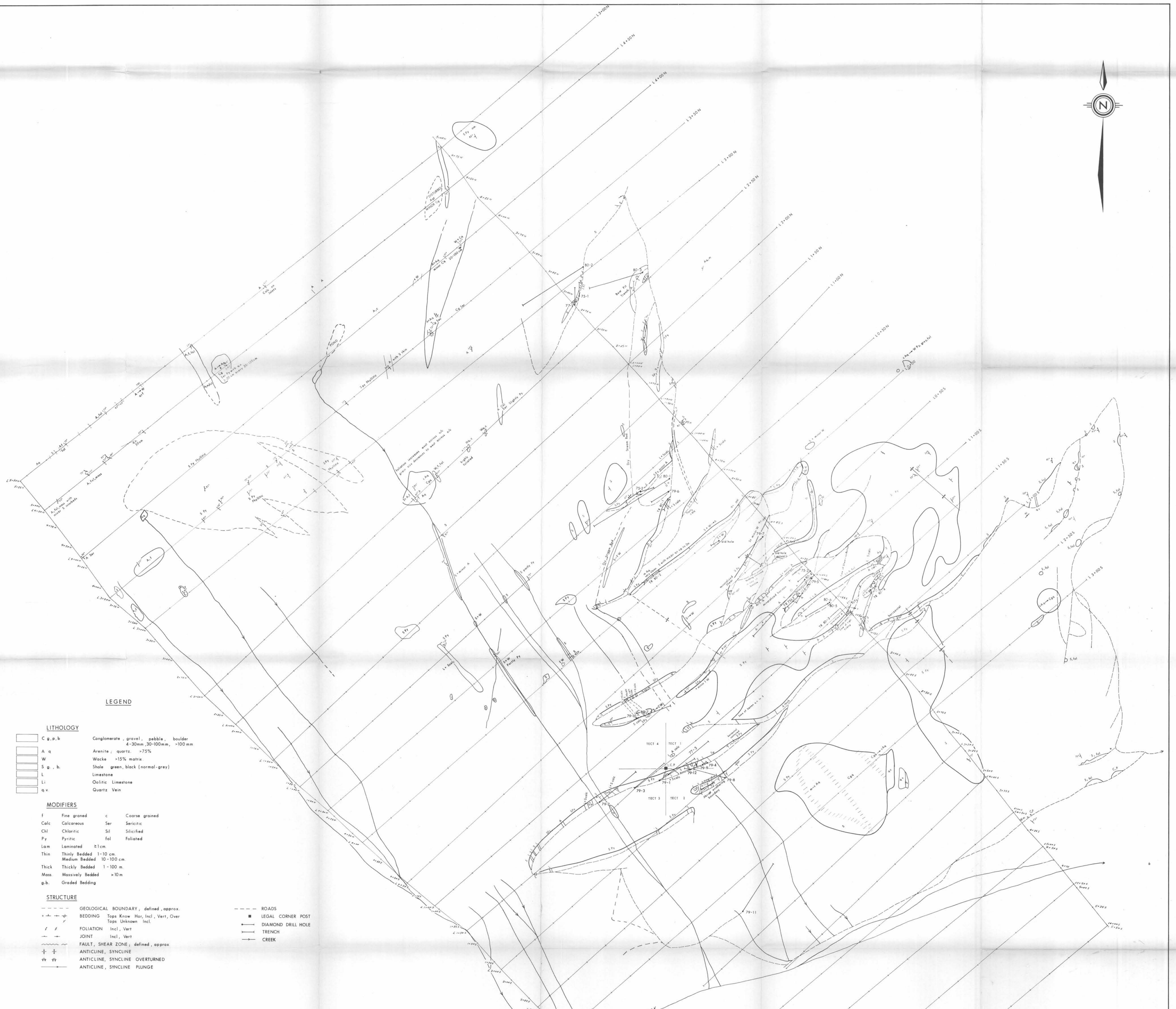


9131

10/2
10/2

91-#236-#



LEGEND

LITHOLOGY

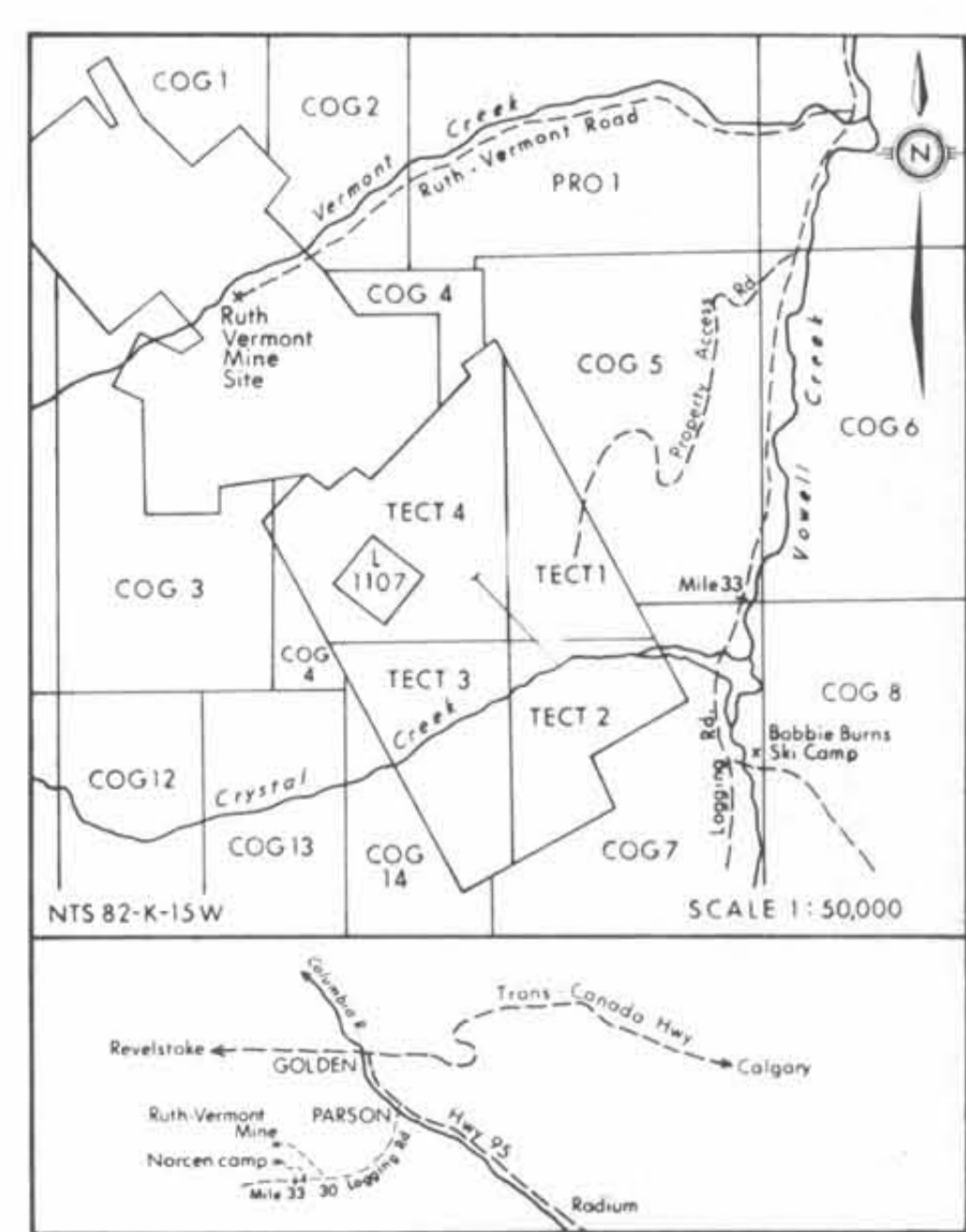
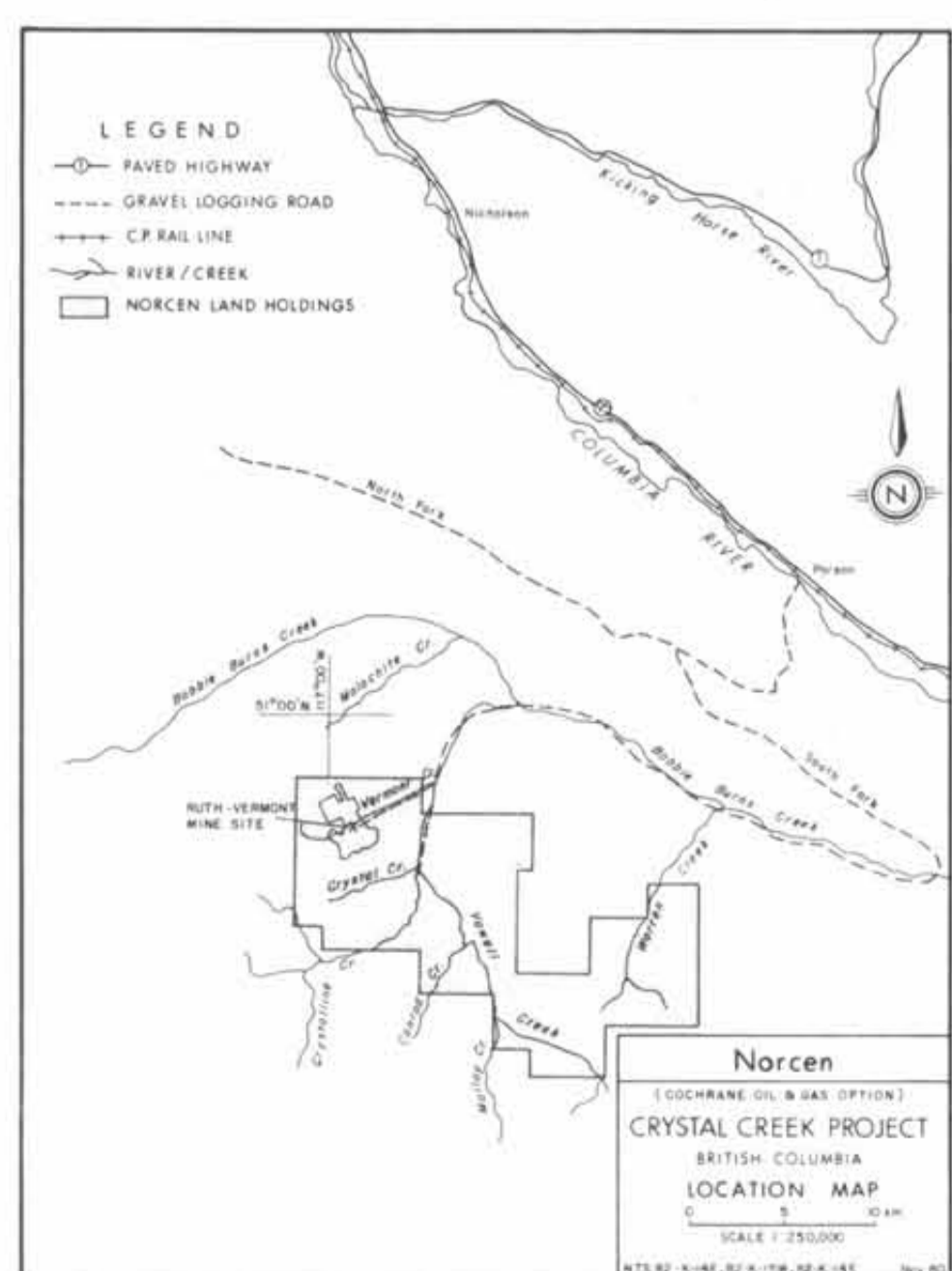
[Symbol]	C g, p, b	Conglomerate, gravel, pebble, boulder 4-30mm, 30-100mm, >100mm
[Symbol]	A q	Arenite; quartz >75%
[Symbol]	W	Wacke >15% matrix
[Symbol]	S g, b	Shale green, black (normal-grey)
[Symbol]	L	Limestone
[Symbol]	Li	Oolitic Limestone
[Symbol]	q v	Quartz Vein

MODIFIERS

f	Fine grained	c	Coarse grained
Calc	Calcareous	Ser	Sericitic
Chl	Chloritic	Sil	Silicified
Py	Pyritic	fol	Foliated
Lam	Laminated	±1cm	
Thin	Thinly Bedded	1-10 cm	
	Medium Bedded	10-100 cm	
Thick	Thickly Bedded	1-100 m	
Mass	Massively Bedded	>10m	
g.b.	Graded Bedding		

STRUCTURE

[Symbol]	GEOLOGICAL BOUNDARY; defined, approx.	[Symbol]	ROADS
[Symbol]	BEDDING Tops Known, Hor, Incl, Vert, Over	[Symbol]	LEGAL CORNER POST
[Symbol]	Tops Unknown, Incl.	[Symbol]	DIAMOND DRILL HOLE
[Symbol]	FOLIATION Incl, Vert	[Symbol]	TRENCH
[Symbol]	JOINT Incl, Vert	[Symbol]	CREEK
[Symbol]	FAULT, SHEAR ZONE; defined, approx.		
[Symbol]	ANTICLINE, SYNCLINE		
[Symbol]	ANTICLINE, SYNCLINE OVERTURNED		
[Symbol]	ANTICLINE, SYNCLINE PLUNGE		

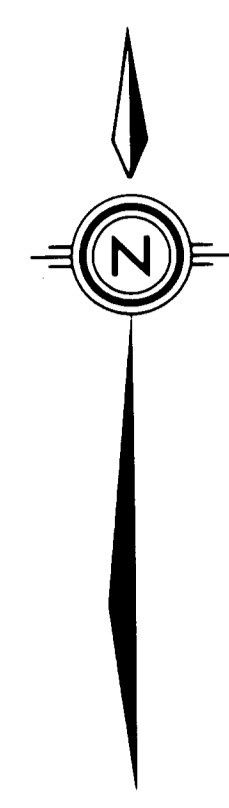
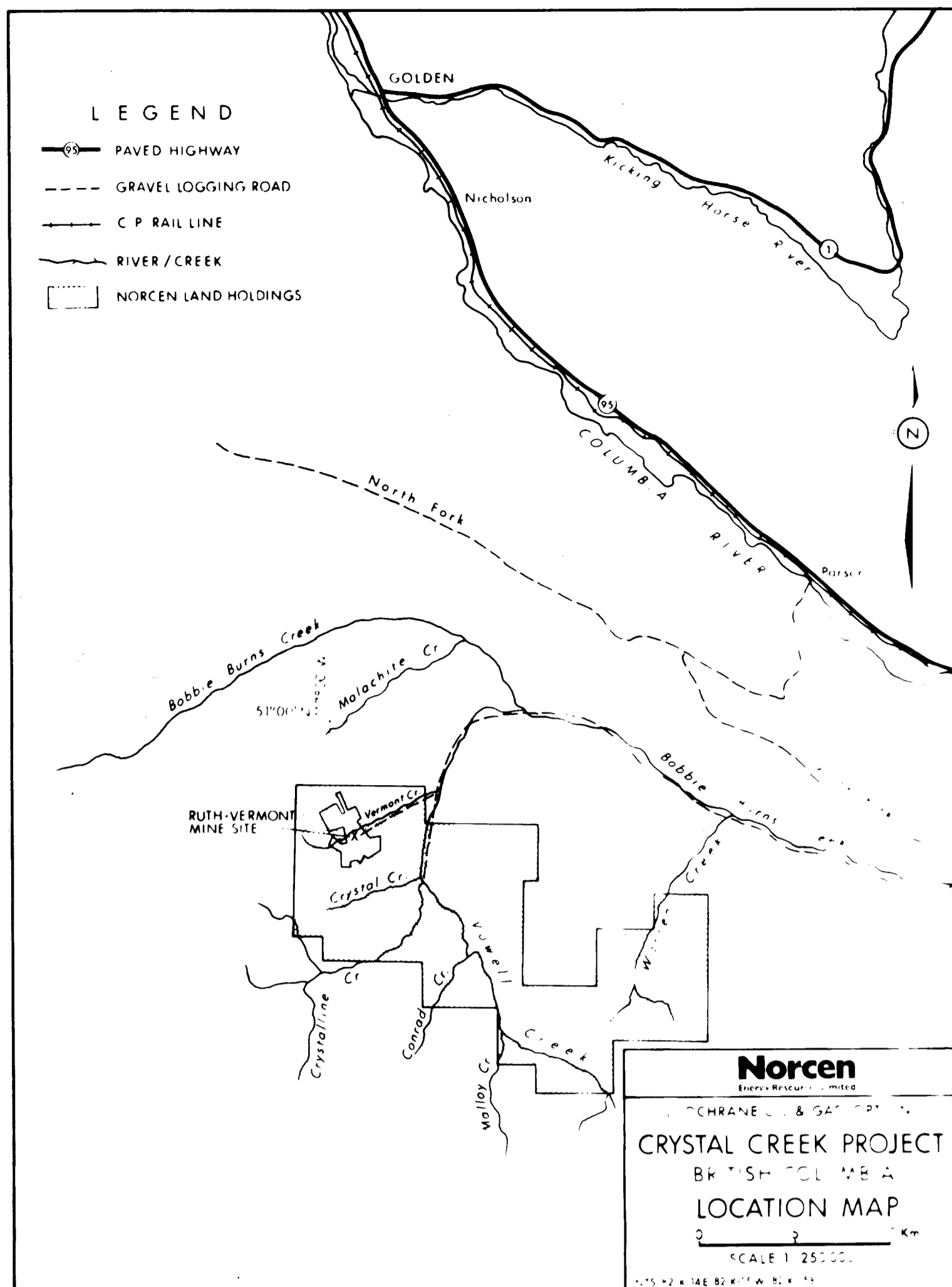


part 2
of 2

9131
NOC

Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS LTD. OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
DETAILED GEOLOGY

0 25 50 75 100
Metres
Scale 1:1,000
NOVEMBER 1993



GROUP	# of UNITS
I	27
II	24
III	28
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

Part 2
of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9131

Norcen
Energy Resources Limited

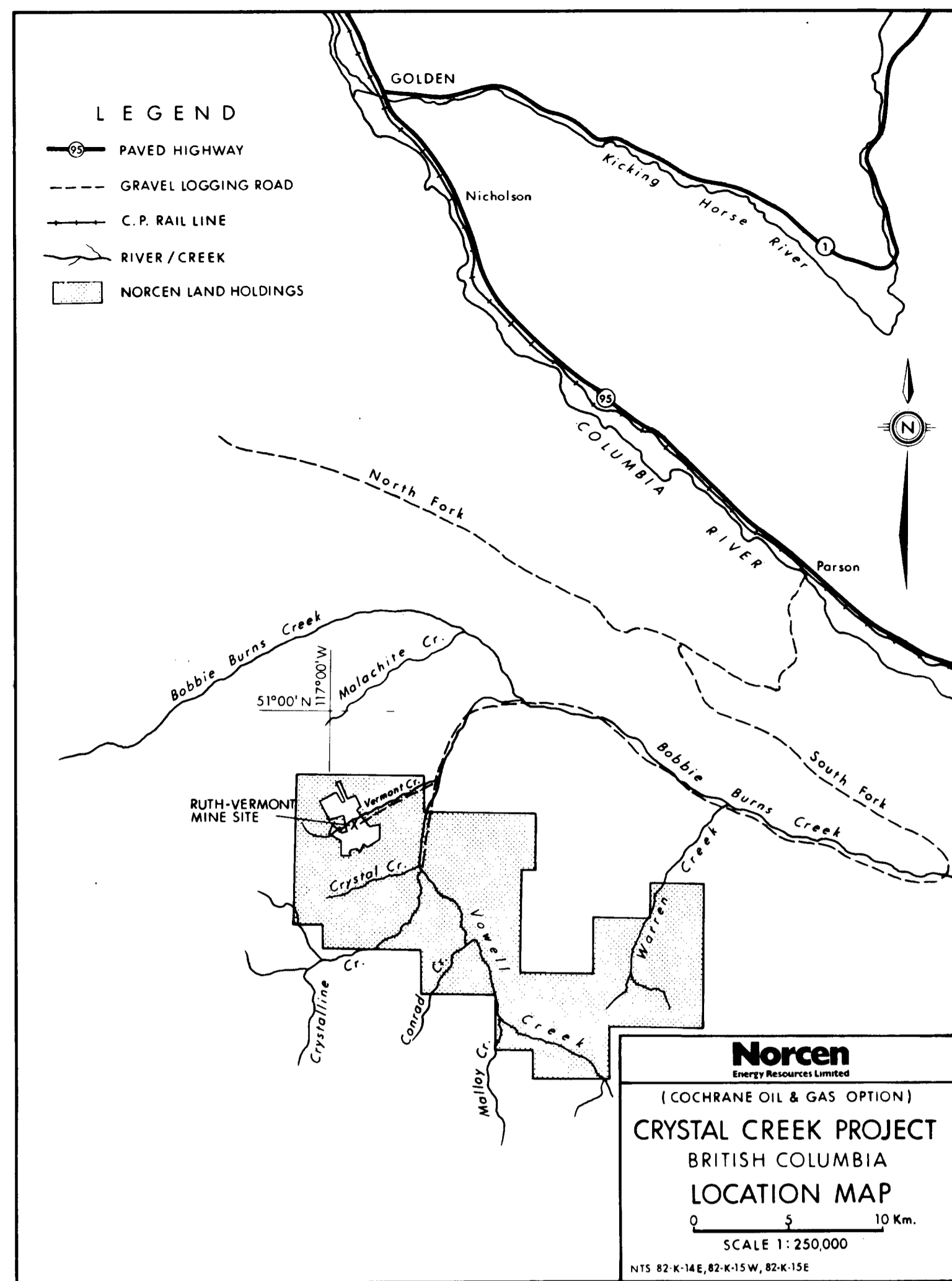
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA

Pb content in soils (ppm)

0 100 200 300 400 500 600 700 800 900 1000

Scale 1:20,000

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



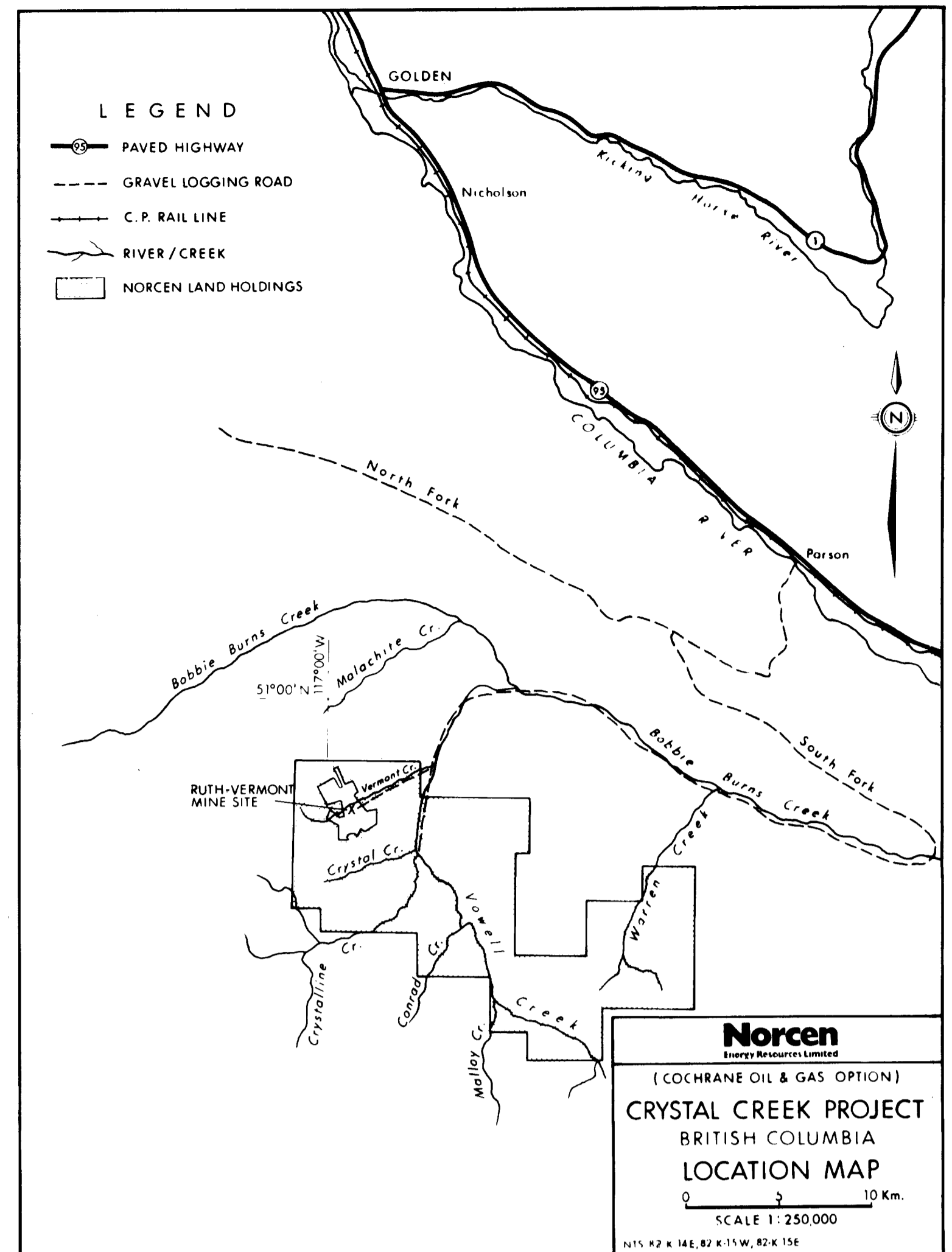
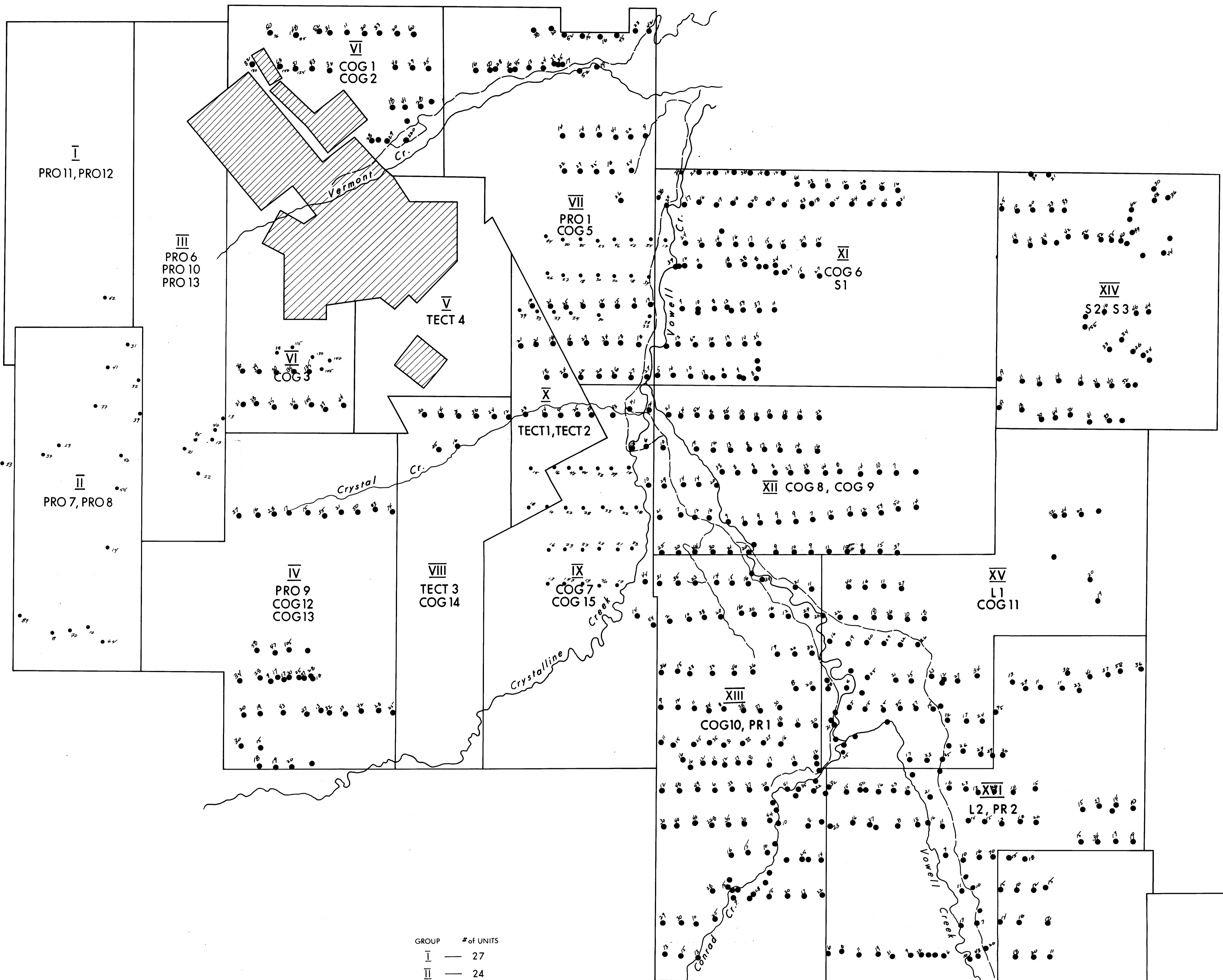
GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
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XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32

part 2
of 2

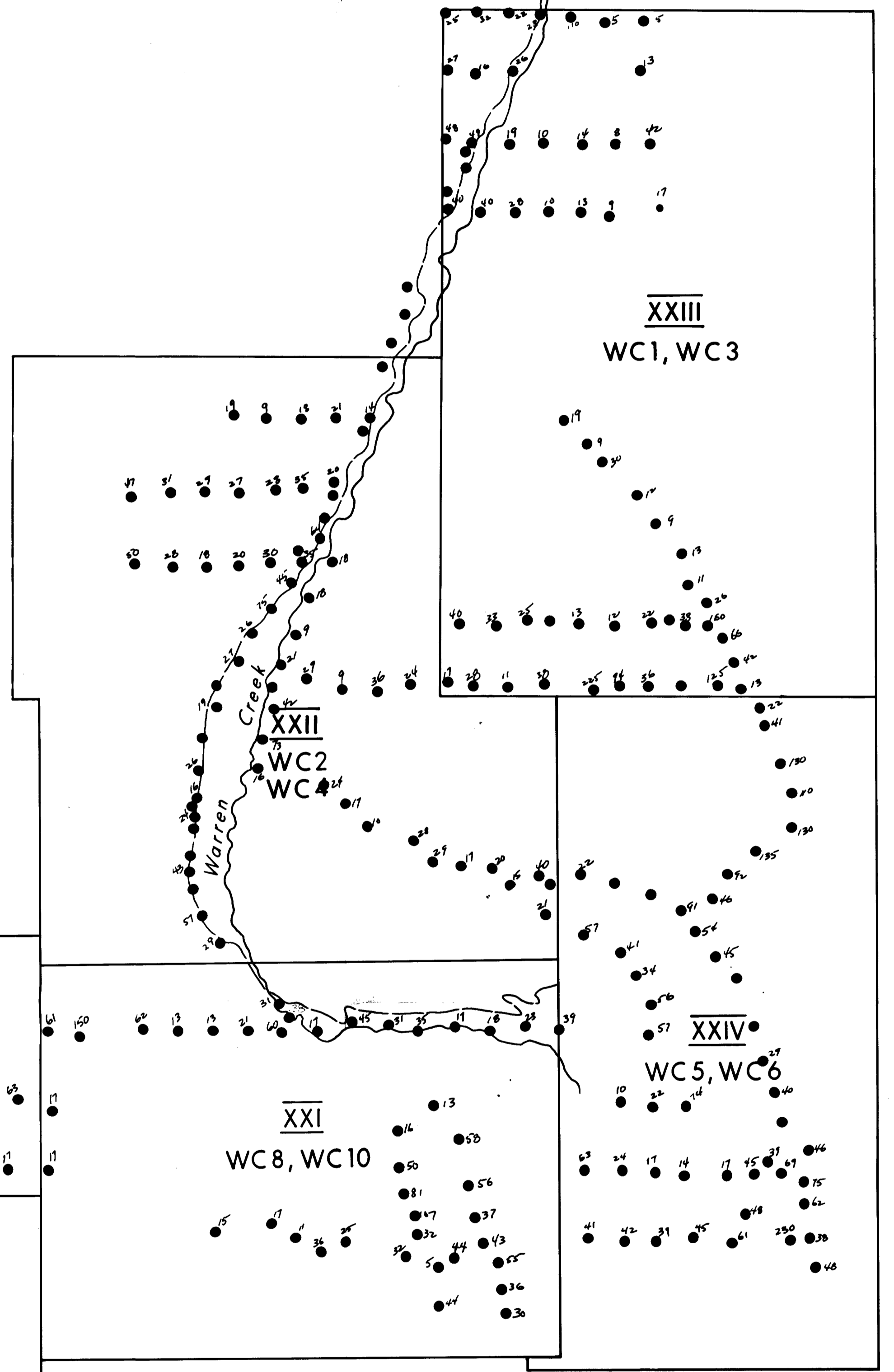
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9131

Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Zn content in soils (ppm)

Scale 1:20,000
NTS 82-K-14E, 15W, 15E JUNE, 1980



GROUP	# of UNITS
I	27
II	24
III	28
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



part 2
of 2

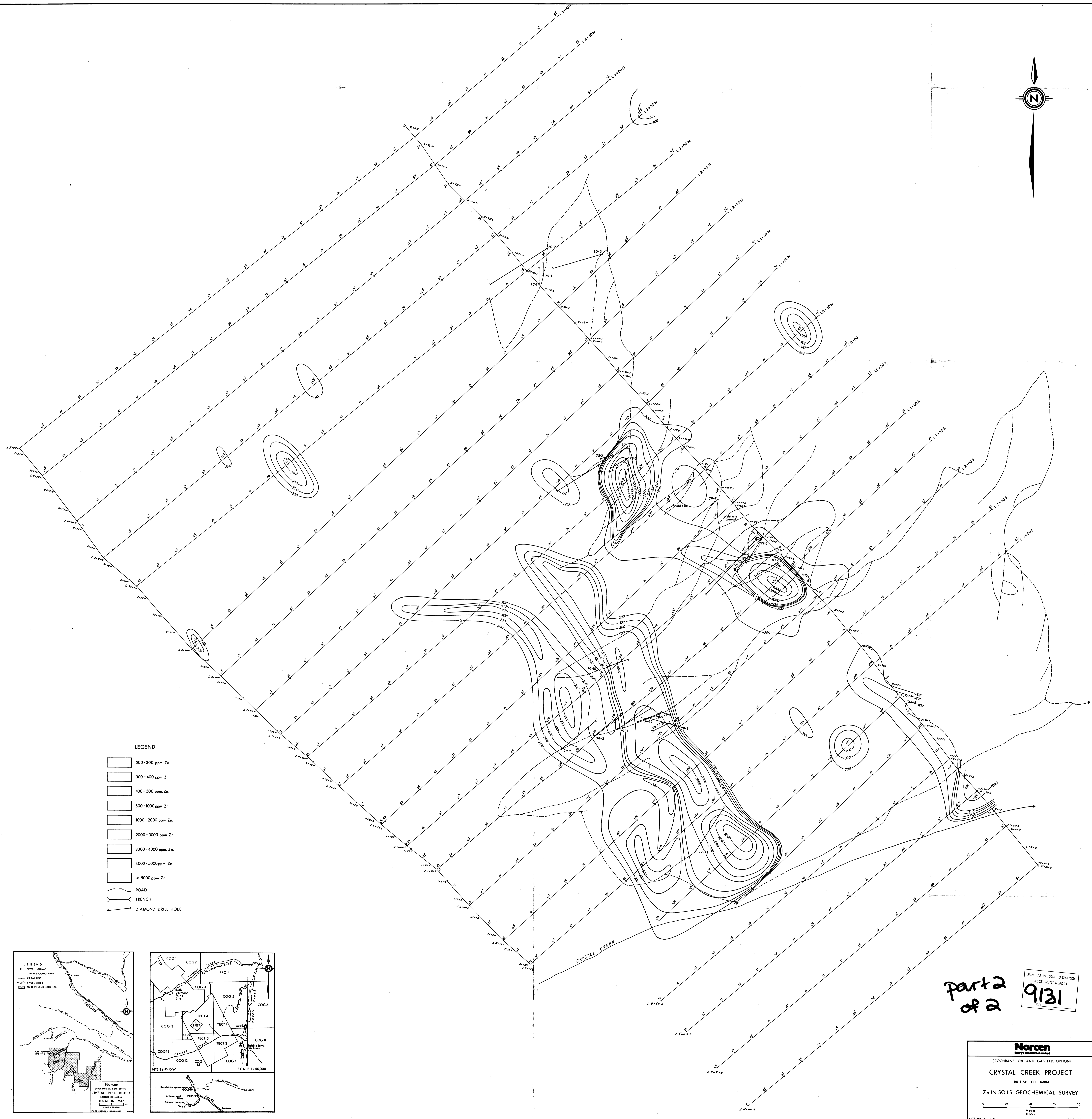
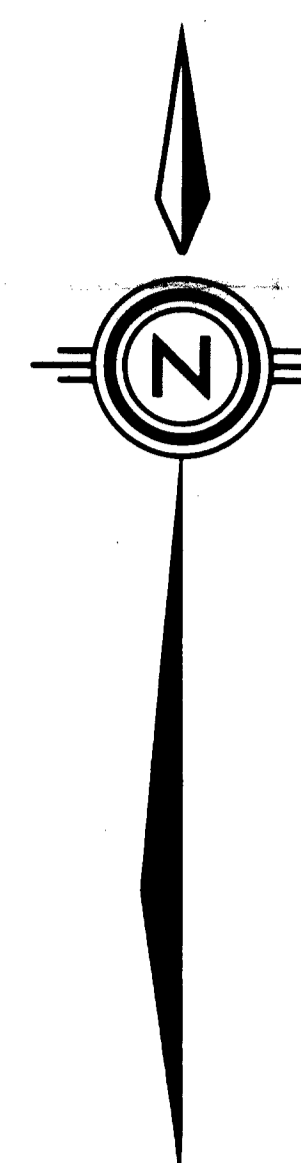
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9131

Norcen
Energy Resources Limited

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

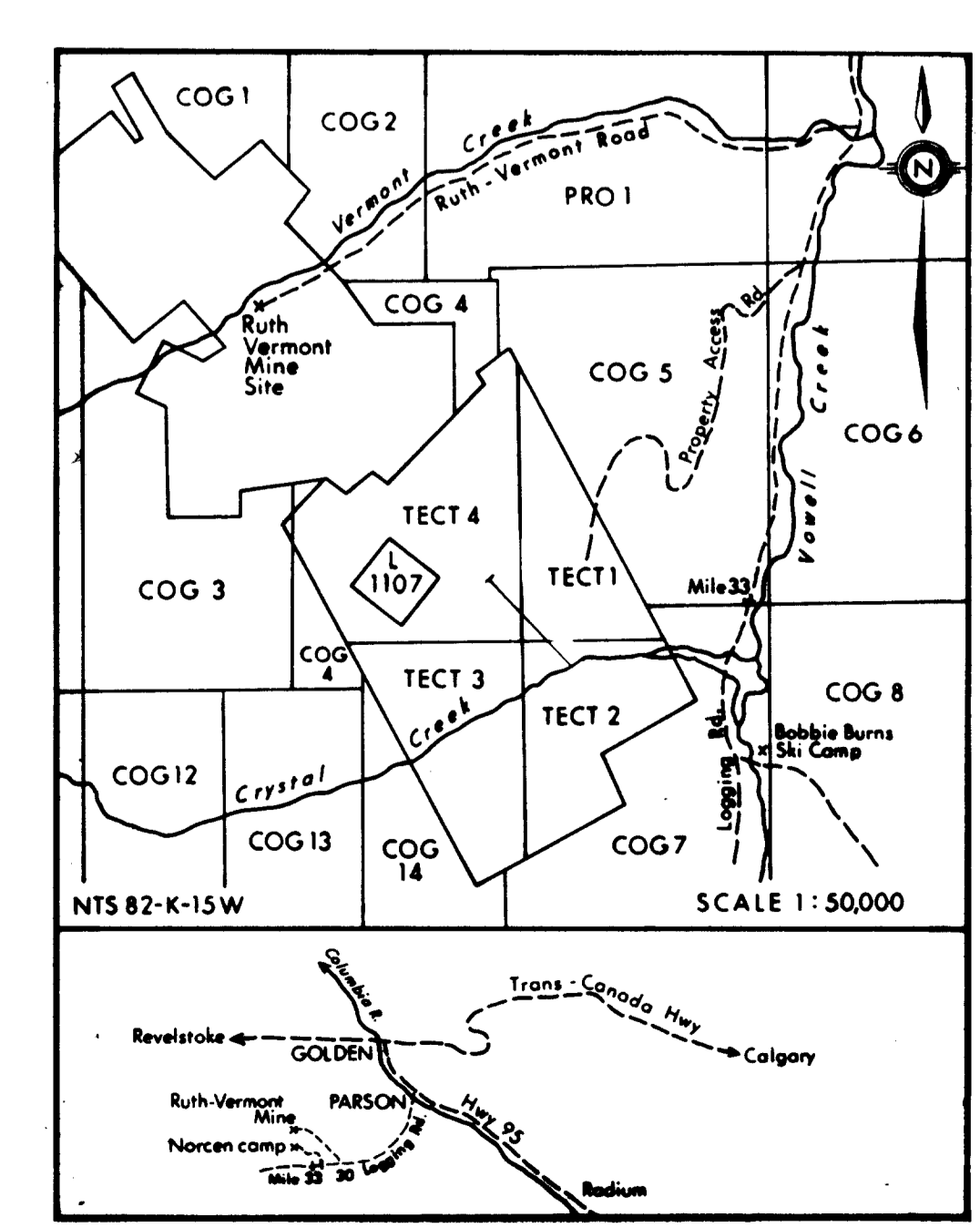
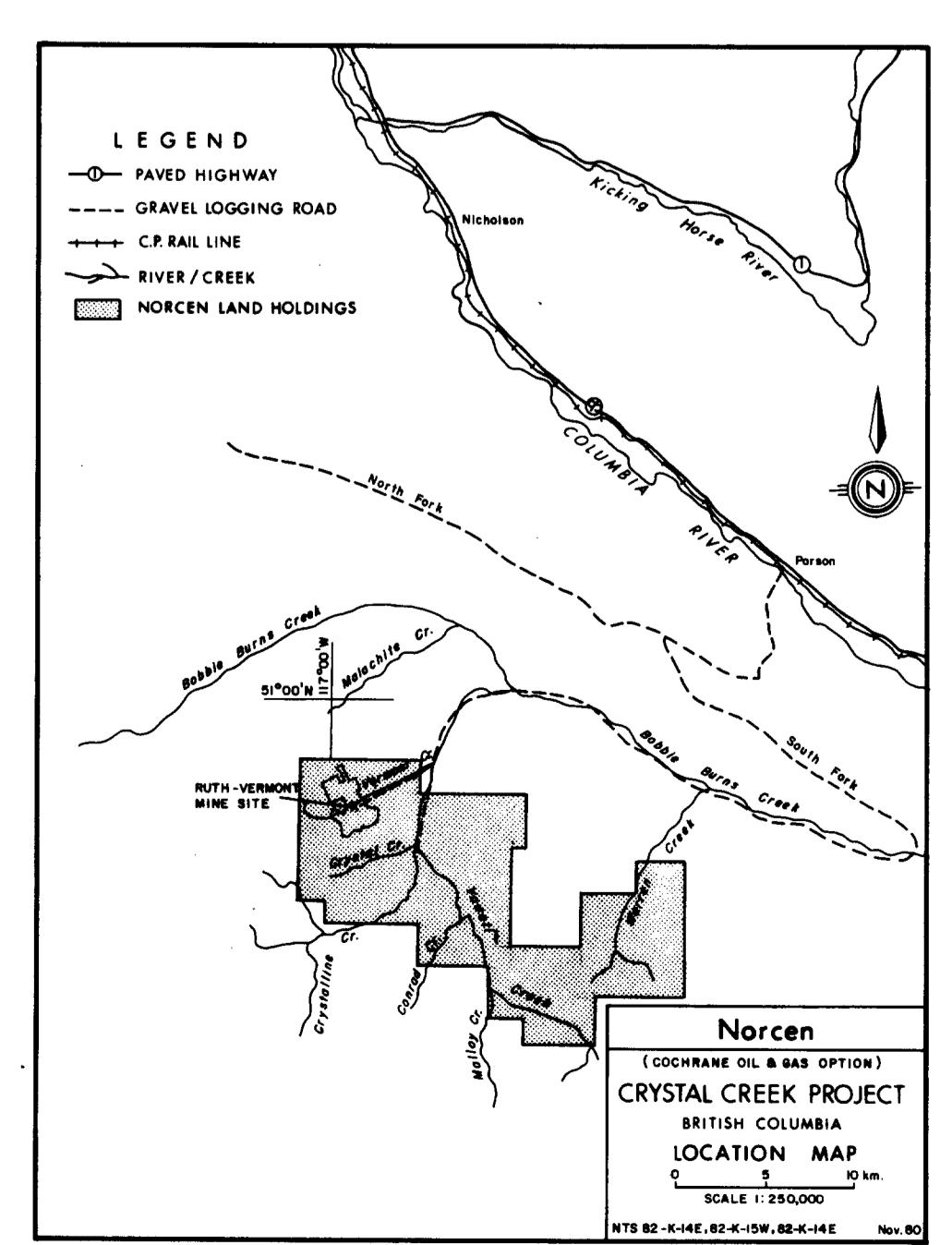
Cu content in soils (ppm)

Scale 1:20,000
NTS 82K-14E, 15W, 15E
JUNE, 1980



LEGEND

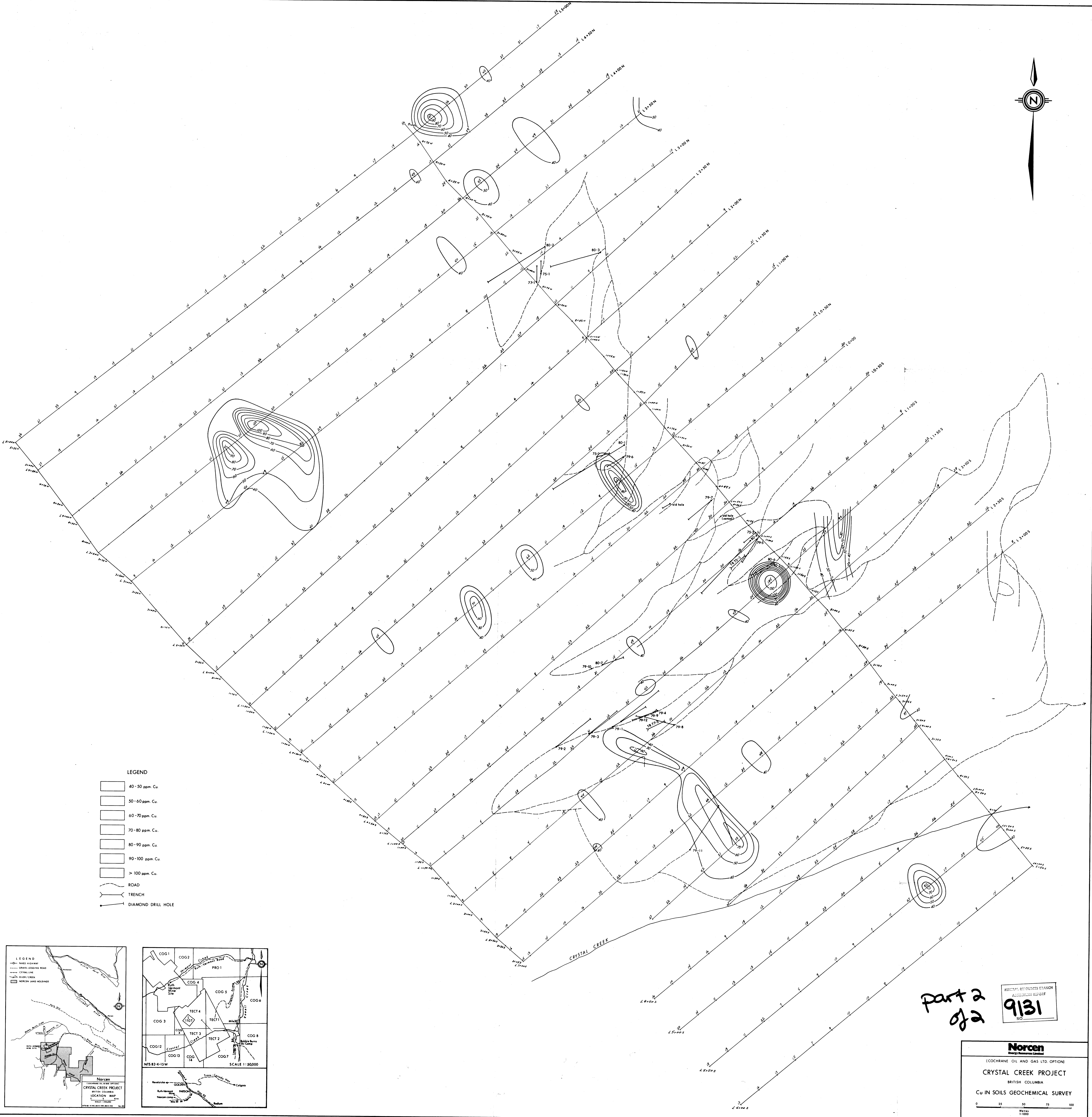
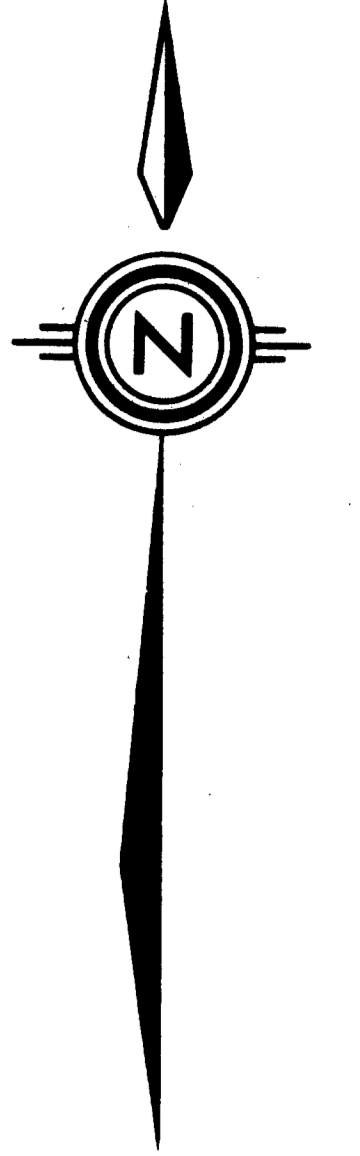
[White box]	200-300 ppm Zn.
[Light grey box]	300-400 ppm Zn.
[Medium-light grey box]	400-500 ppm Zn.
[Medium grey box]	500-1000 ppm Zn.
[Dark grey box]	1000-2000 ppm Zn.
[Very dark grey box]	2000-3000 ppm Zn.
[Black box]	3000-4000 ppm Zn.
[Thick black box]	4000-5000 ppm Zn.
[Thick black box]	> 5000 ppm Zn.
[Dashed line]	ROAD
[Double line]	TRENCH
[Arrow]	DIAMOND DRILL HOLE



part 2
of 2

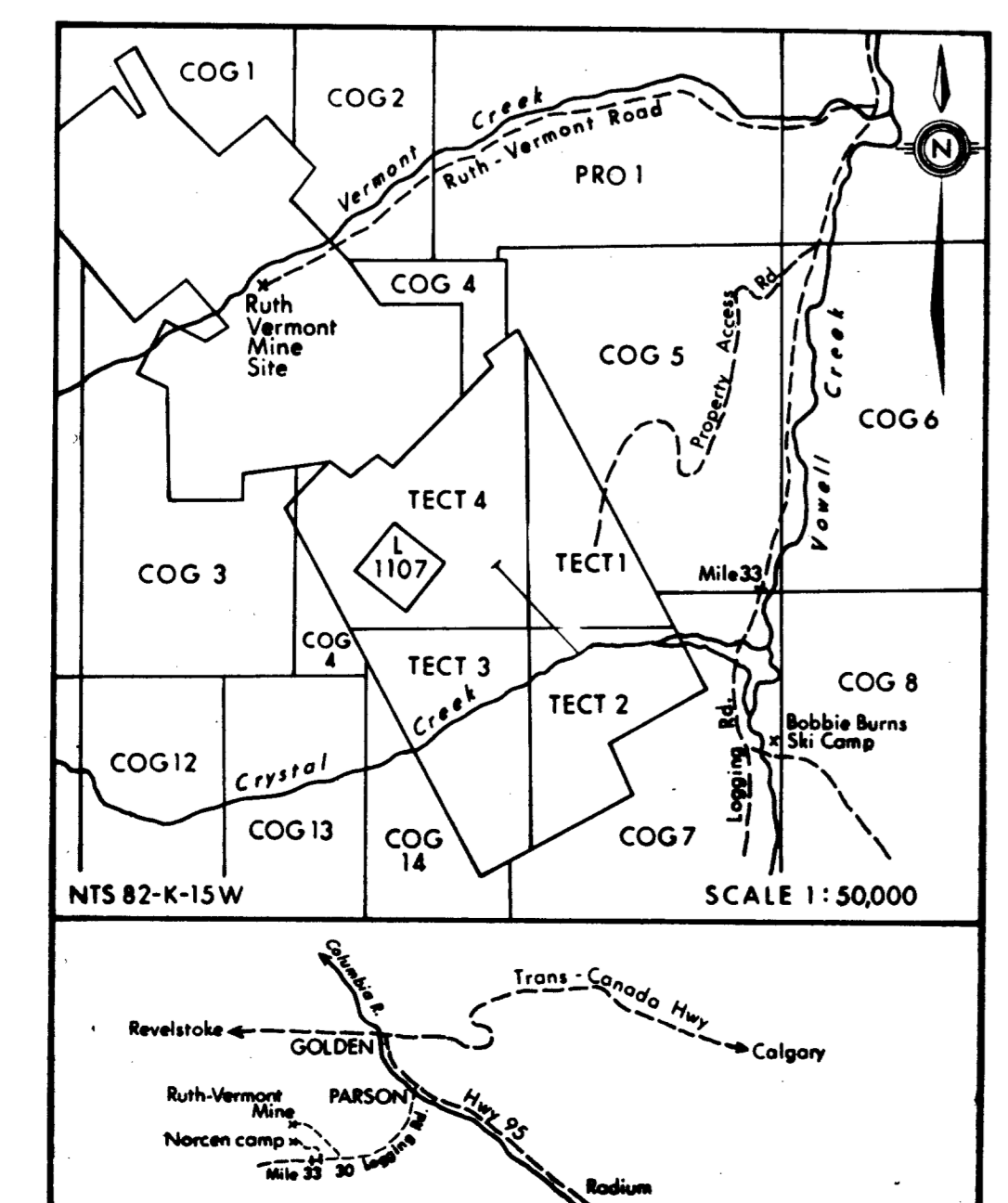
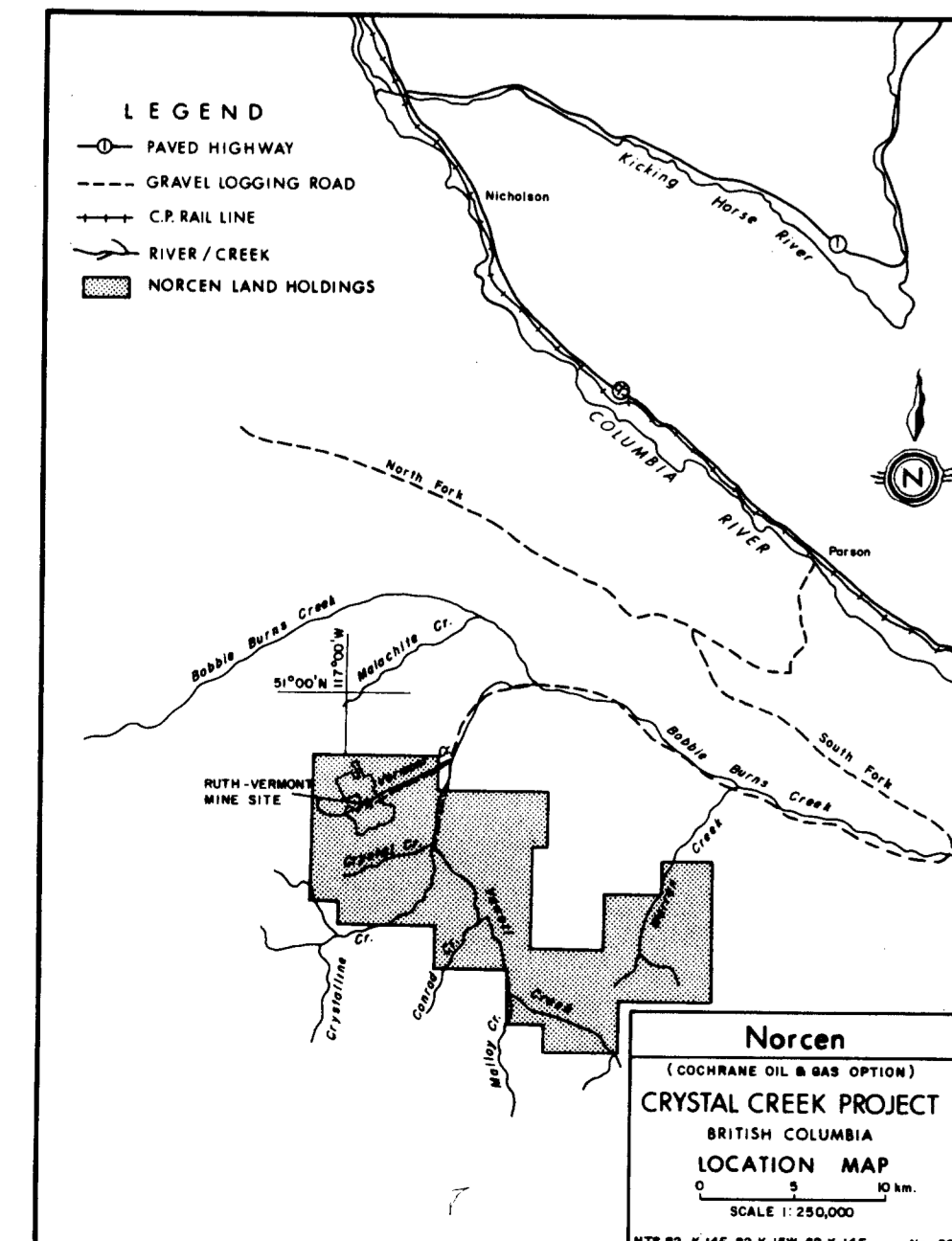
MICROBAS RESOURCES BRASOR
ACCESSORY ROAD
9131
T10

Norcen
Energy Services Ltd.
(COCHRANE OIL AND GAS LTD. OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Zn IN SOILS GEOCHEMICAL SURVEY
0 25 50 75 100
Metres
1:1000
NTS 82-K-15W NOVEMBER 1980



LEGEND

[Shaded box]	40-50 ppm Cu
[Shaded box]	50-60 ppm Cu
[Shaded box]	60-70 ppm Cu
[Shaded box]	70-80 ppm Cu
[Shaded box]	80-90 ppm Cu
[Shaded box]	90-100 ppm Cu
[Shaded box]	> 100 ppm Cu
[Line symbol]	ROAD
[Trench symbol]	TRENCH
[Arrow symbol]	DIAMOND DRILL HOLE



part 2
of 2

NORCEN PROJECTS DIVISION
ANNUAL REPORT
9131
NO.

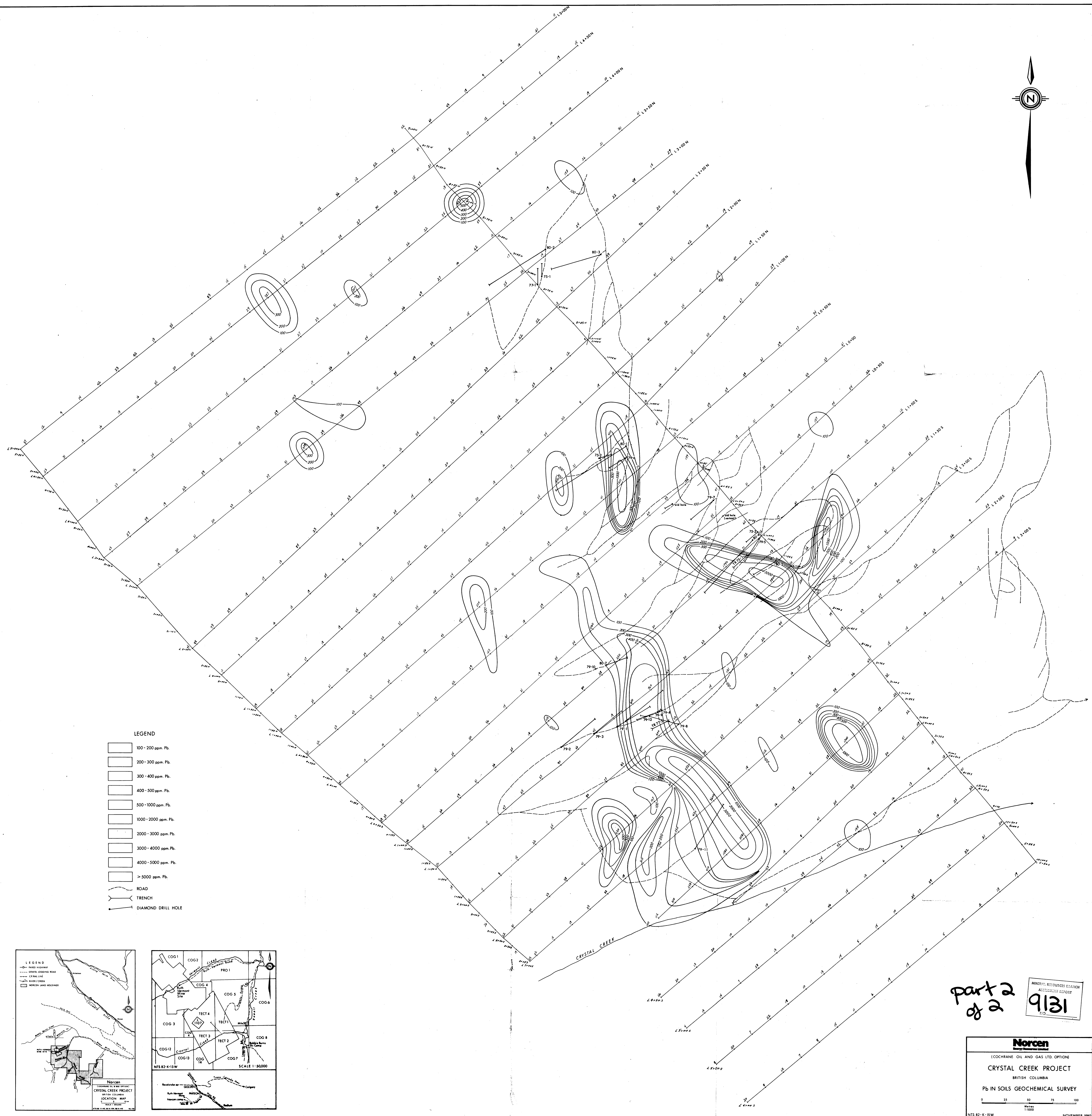
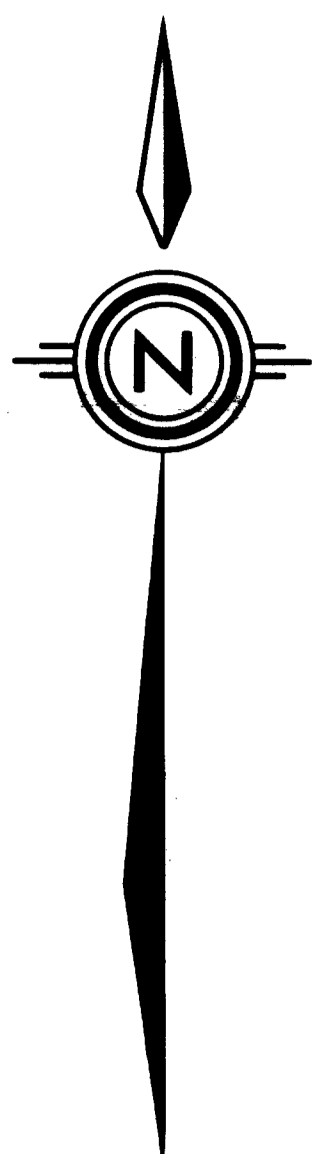
Norcen
Energy Resources Limited

(COCHRANE OIL AND GAS LTD. OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA

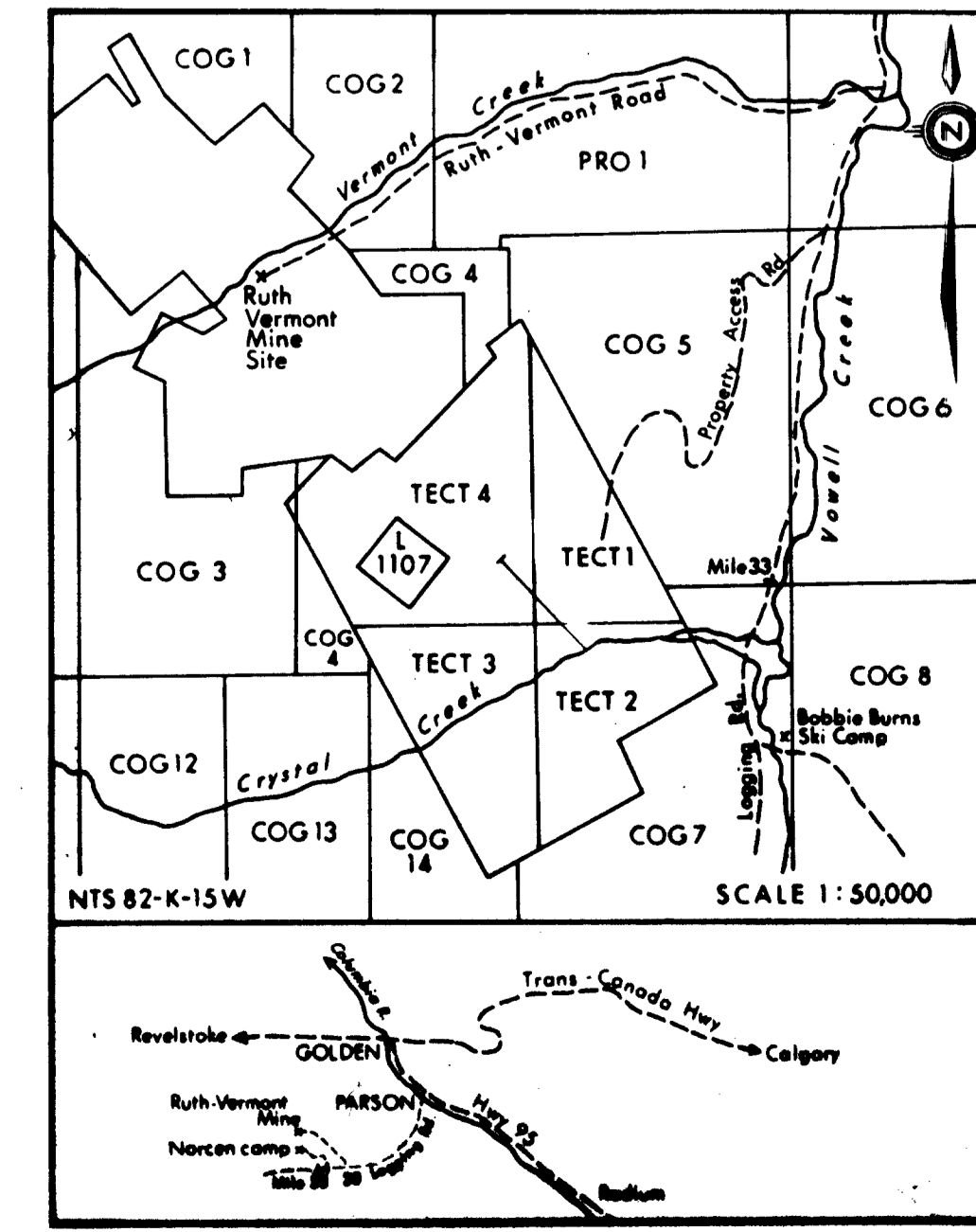
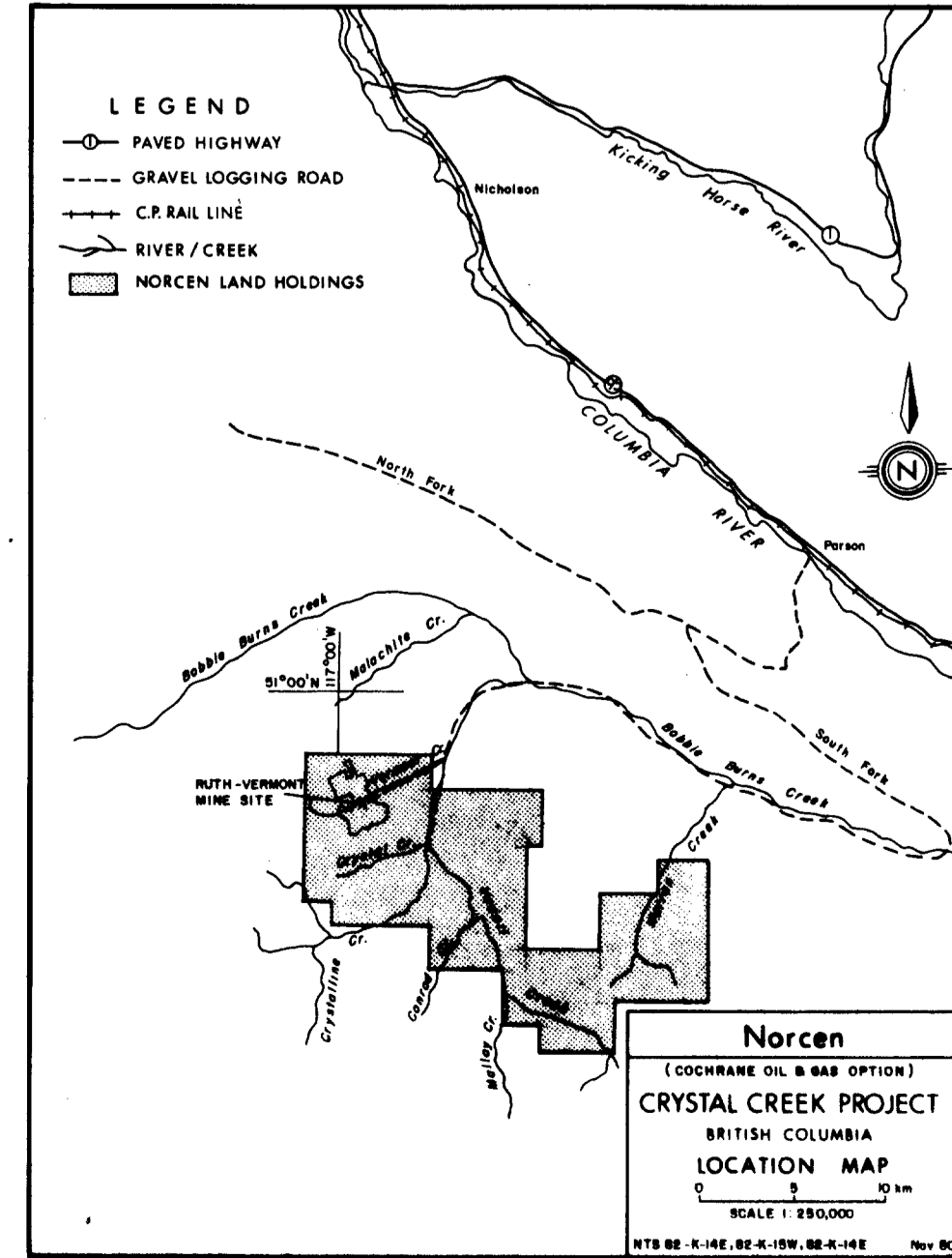
Cu IN SOILS GEOCHEMICAL SURVEY

0 25 50 75 100
Metres
1:10000

NTS 82-K-15W NOVEMBER 1980



- LEGEND**
- 100 - 200 ppm Pb.
 - 200 - 300 ppm Pb.
 - 300 - 400 ppm Pb.
 - 400 - 500 ppm Pb.
 - 500 - 1000 ppm Pb.
 - 1000 - 2000 ppm Pb.
 - 2000 - 3000 ppm Pb.
 - 3000 - 4000 ppm Pb.
 - 4000 - 5000 ppm Pb.
 - > 5000 ppm Pb.
 - ROAD
 - TRENCH
 - DIAMOND DRILL HOLE



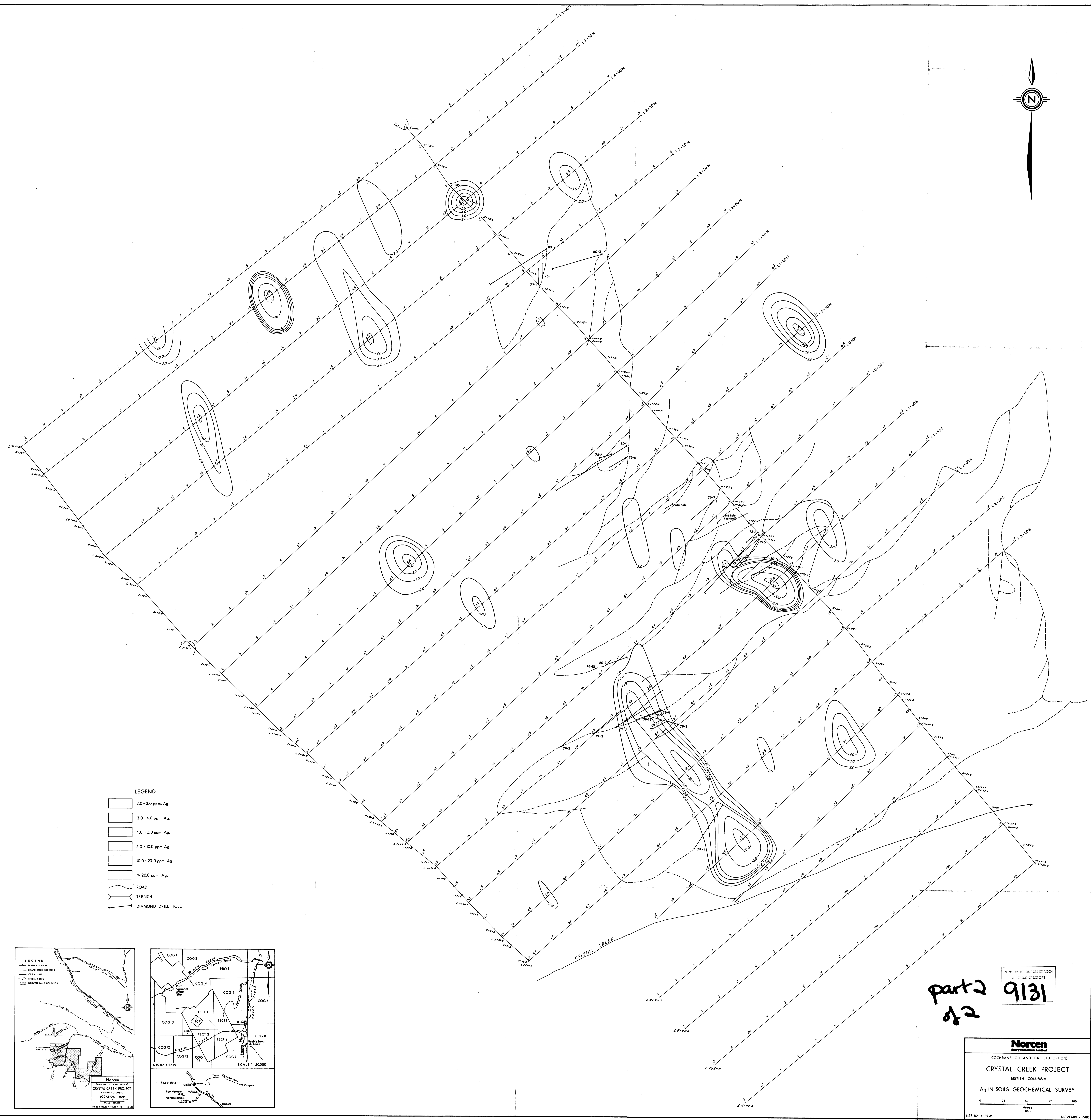
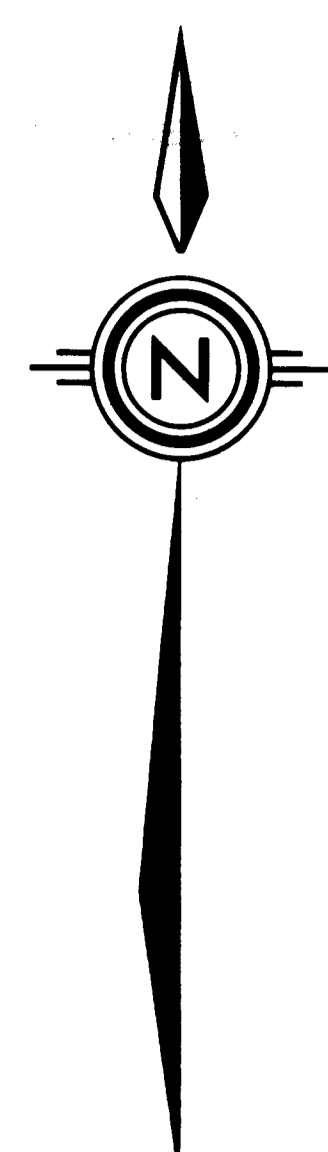
part 2
of 2

MINERAL RESOURCES DIVISION
ACCIDENTAL DISPO
9131

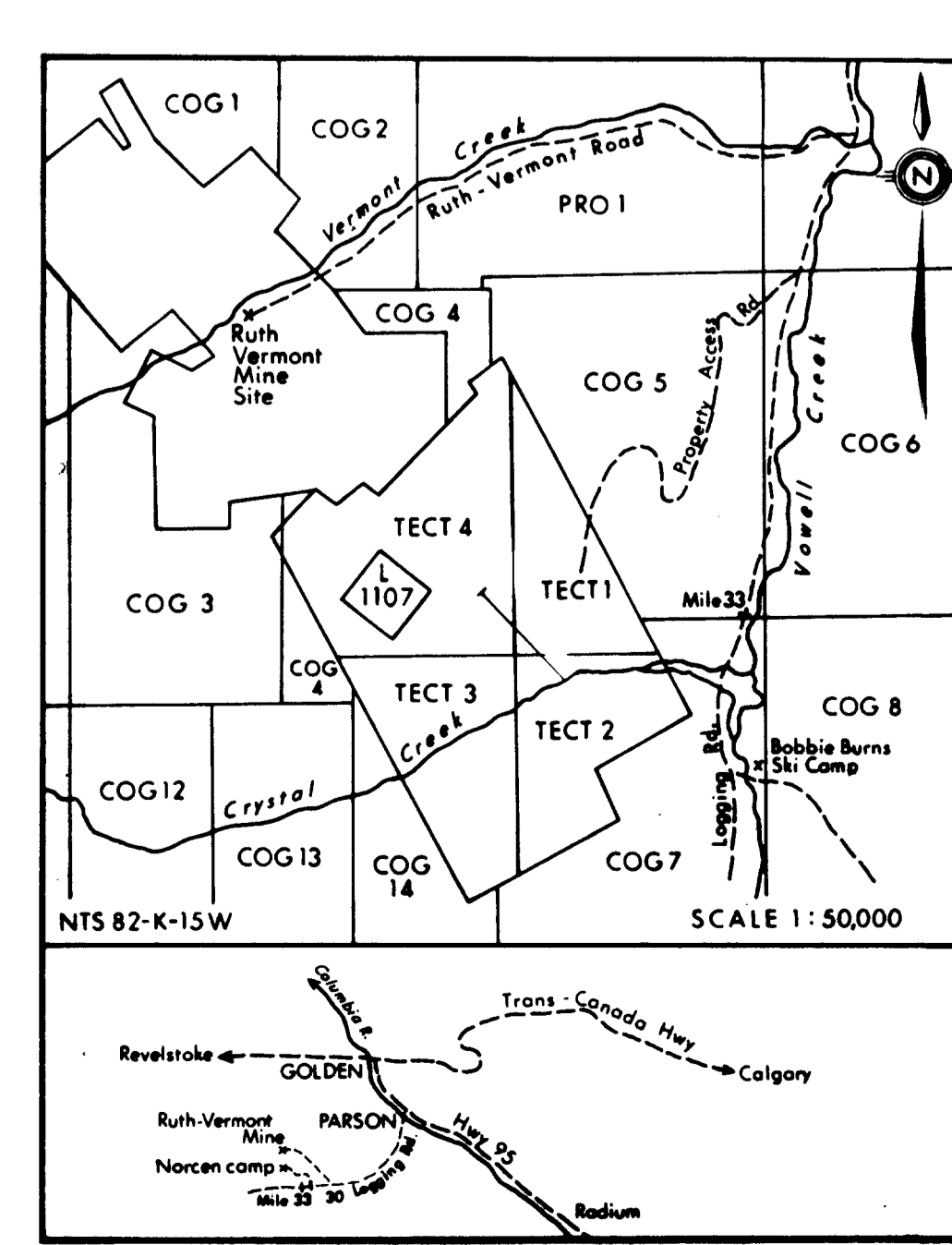
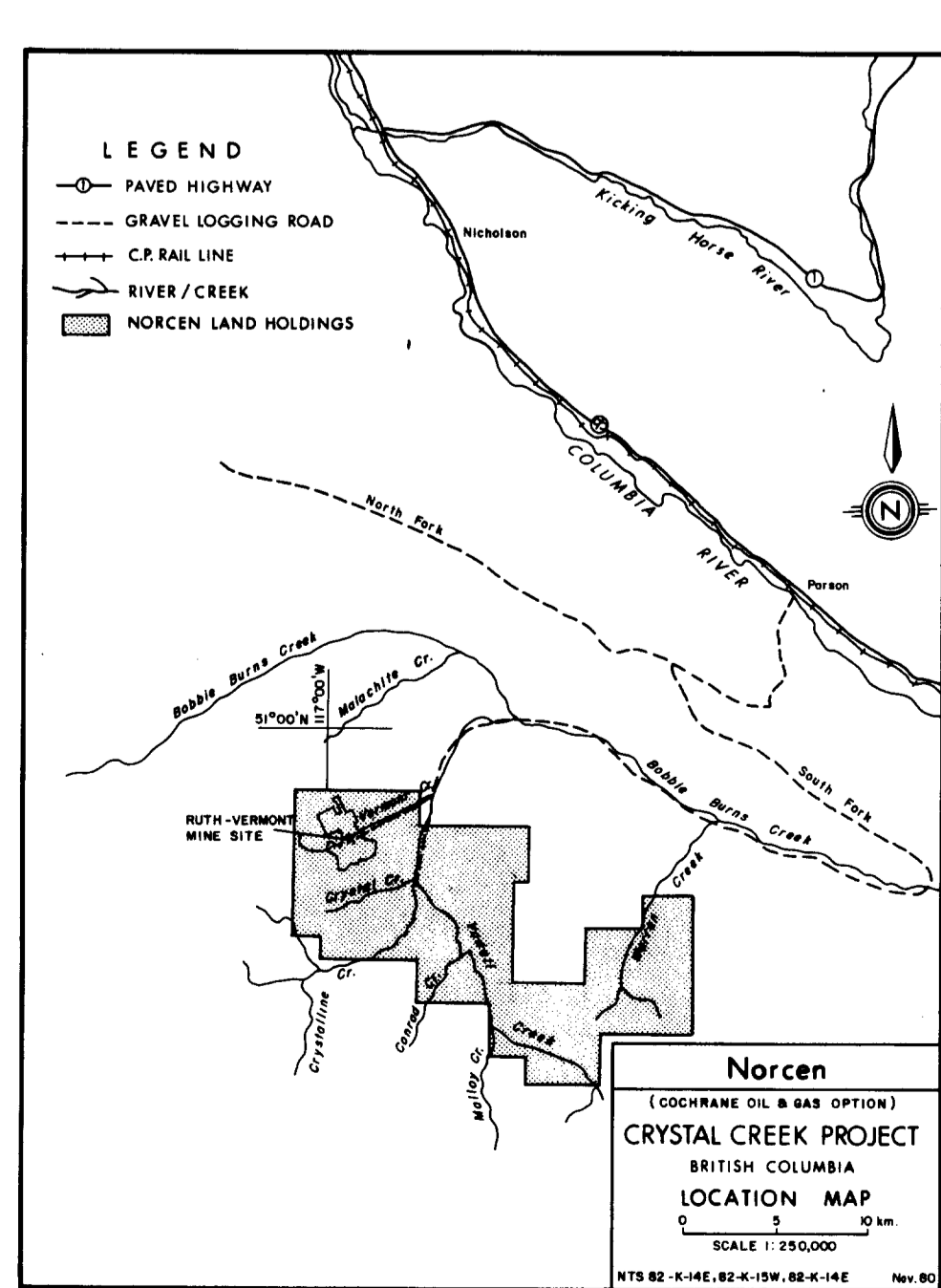
Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS LTD. OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Pb IN SOILS GEOCHEMICAL SURVEY

0 25 50 75 100
Meters
1:1000

NTS 82-K-15W NOVEMBER 1980



- LEGEND**
- 2.0-3.0 ppm Ag.
 - 3.0-4.0 ppm Ag.
 - 4.0-5.0 ppm Ag.
 - 5.0-10.0 ppm Ag.
 - 10.0-20.0 ppm Ag.
 - > 20.0 ppm Ag.
 - ROAD
 - TRENCH
 - DIAMOND DRILL HOLE



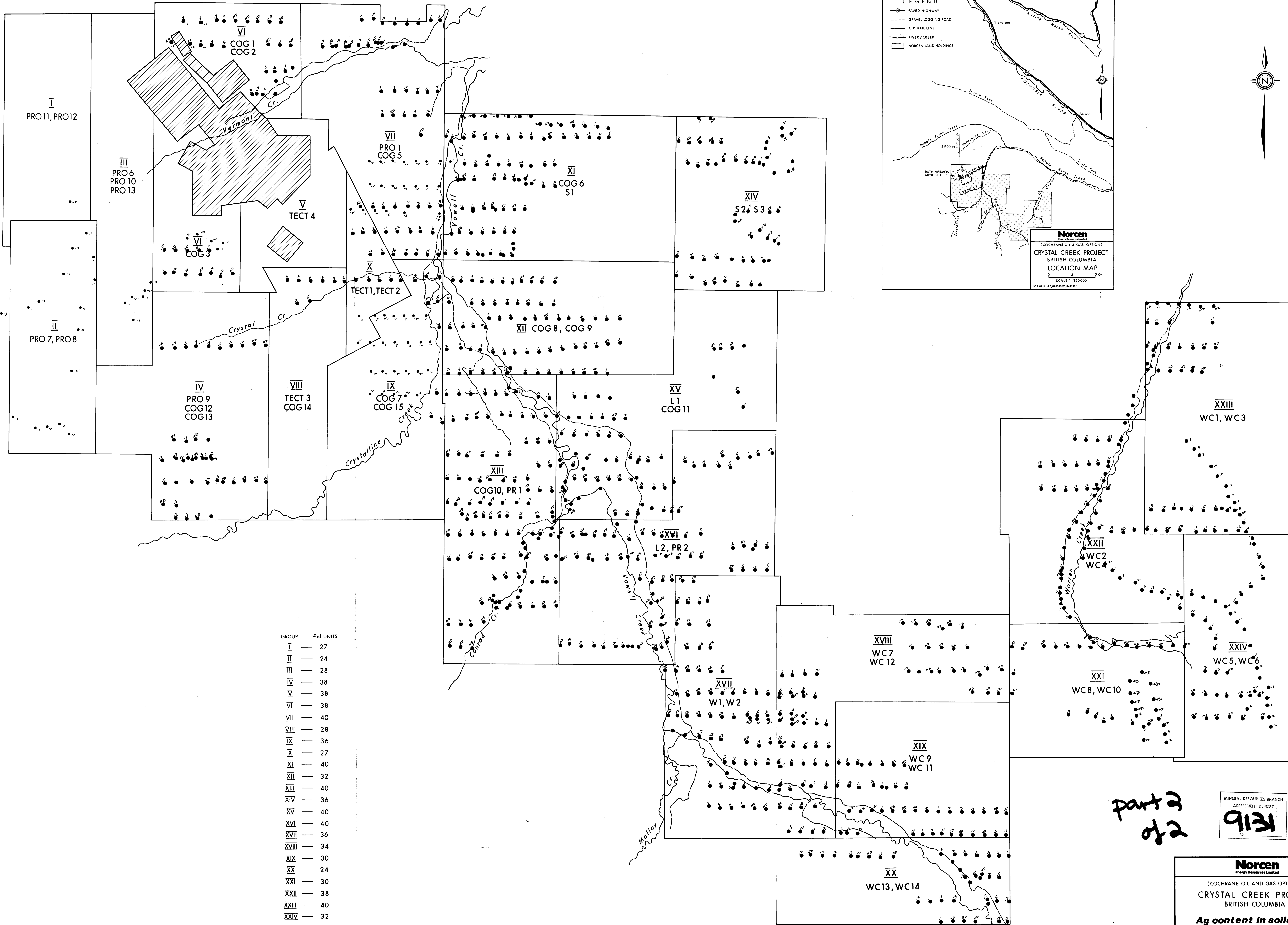
part 2
of 2

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Norcen
NORCEN OIL AND GAS LTD. (OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Ag IN SOILS GEOCHEMICAL SURVEY

0 25 50 75 100
Metres
1:1000

NTS 82-K-15W NOVEMBER 1980



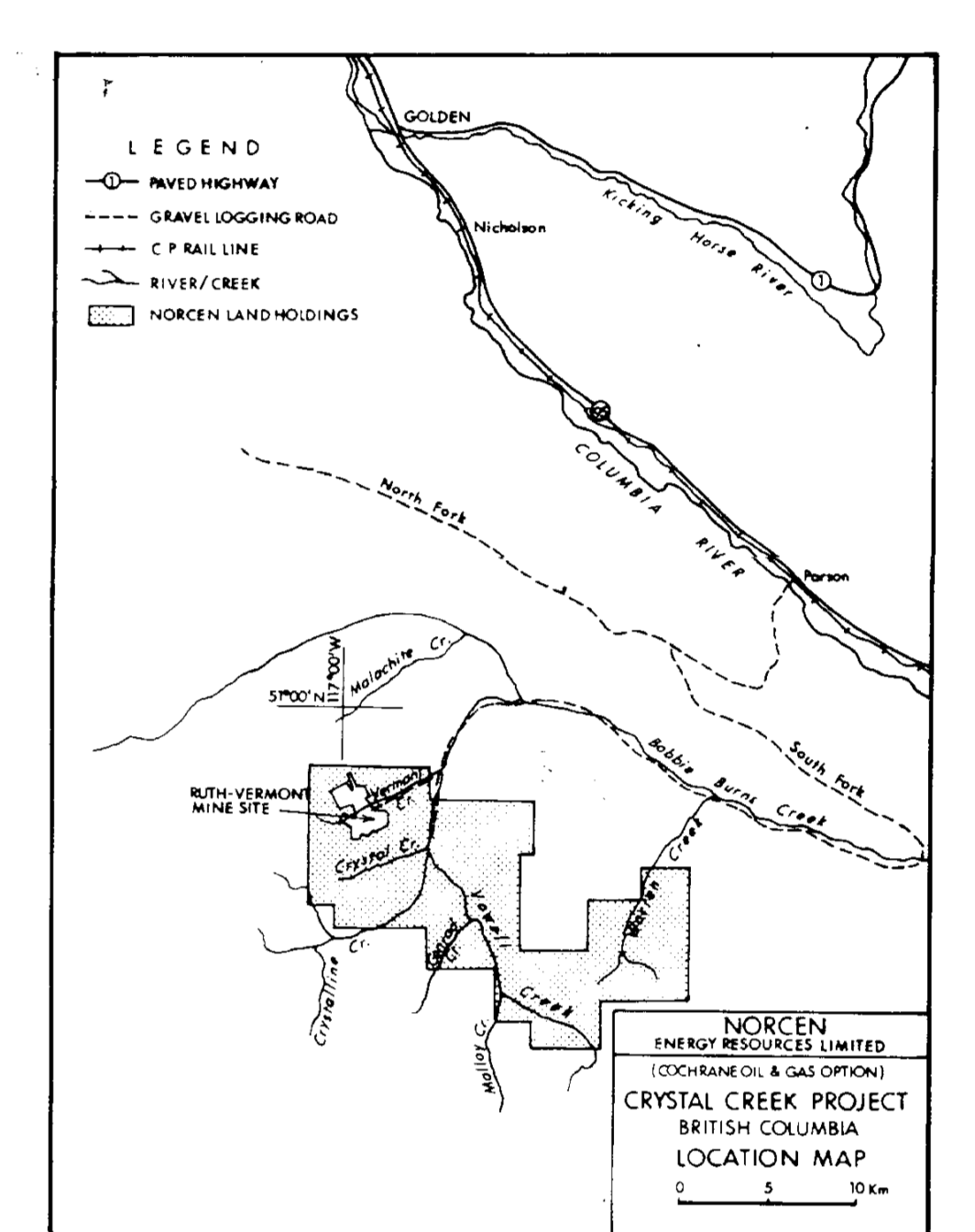
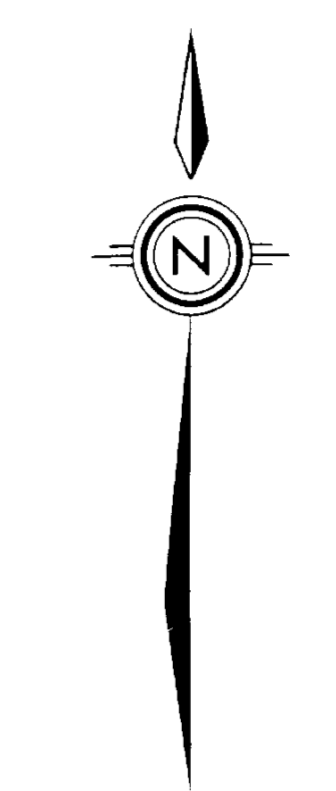
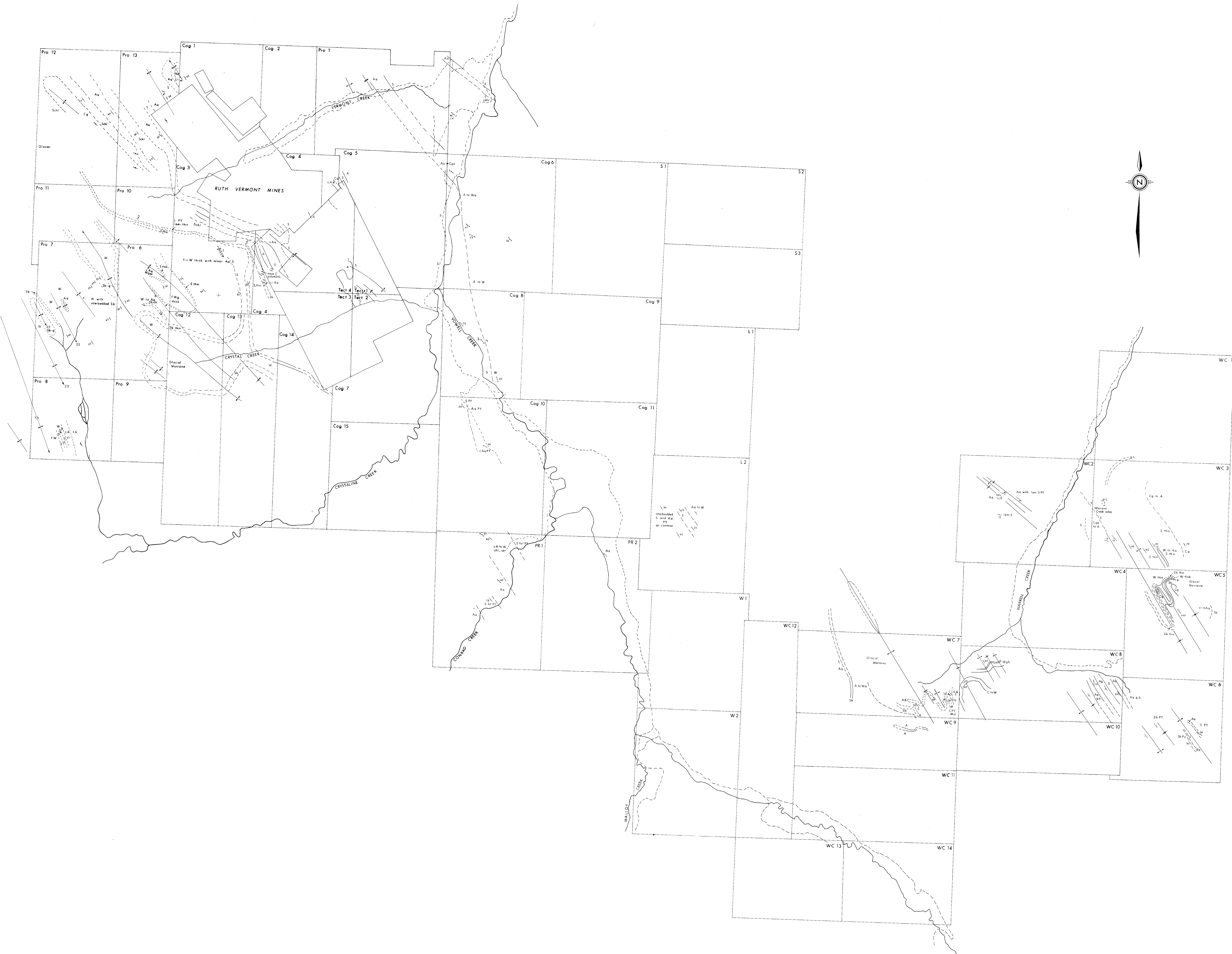
GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
XI	40
XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32

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MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9131

Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Ag content in soils (ppm)

0 1km
Scale 1:20000
NTS 82-K-14E, 15W, 15E JUNE, 1980



LEGEND

LITHOLOGY

- C g, p, b Conglomerate, gravel, pebble, boulder
- A q Arenite, quartz, >75% 4-30mm, 30-100mm, >100mm
- W Wacke >15% matrix
- S g, b Shale, green, black (normal-grey)
- L Limestone
- Li Oolitic Limestone
- a.v. Quartz Vein

MODIFIERS

- f Fine grained
- c Coarse grained
- Calc Calcareous
- Ser Sericitic
- Chl Chloritic
- Sil Silicified
- Py Pyritic
- fol Foliated
- Lam Laminated
- Thin Thinly Bedded 1-10 cm
- Medium Bedded 10-100 cm
- Thick Thickly Bedded 1-100 m
- Mass Massively Bedded >10m
- g.b. Graded Bedding
- Mal Malachite
- Cpy Chalcocopyrite

STRUCTURE

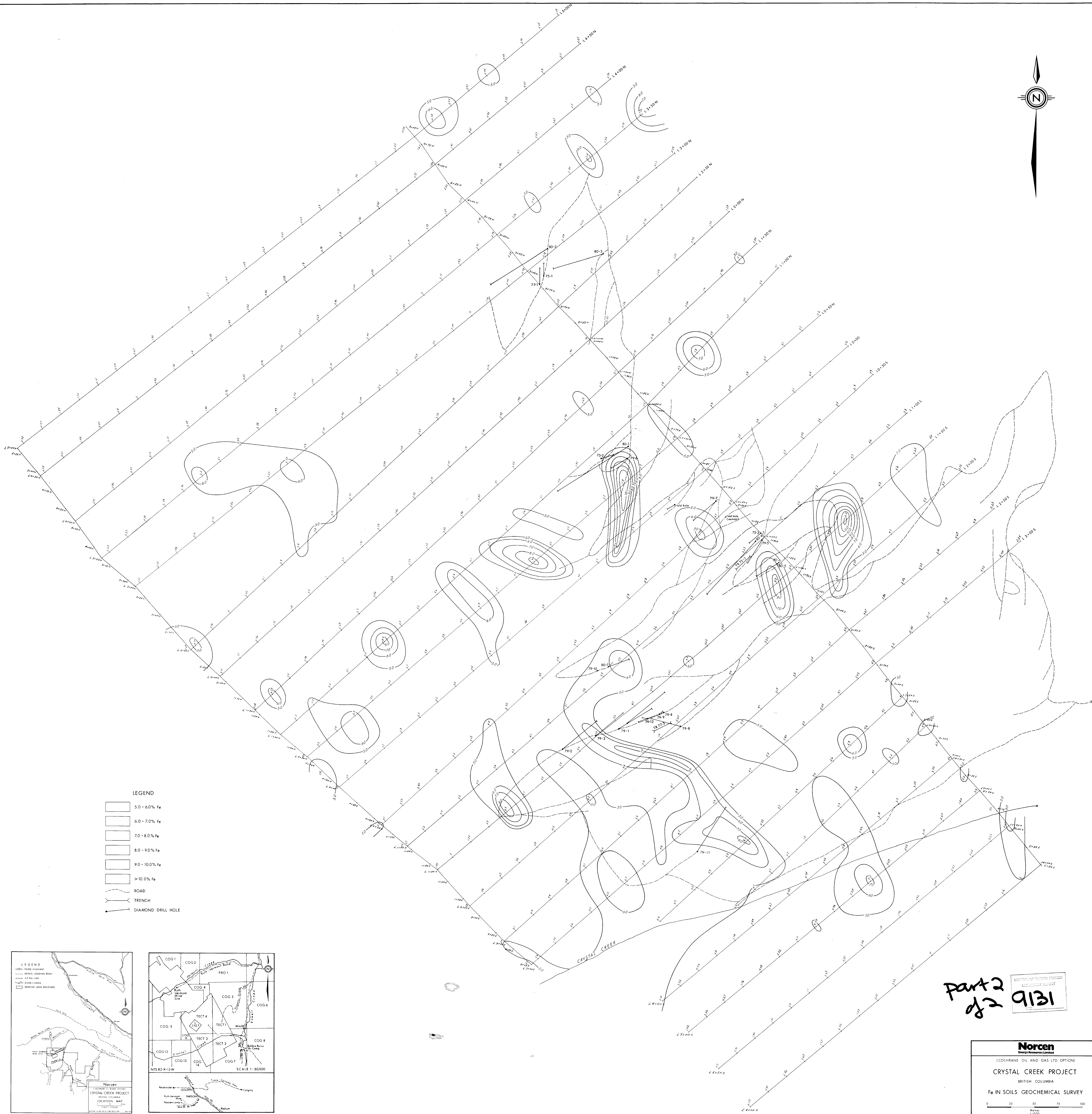
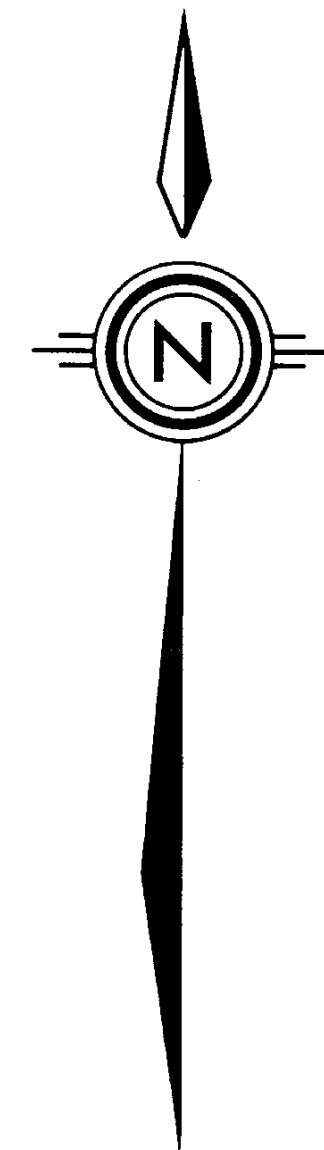
- GEOLOGICAL BOUNDARY, defined, approx.
- BEDDING Tops Know, Incl., Vert., Over; Tops Unknown Incl.
- FOLIATION Incl., Vert.
- JOINT Incl., Vert.
- FAULT, SHEAR ZONE, defined, approx.
- ANTICLINE, SYNCLINE
- ANTICLINE, SYNCLINE OVERTURNED
- ANTICLINE, SYNCLINE PLUNGED

Part 2 of 2

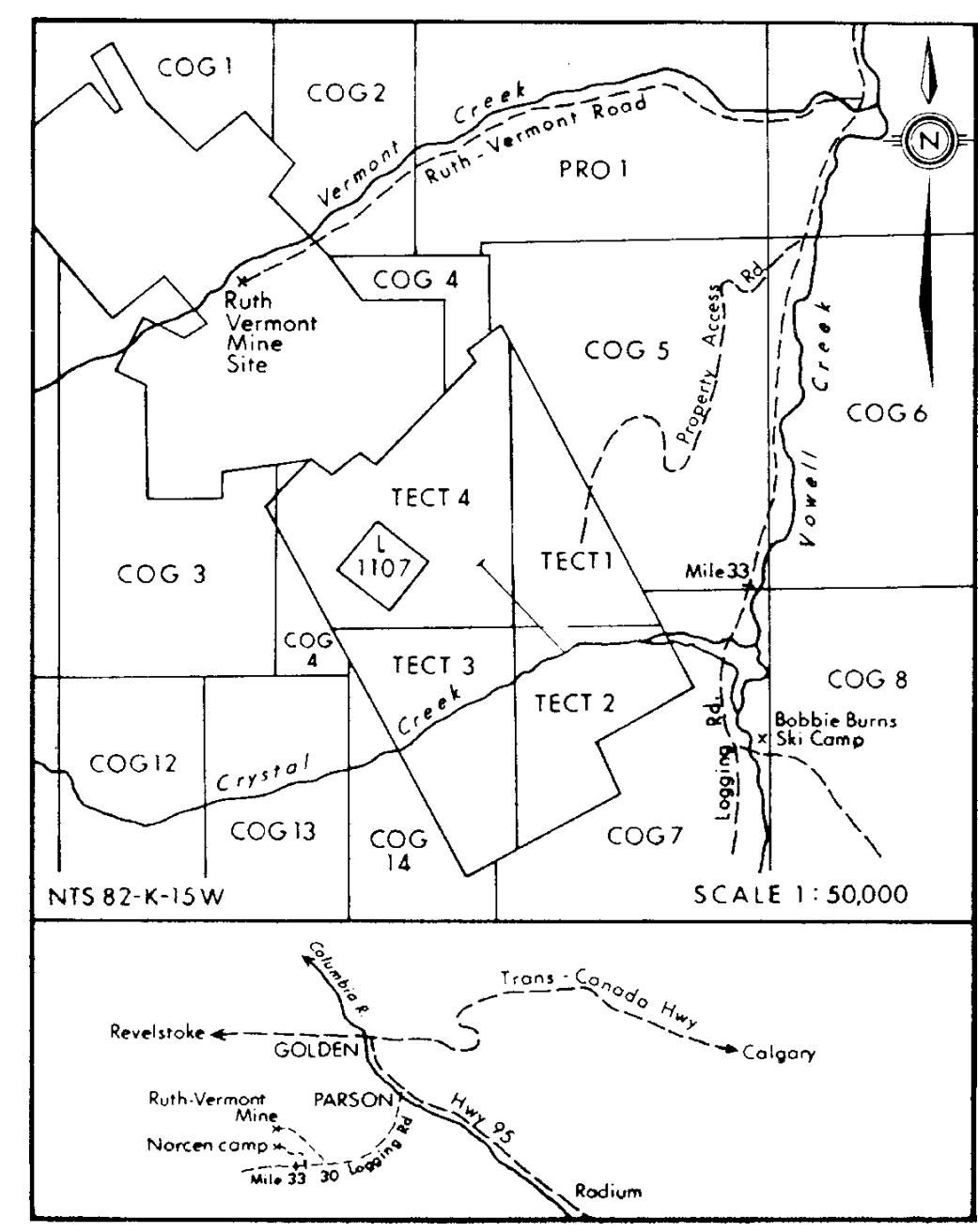
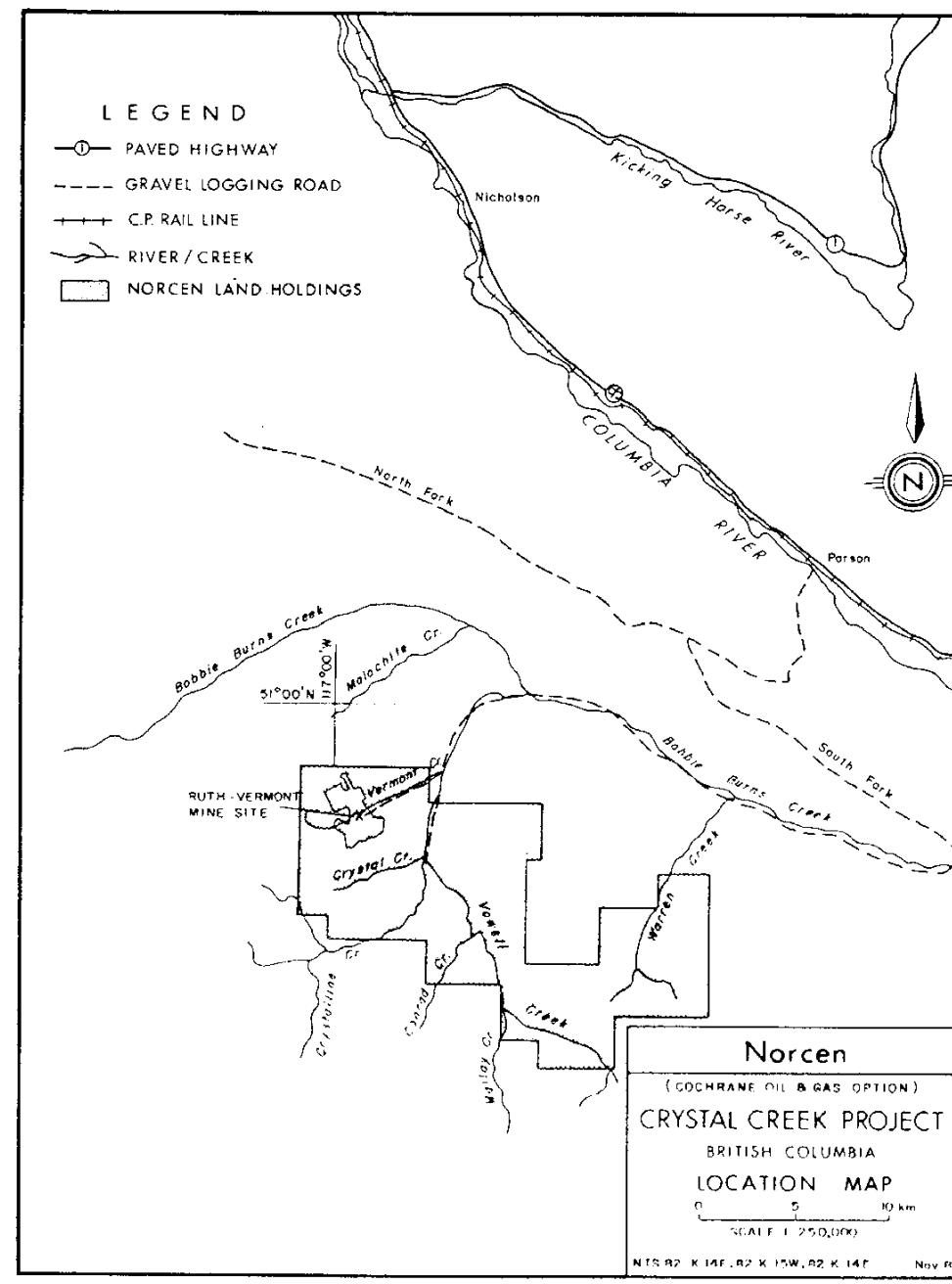
9131

Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
GEOLOGY

Scale: 1:20,000
Date: Dec. 1980
Map of File Number: K.G.1



- LEGEND
- 5.0 - 6.0% Fe
 - 6.0 - 7.0% Fe
 - 7.0 - 8.0% Fe
 - 8.0 - 9.0% Fe
 - 9.0 - 10.0% Fe
 - >10.0% Fe
 - ROAD
 - TRENCH
 - DIAMOND DRILL HOLE



Part 2
of 2
9131

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Energy Resources Limited

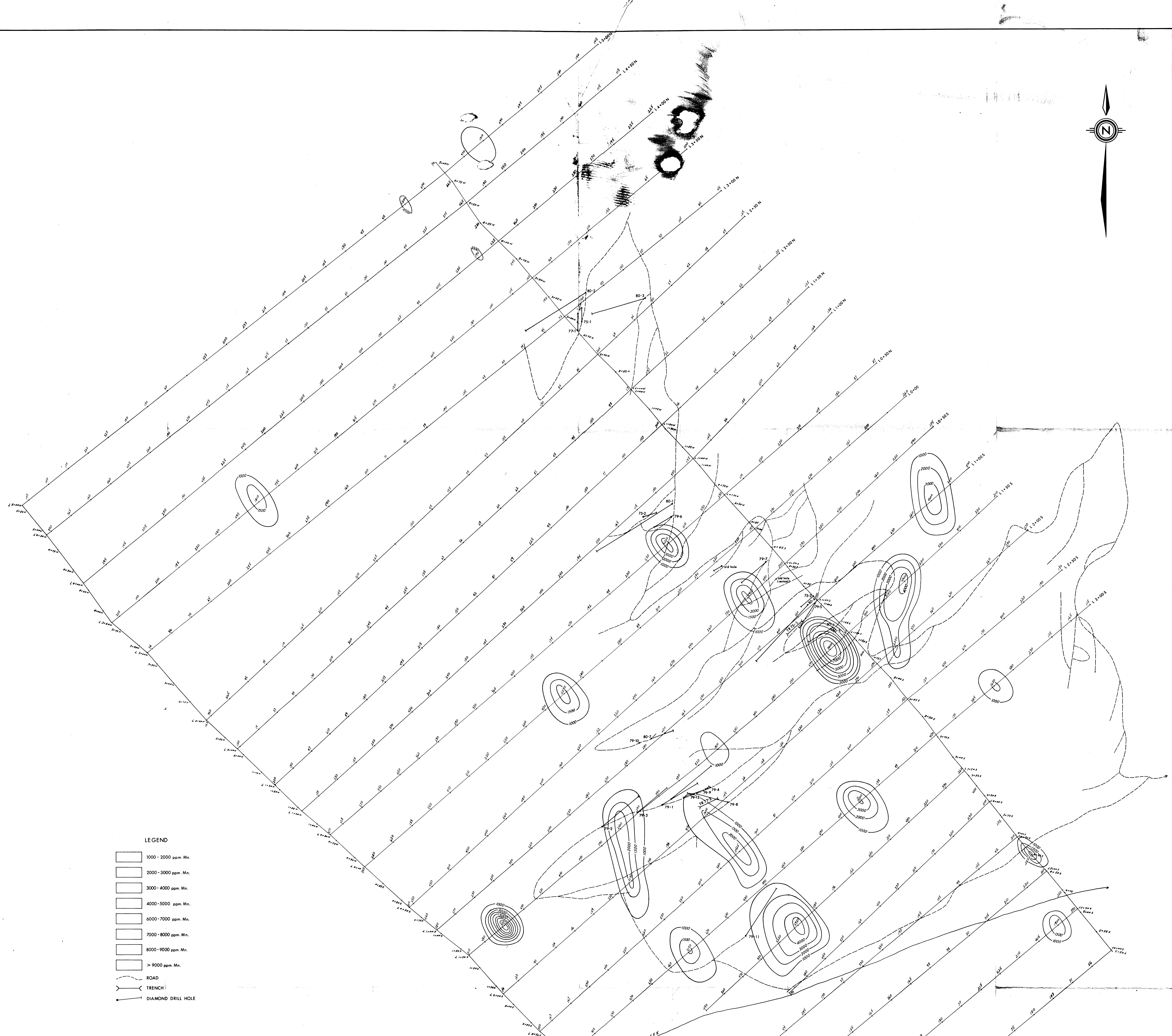
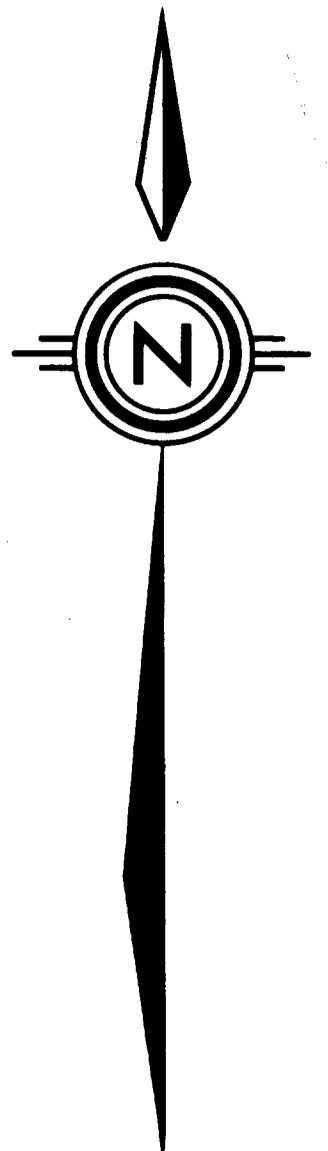
(COCHRANE OIL AND GAS LTD. OPTION)

CRYSTAL CREEK PROJECT
BRITISH COLUMBIA

Fe IN SOILS GEOCHEMICAL SURVEY

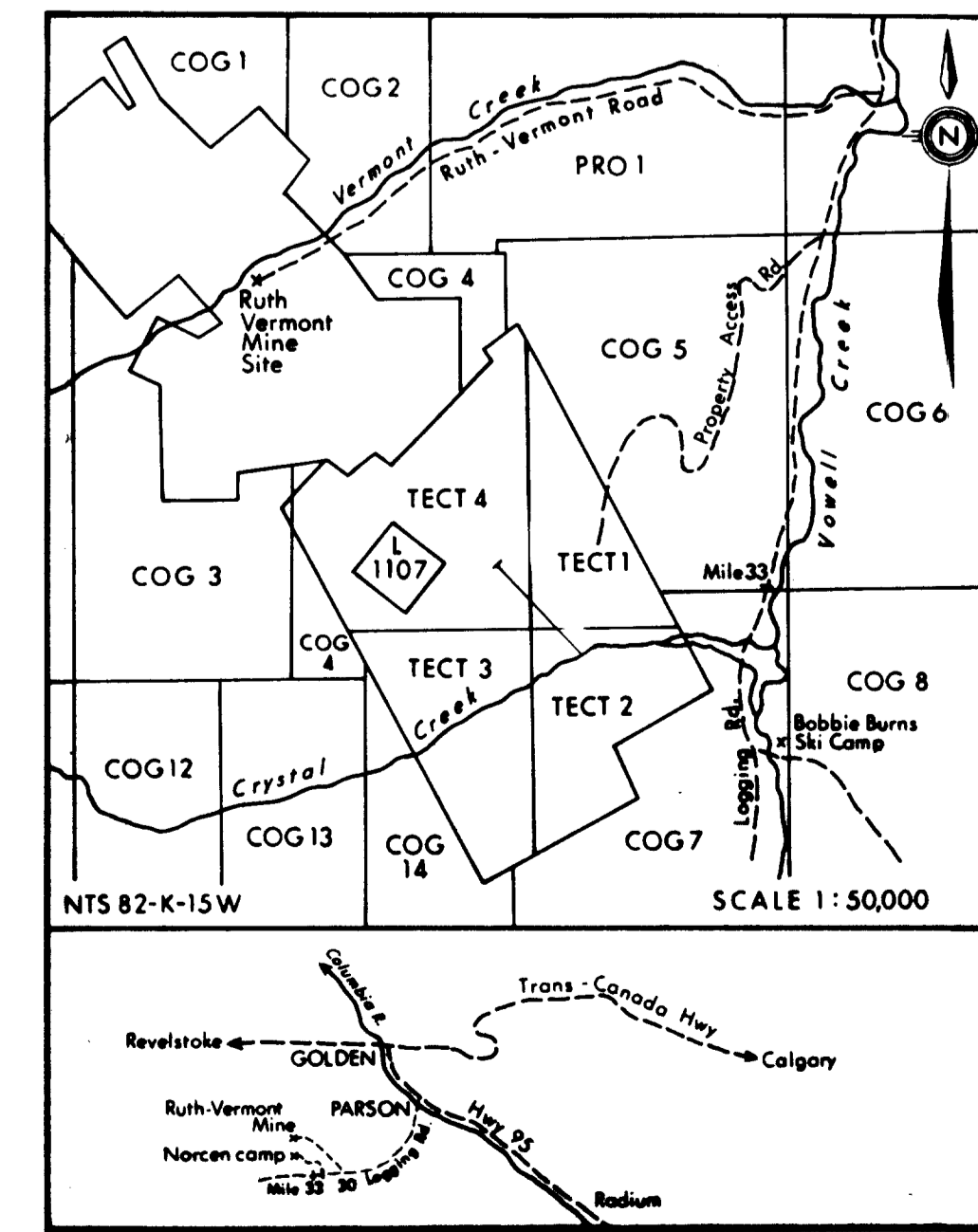
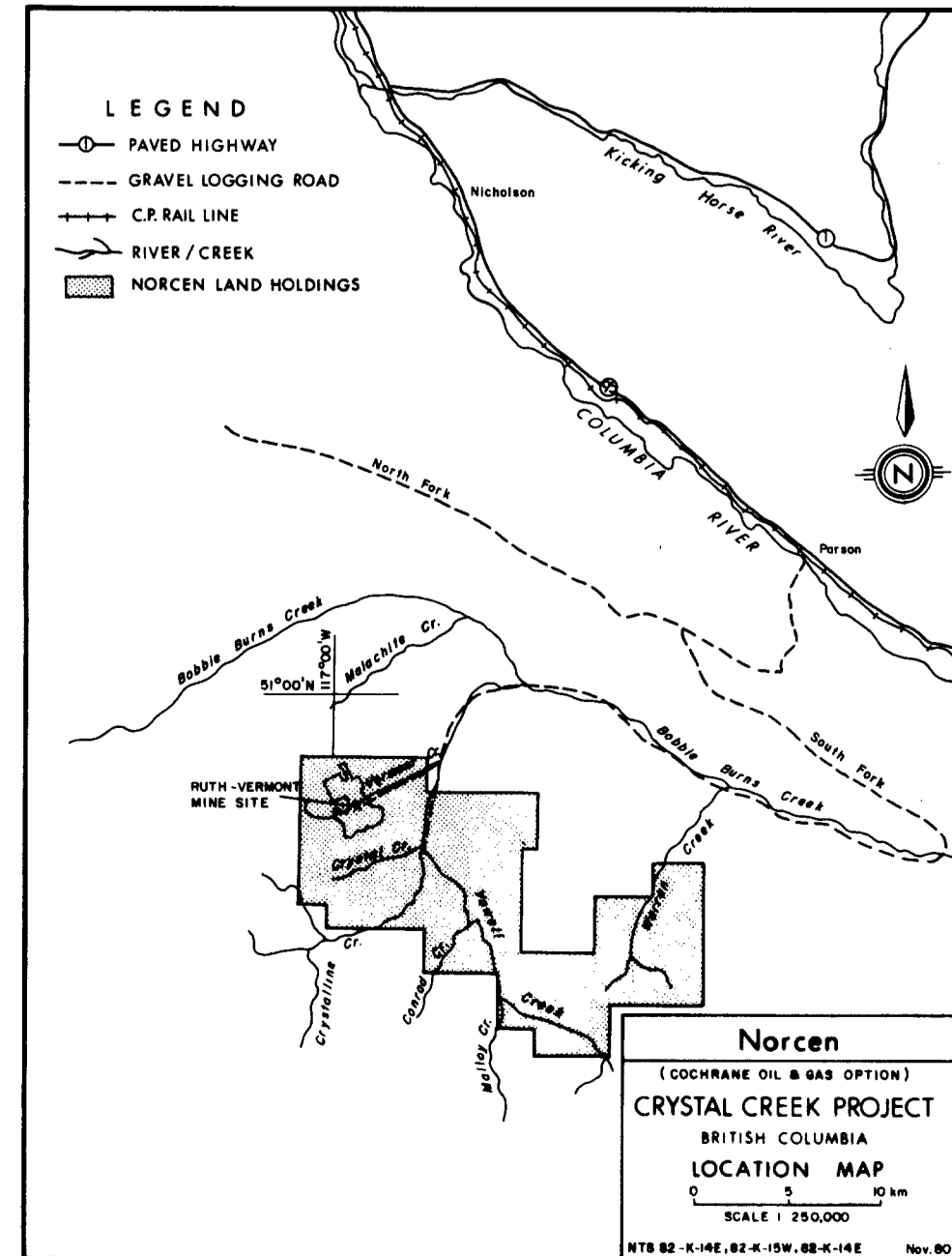
0 25 50 75 100
Metres
1:50,000

NTS 82-K-15W NOVEMBER 1980



LEGEND

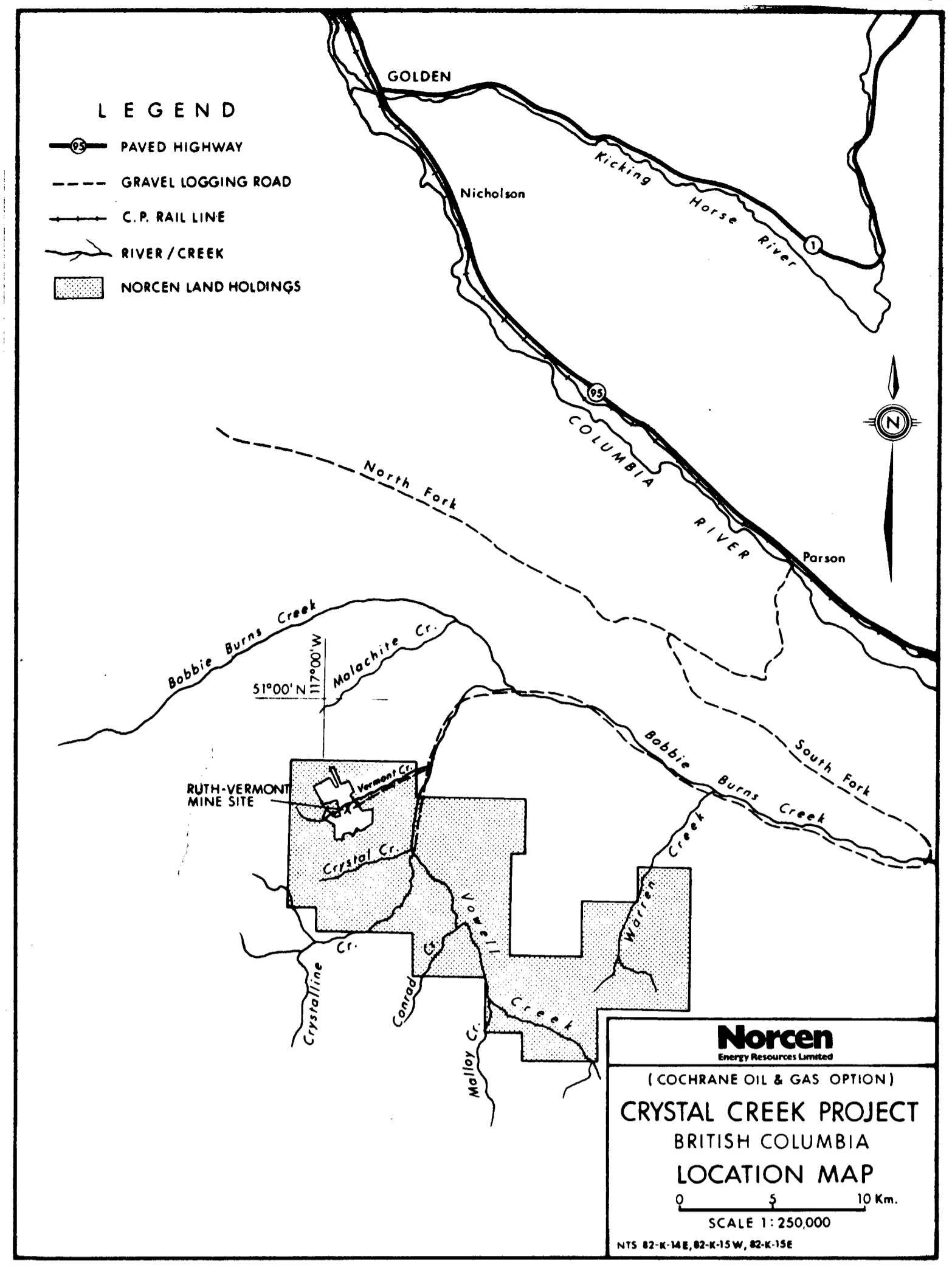
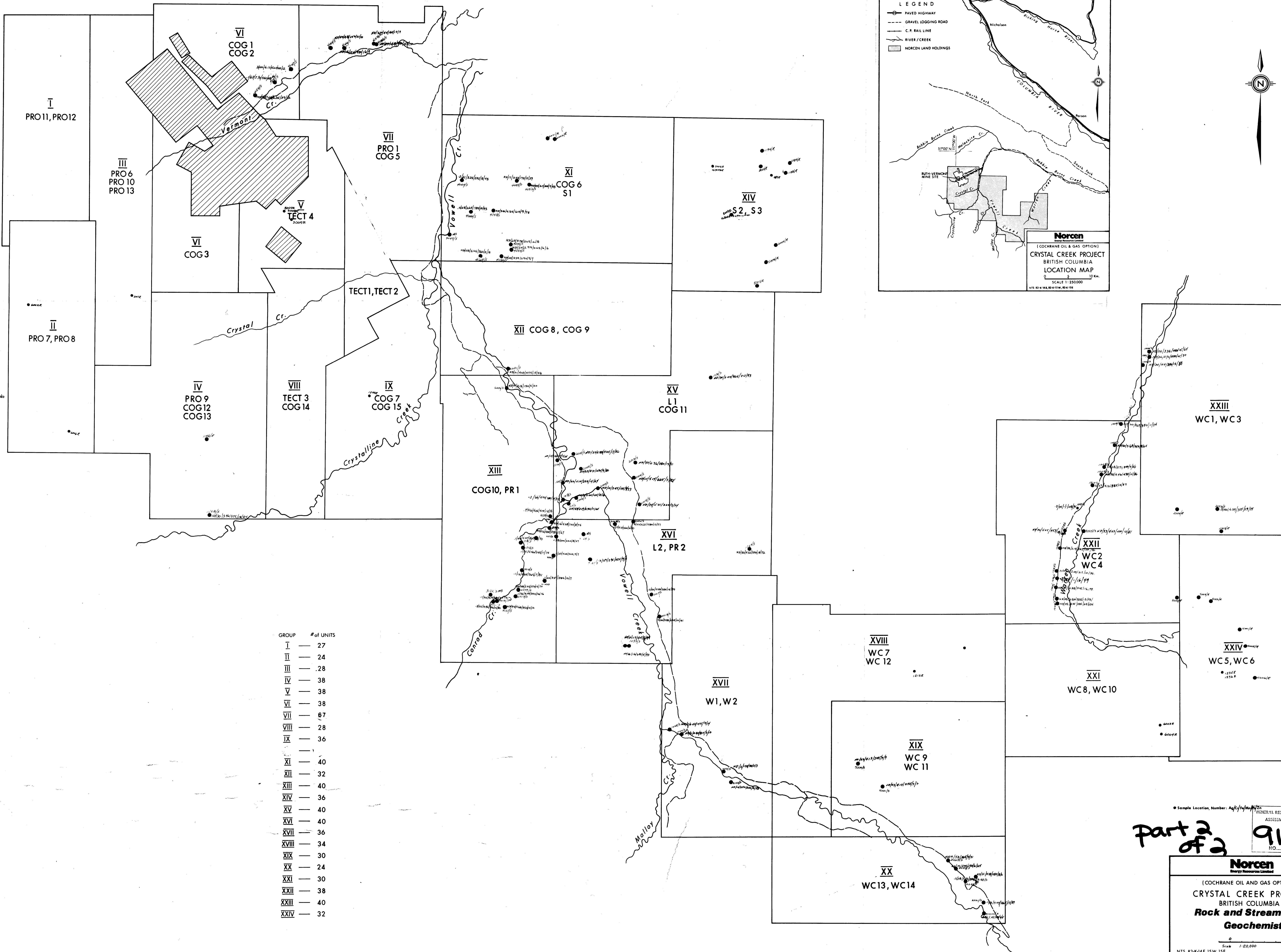
- 1000 - 2000 ppm Mn.
- 2000 - 3000 ppm Mn.
- 3000 - 4000 ppm Mn.
- 4000 - 5000 ppm Mn.
- 6000 - 7000 ppm Mn.
- 7000 - 8000 ppm Mn.
- 8000 - 9000 ppm Mn.
- > 9000 ppm Mn.
- ROAD
- TRENCH
- DIAMOND DRILL HOLE



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of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9131

Norcen
Heavy Mineral Leasing
[COCHRANE OIL AND GAS LTD. OPTION]
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Mn IN SOILS GEOCHEMICAL SURVEY
0 25 50 75 100
Metres
1:1000
NTS 82-K-15W NOVEMBER 1980



GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	67
VIII	28
IX	36
X	36
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

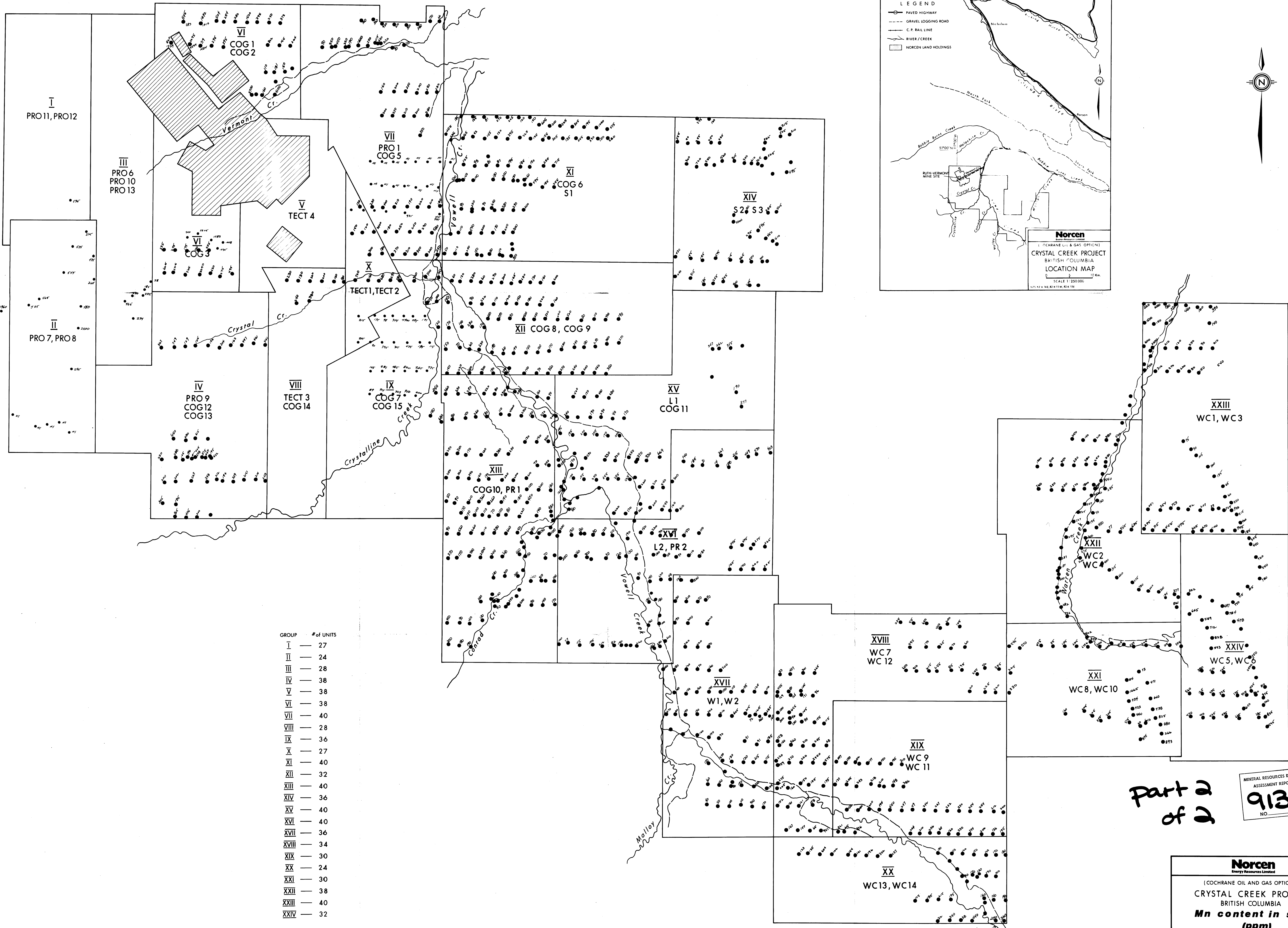
Part 2 of 2
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MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT

Norcen
 Energy Resources Limited

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
**Rock and Stream Sediment
 Geochemistry**

Scale 1:250,000
 NTS 82-K-14E, 15W, 15E
 JUNE, 1980



GROUP	# of UNITS
I	27
II	24
III	28
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

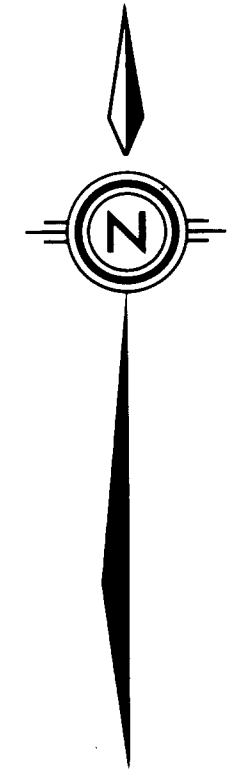
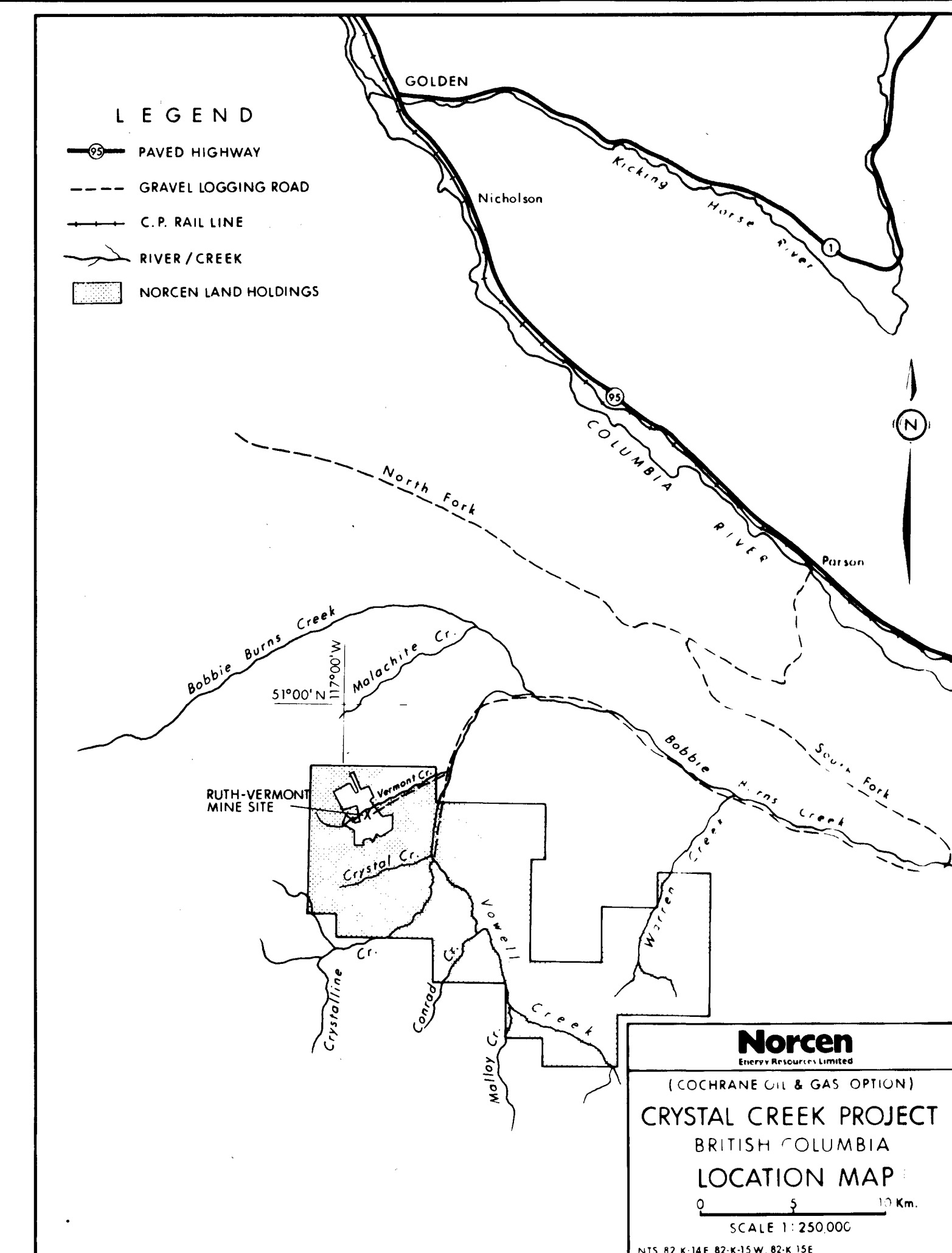
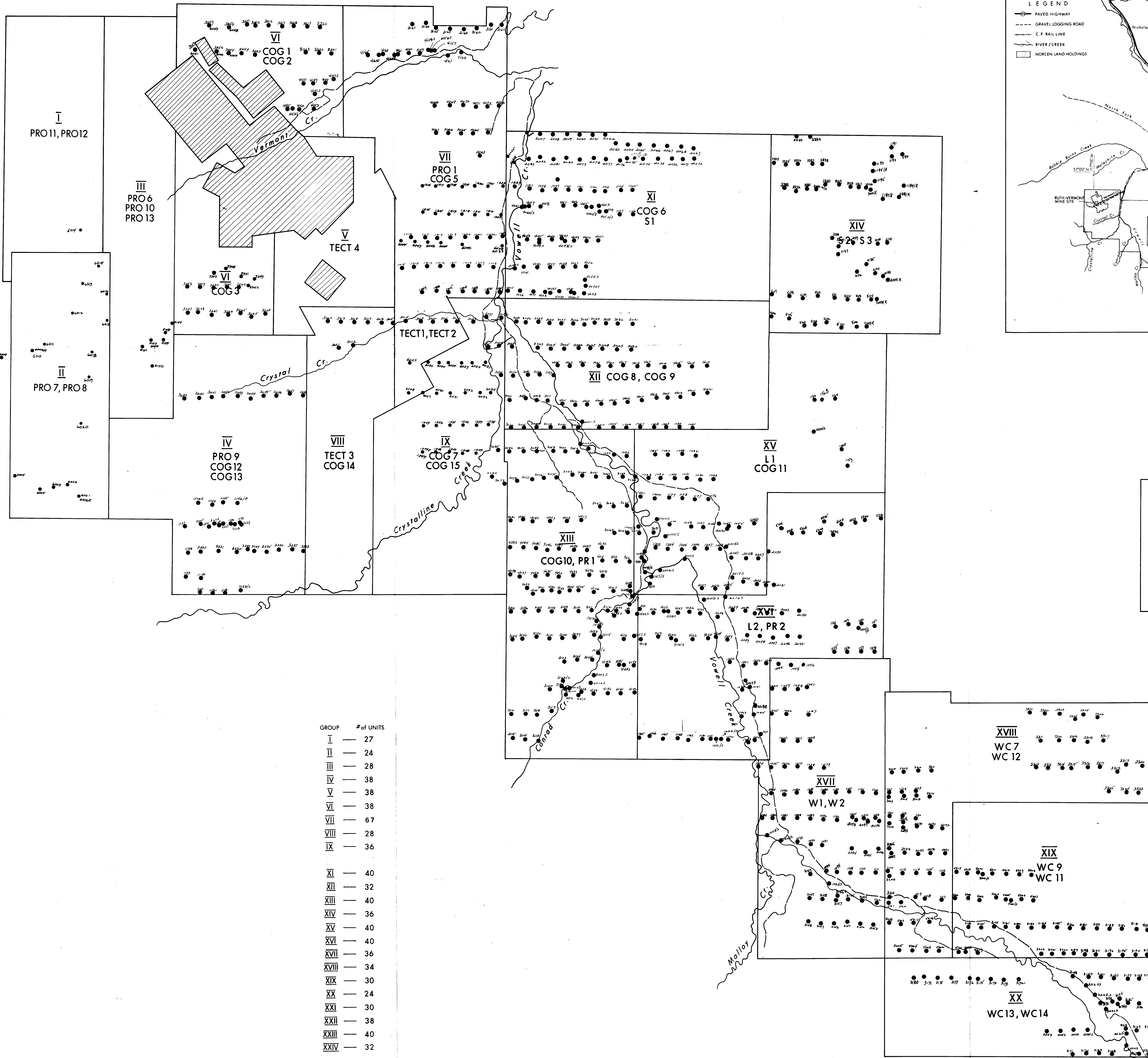
part 2
of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9131
NO.

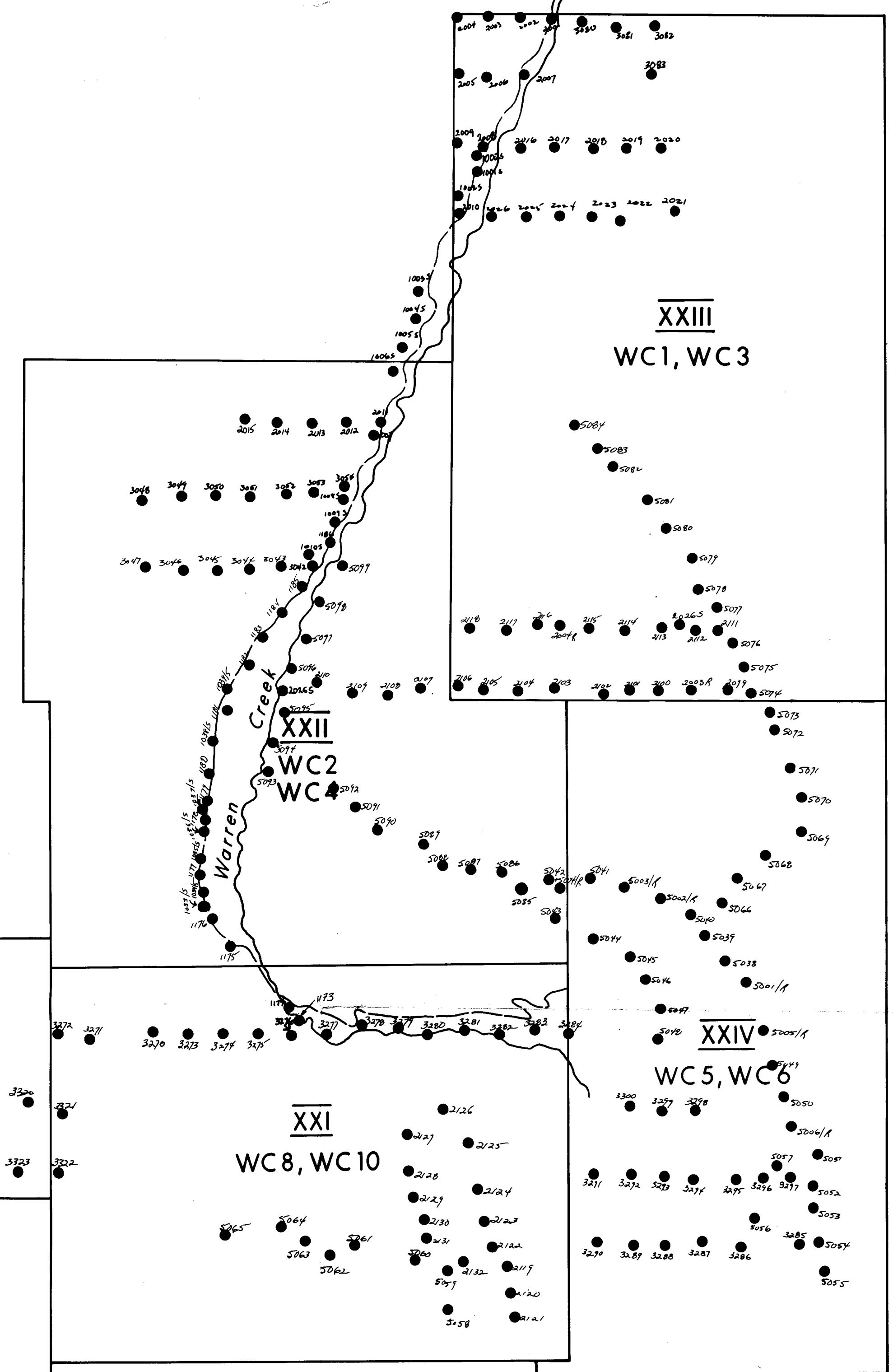
Norcen
Energy Resources Limited

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Mn content in soils
(ppm)

Scale: 1:20,000
NTS 82-K-14E, 15W, 15E
JUNE, 1980



GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	67
VIII	28
IX	36
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



Part 2
of 2

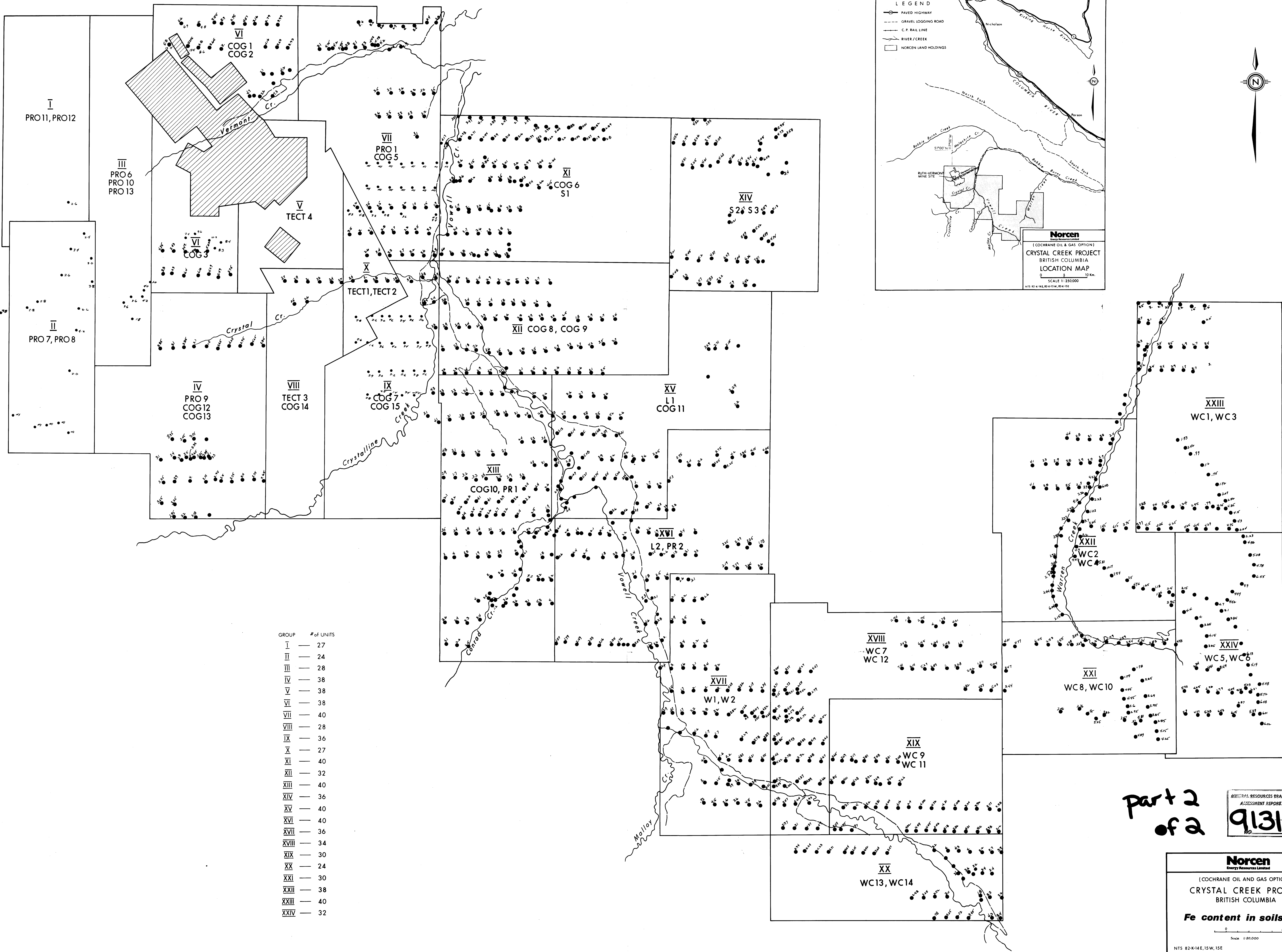
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9131
NO.

Norcen
Energy Resources Limited

(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
Soil Sample Locations

Scale 1:250,000

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



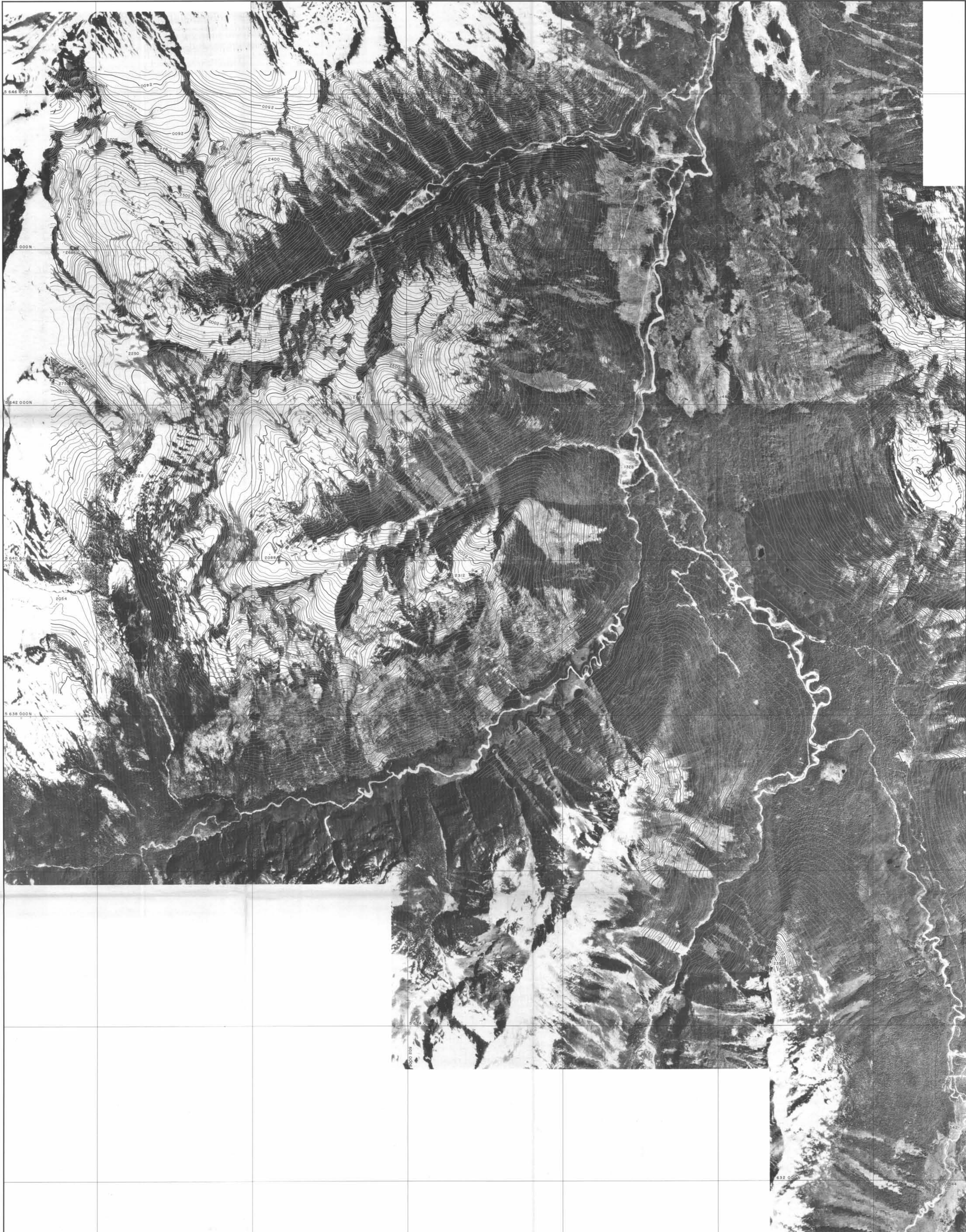
part 2
of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9131

Norcen
 Energy Resources Limited
 (COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
Fe content in soils (I.)

Scale 1:80,000

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



Assessment manual
 9131
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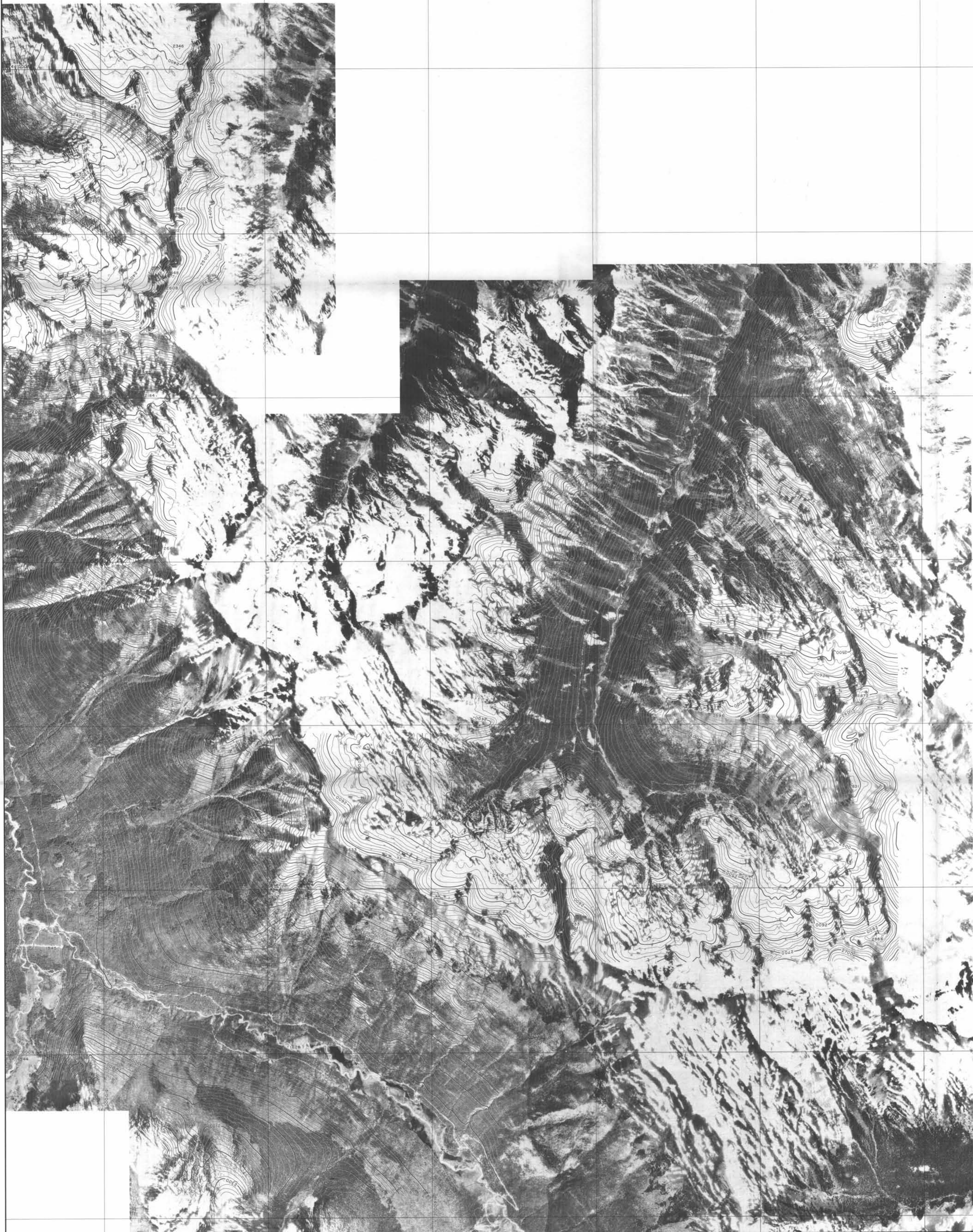


part 2
 of 2



NORCEN
 ENERGY RESOURCES LIMITED
CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA

SCALE	
400 200 0 400 800 1200 1600	METRES
1 : 20 000	
CONTOUR INTERVAL 20 METRES	
AERIAL PHOTOGRAPHY BY GOVT. OF CANADA, JULY 1976	CONTROL BY N.T.S. 82K, 1:250,000
NORTH WEST SURVEY CORPORATION INTERNATIONAL LTD.	
DRAWN BY R.A.	DATE MAY 1980
CHECKED BY V.Y.	JOB NO. 80-142
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NORCEN
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CRYSTAL CREEK PROJECT
BRITISH COLUMBIA

SCALE
400 200 0 400 800 1200 1600
METRES METRES
1 : 20 000
CONTOUR INTERVAL 20 METRES

AERIAL PHOTOGRAPHY BY
GOVT. OF CANADA, JULY 1976

CONTROL BY
N.T.S. 82K, 1:250,000

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DRAWN BY CHECKED BY	R.A. V.Y.	DATE JOB NO.	MAY 1980 80-142	SHEET 2 OF 2
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