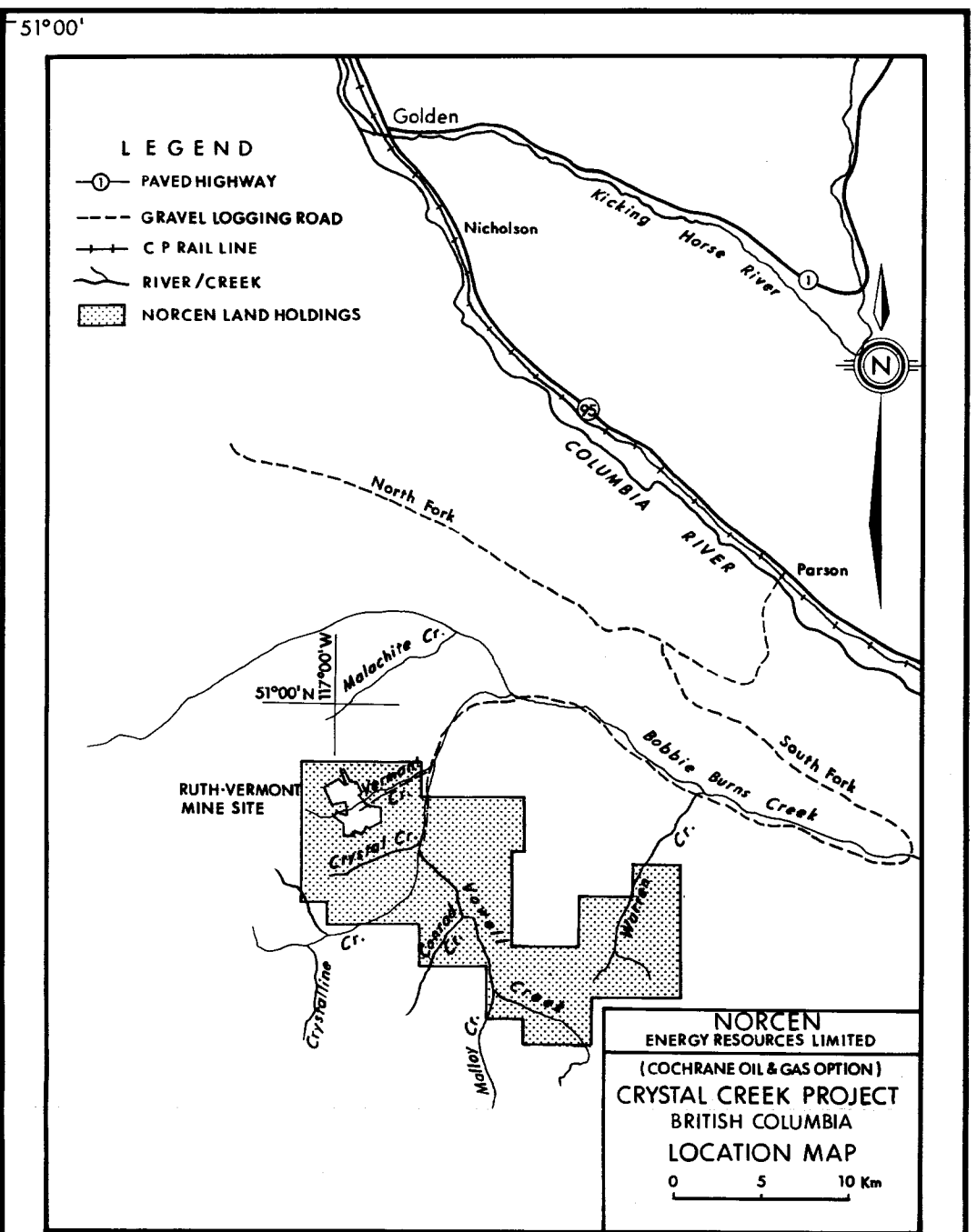
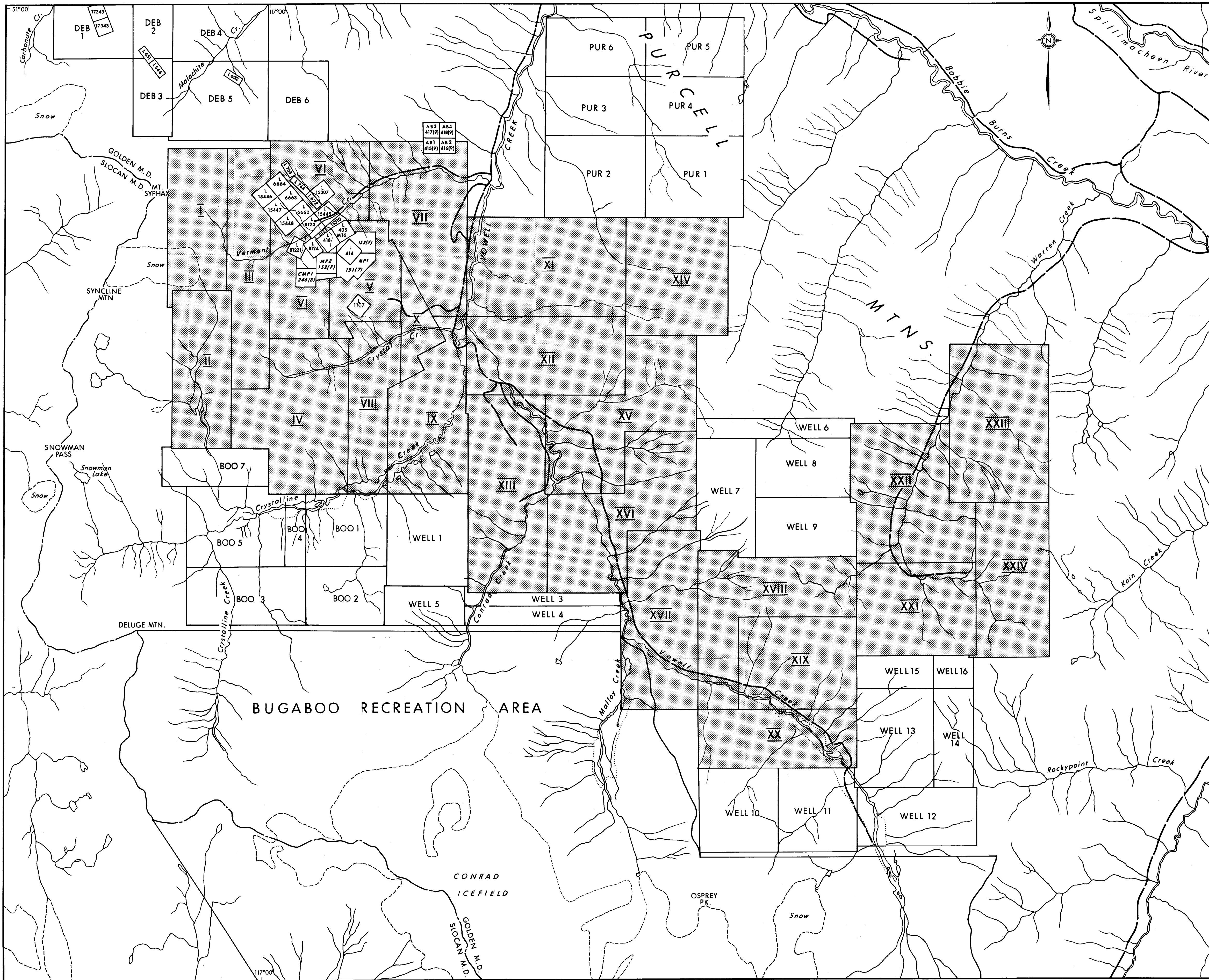


NTS 82K-14E, 15E, 15W

MAY, 1980

GRAVEL ROADS





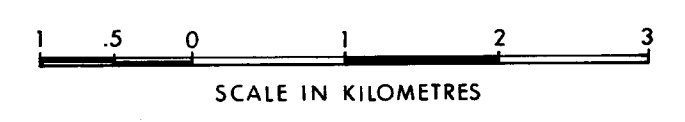
| GROUP | Number of units |
|-------|-----------------|
| I | 27 |
| II | 24 |
| III | 37 |
| IV | 38 |
| V | 38 |
| VI | 38 |
| VII | 40 |
| VIII | 28 |
| IX | 36 |
| X | 27 |
| XI | 40 |
| XII | 32 |
| XIII | 40 |
| XIV | 36 |
| XV | 40 |
| XVI | 40 |
| XVII | 36 |
| XVIII | 34 |
| XIX | 30 |
| XX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

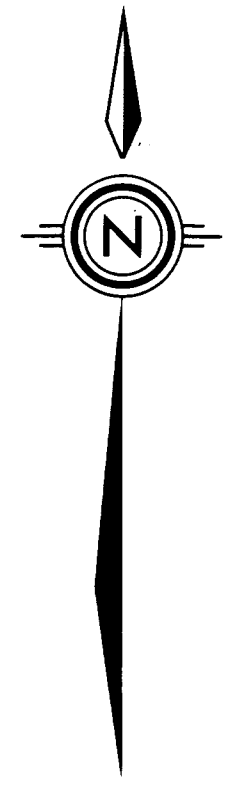
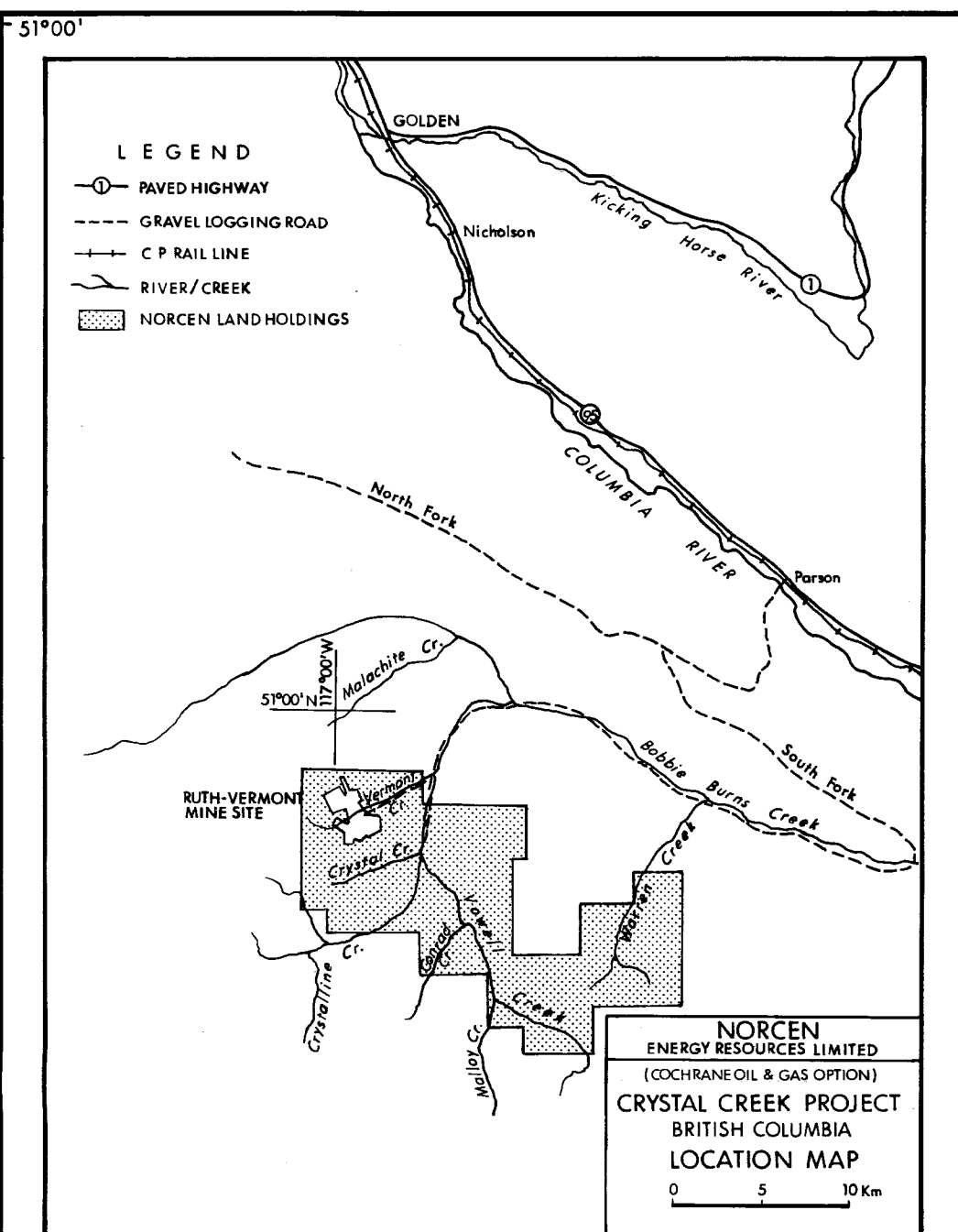
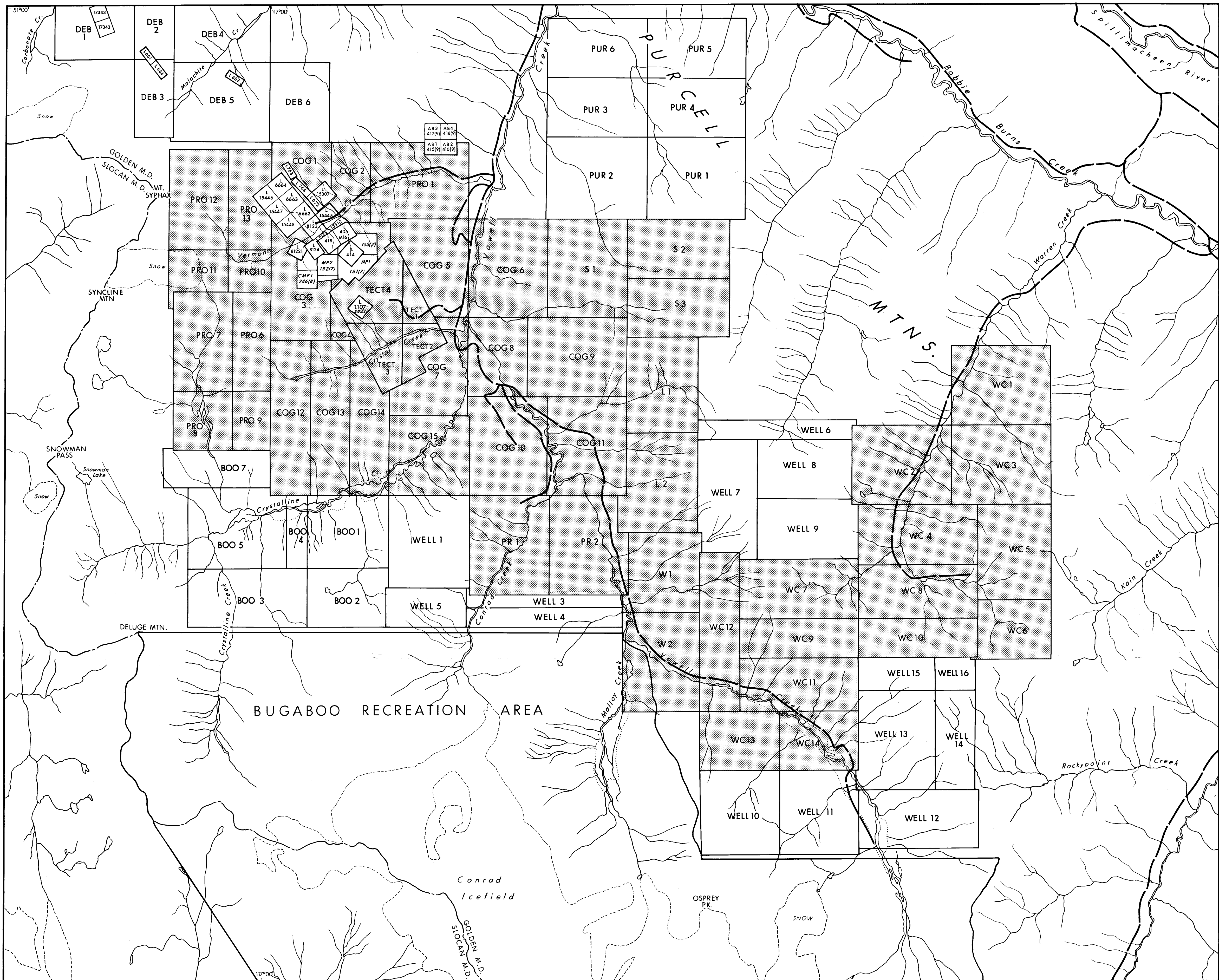
MINERAL RESOURCES BRANCH
 8099
 PART 1
 OF 2

NORCEN LAND HOLDINGS
 TRUCK ROAD

Norcen
 Energy Resources Limited

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





NORCEN LAND HOLDINGS
 TRUCK ROAD

Norcen
Energy Resources Limited

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

