

NORCEN ENERGY RESOURCES LIMITED
ASSESSMENT REPORT
GEOCHEMICAL PROGRAM
GROUP XV
GOLDEN MINING DISTRICT
BRITISH COLUMBIA

CLAIMS: L1, Cog 11
LOCATION: 45 km south of Golden, British Columbia
LATITUDE: 50° 45' N
LONGITUDE: 116° 52' W

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104
NO. _____

part 202

L. Smith P. Geol.
A. Slingsby

James Smith

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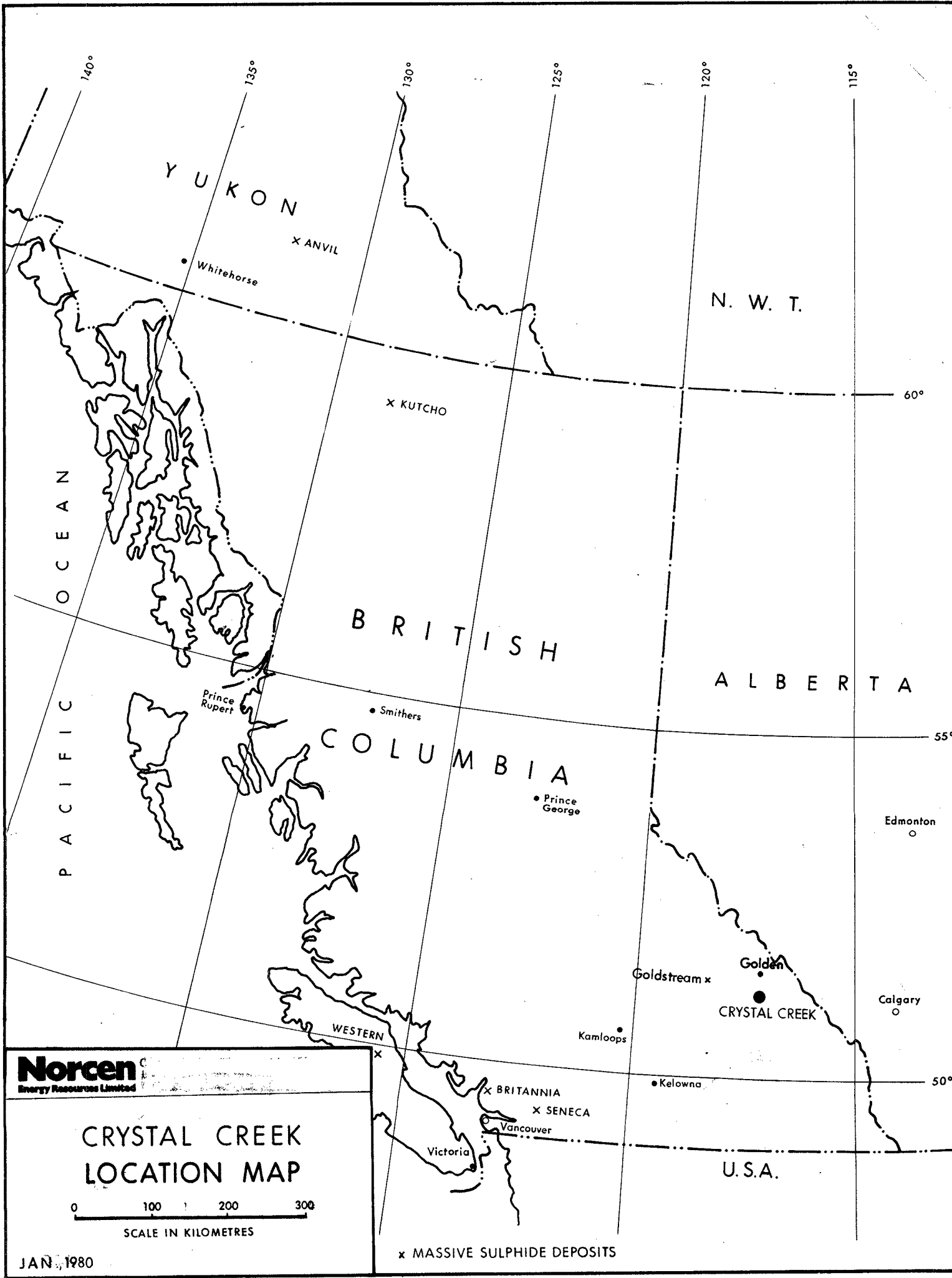
SUMMARY

A total of 958 soil samples, 96 stream sediment samples and 26 rock samples were collected during a reconnaissance geochemical survey of the Crystal Creek property. The soil and stream sediments were analyzed for their content of iron, manganese, lead, zinc, copper and silver. Rock samples were analyzed by induction coupled argon plasma spectrometry for nine major oxides and 15 minor and trace elements. Of these samples 46 soil, 12 stream sediment samples were taken within the boundaries of Group XV. An 1:20,000 orthophoto produced from 1976 Energy, Mines and Resources aerial photograph by North West Survey Corporation International Ltd. of Edmonton, Alberta, was used for control of sampling points. The samples were taken on May 19, 25, 28, 31, June 11 and 15.

Soil samples were taken from B horizon where available. Notes as to topograph, vegetation, drainage, soil types, etc. were taken. Stream samples were taken where available. Rock samples were taken where soil was not available or where the rock appeared to have an anomalous metal content. The samples are generally of shale.

LOCATION AND ACCESS

The claims are located in the Purcell Mountains approximately 45 kilometres south of Golden, British Columbia. Access to the property is by paved highway 95 to Parson, British Columbia and hence by 52 kilometres of logging road along Bobby Burns and Vowell Creeks.



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CRYSTAL CREEK LOCATION MAP



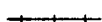




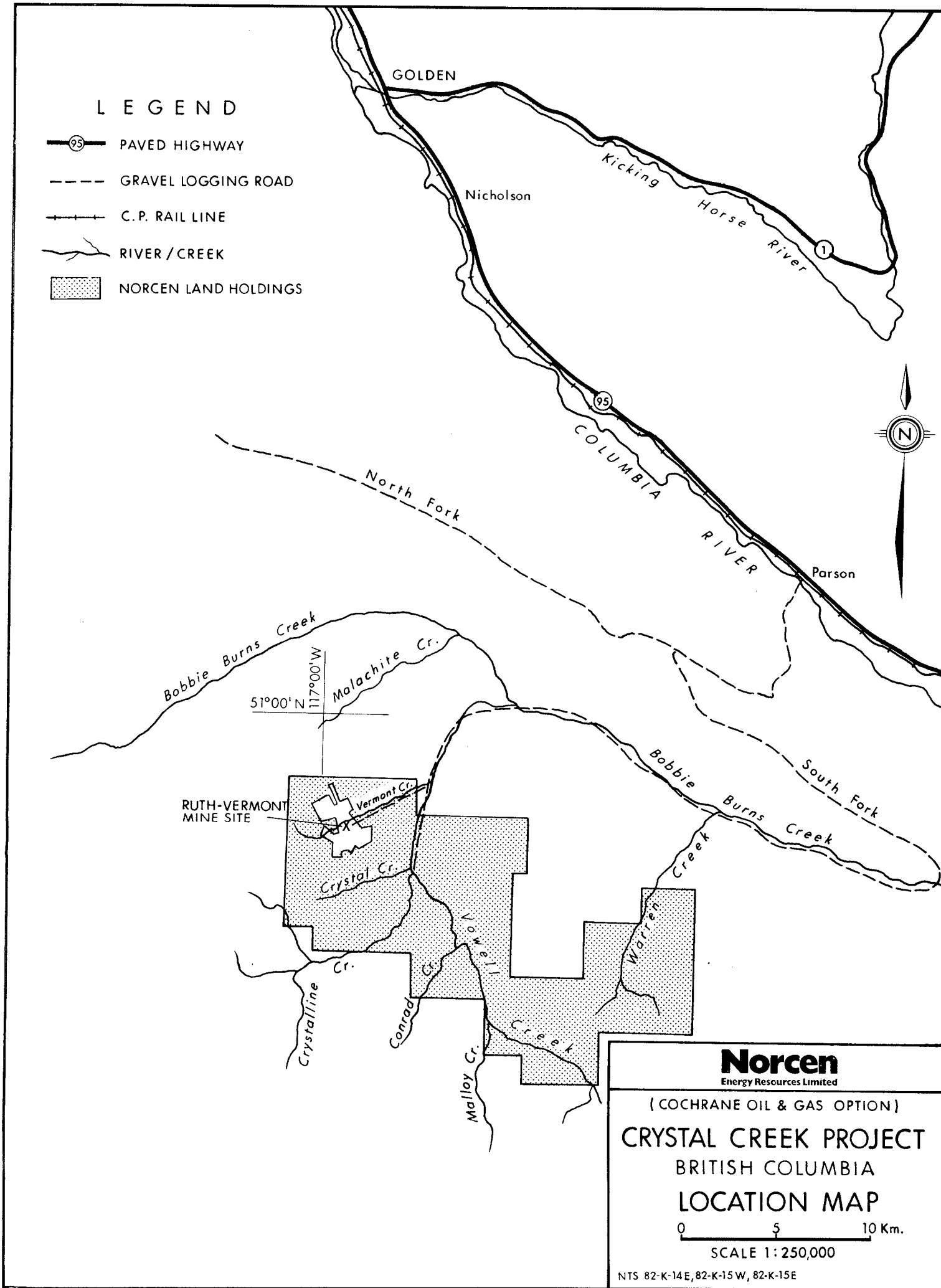
SCALE IN KILOMETRES

JAN. 1980

x MASSIVE SULPHIDE DEPOSITS

L E G E N D

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



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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

CLAIMS STATUS

The Cog 11 and L1 claims form part of the Crystal Creek property. They have been grouped together to form Group XV.

Claim Name	Record Number	Recorded Date	# of Units
Cog 11	330	June 18, 1979	20
L1	338	June 18, 1979	20

GEOCHEMICAL SAMPLING

A total of 46 soil samples and 12 stream sediment samples were collected on Group XV. All samples were sent to Barringer Magenta Limited of No. 105 3750 19th Street N.E., Calgary, Alberta. The soil and sediment samples were analyzed for lead, zinc, silver, copper, iron and manganese by atomic absorption.

Statistical analysis of the data for the entire property produced the following means and standard deviations:

Soils	Mean	Standard Deviation
Ag (ppm)	.319	.25
Cu (ppm)	27.1	24.4
Pb (ppm)	22.4	54.3
Zn (ppm)	65.0	43.4
Mn (ppm)	344	478
Fe (%)	3.41	1.19

Stream Sediments

	Mean	Standard Deviation
Ag (ppm)	.206	.132
Cu (ppm)	33.0	22.8
Pb (ppm)	13.5	8.7
Zn (ppm)	52.0	31.3
Mn (ppm)	372	192
Fe (ppm)	4.15	1.28

Analysis of the soil samples from Group XV showed that the area was low in metal content excepting iron and zinc. One sample (2028) had the highest zinc value of the entire survey. Stream samples for the area reflected the results of the soil sampling, ie. low metal content excepting iron and zinc.

ITEMIZED STATEMENT OF EXPENDITURES

A. SALARIES

A. Slingsby - Project Preparation - April 9, May 15	\$ 250 00
- Geochemical Sampling - May 25, 28, 31	375 00
R. Laird - Geochemical Sampling - June 9, 11	250 00
G. Robb - Geochemical Sampling - June 15	90 00
R. Pryde - Geochemical Sampling - May 19, 25, June 11 ..	270 00
K. Collard - Geochemical Sampling - May 19, June 15	180 00

B. ACCOMMODATION AND MEALS

12 man days @ \$41/day	492 00
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C. TRANSPORTATION

Truck Rental 5 days @ \$23.50/day	117 50
Helicopter 1.7 hrs @ \$408/hr.	693 60

D. ASSAYING AND ORTHOPHOTO

46 soil @ \$6/sample	276 00
12 stream @ \$5/sample	60 00
40 unit (photo) x \$10/unit	400 00

TOTAL EXPENDITURES	<u>\$ 3,454 10</u>
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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 supervised the geochemical soil sampling on Group XV.
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 License Number 197331.

Laurie J. Smith

APPENDIX I

ASSAY CERTIFICATES



BARRINGER MAGENTA LIMITED
 OFFICES & MINERALS
 LABORATORY:
 3750 - 19th ST., N.E., SUITE 105
 CALGARY, ALBERTA T2E 6V2
 PHONE: (403) 276-9701
 TELEX: 03-827584

AUTHORITY: ART SLINGSBY

29/AUG/80
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NORCEN ENERGY RESOURCES
 715-5TH AVE. S.W.
 CALGARY, ALBERTA
 T2P 2X7

SAMPLE GROUP #15

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
1032	.1	27.	3.6	680.	20.
1033	.1	11.	3.	400.	13.
1034	.1	16.	2.7	170.	9.
1035	.3	40.	3.6	420.	22.
1038	.1	22.	2.7	240.	11.
1040	.2	18.	3.8	190.	9.
1041	.2	26.	3.5	290.	10.
1042	N D	10.	.52	40.	3.
1043	.2	18.	2.6	170.	19.
1044	.2	27.	3.6	330.	13.
1045	.3	12.	4.	370.	13.
1046	.5	23.	4.2	250.	16.
1047	.3	25.	3.2	320.	12.
1048	.1	21.	3.9	330.	11.
1059	N D	10.	2.2	210.	7.
1060	N D	15.	2.1	130.	7.
1061	N D	10.	2.1	180.	41.
1062	N D	11.	2.3	190.	12.
1063	N D	17.	1.6	160.	14.
1064	N D	7.	2.8	100.	10.
1065	N D	14.	2.9	190.	11.
1066	N D	16.	2.5	200.	10.
1067	N D	18.	3.	200.	7.
1068	N D	11.	2.5	70.	9.
1069	N D	20.	3.2	220.	7.
1070	N D	18.	3.4	220.	9.
1071	N D	20.	3.	210.	5.
1072	N D	43.	3.2	230.	9.
1073	N D	10.	1.6	140.	5.
1074	N D	21.	3.4	160.	6.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; IS=INSUFFICIENT SAMPLE
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SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
1075	N D	18.	3.	180.	8.
1076	N D	6.	1.6	120.	5.
1077	N D	9.	2.1	170.	10.
1078	N D	16.	3.4	160.	9.
1079	N D	27.	3.2	200.	13.
1080	.1	30.	3.	100.	22.
1081	N D	14.	2.	100.	9.
1082	N D	11.	2.	160.	8.
1083	N D	9.	1.7	140.	8.
1084	N D	18.	2.5	140.	7.
1085	N D	26.	2.9	270.	10.
1086	N D	2.	.67	60.	1.
1087	N D	10.	1.7	140.	8.
1088	N D	14.	2.2	130.	8.
1089	N D	13.	2.8	220.	7.
1090	N D	14.	3.2	210.	12.
1091	N D	8.	1.7	90.	6.
1092	N D	10.	1.7	150.	4.
1093	N D	11.	1.2	100.	6.
1094	N D	8.	1.6	270.	8.
1095	N D	8.	2.2	130.	8.
1096	N D	10.	1.8	80.	7.
1097	.1	24.	3.16	125.	13.
1098	N D	21.	3.15	98.	7.
1099	.4	14.	2.85	81.	17.
1100	.1	16.	3.21	87.	15.
1101	.4	17.	3.41	195.	8.
1102	N D	15.	3.6	185.	10.
1103	.1	12.	2.99	190.	9.
1104	.2	29.	3.94	255.	18.

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FINAL REPORT

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SAMPLE TYPE:

SOIL

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
1105	.1	12.	2.64	715.	14.
1106	.4	27.	4.15	235.	10.
1107	.3	15.	3.66	185.	10.
1108	.2	27.	4.4	495.	8.
1109	.3	12.	4.83	130.	11.
1110	.3	17.	4.31	215.	11.
1111	.8	16.	3.45	115.	5.
1112	.6	23.	3.43	220.	10.
1113	.6	33.	2.78	270.	26.
1114	.1	34.	3.92	220.	7.
1115	.5	14.	3.38	2950.	15.
1116	.1	15.	3.67	575.	26.
1117	.4	28.	4.66	175.	12.
1118	.5	18.	3.89	135.	12.
1119	.7	16.	4.37	150.	20.
1120	.3	5.	2.62	160.	5.
1121	.1	18.	3.45	205.	10.
1122	.1	10.	3.41	125.	9.
1123	.4	17.	4.23	110.	15.
1124	.3	13.	3.36	105.	12.
1125	.6	18.	3.13	125.	17.
1126	.4	13.	3.34	110.	14.
1127	.5	14.	3.71	545.	12.
1128	.7	18.	2.73	81.	19.
1129	.6	13.	2.53	105.	15.
1130	.3	15.	4.35	145.	7.
1131	.4	29.	4.01	655.	21.
1132	.5	14.	3.71	100.	8.
1133	.4	23.	4.32	285.	8.
1134	.5	16.	4.07	125.	11.



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FINAL REPORT

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SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
1135	.2	12.	1.66	215.	13.
1136	.3	34.	3.82	625.	18.
1137	.2	34.	3.1	230.	11.
1138	.5	20.	3.25	200.	16.
1139	N D	30.	3.65	345.	19.
1140	.3	15.	3.25	185.	9.
1141	.2	18.	2.95	815.	20.
1142	.3	19.	3.2	405.	24.
1143	N D	20.	3.18	200.	11.
1144	.1	47.	3.45	680.	38.
1145	N D	105.	3.75	615.	108.
1147	.2	28.	3.1	195.	19.
1148	.3	25.	3.25	515.	29.
1149	.1	17.	3.35	205.	18.
1150	N D	9.	2.3	105.	11.
1151	.2	10.	1.78	365.	9.
1152	.3	14.	3.25	275.	13.
1153	N D	27.	2.99	495.	20.
1154	.2	15.	3.25	445.	13.
1155	N D	15.	3.19	165.	11.
1156	.5	34.	3.79	140.	12.
1157	.2	19.	3.65	220.	9.
1158	.5	19.	3.6	225.	11.
1159	.1	19.	2.2	377.	12.
1160	N D	20.	2.29	190.	18.
1161	M S	M S	M S	M S	M S
1162	N D	32.	3.29	347.	17.
1163	N D	44.	2.71	362.	33.
1164	N D	20.	2.15	355.	19.
1196	.4	26.	4.21	200.	18.

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SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
1197	.3	22.	3.59	170.	14.
1198	N D	29.	5.68	305.	18.
1199	.2	20.	5.	200.	15.
1200	N D	19.	4.14	195.	13.
1201	N D	16.	3.13	195.	7.
1202	.2	25.	5.08	290.	15.
1203	N D	5.	1.69	100.	8.
1204	N D	15.	5.27	155.	10.
1205	N D	25.	5.75	250.	14.
1206	N D	35.	5.4	355.	16.
1207	N D	27.	5.26	255.	14.
1208	.1	15.	3.34	225.	10.
2027	.3	12.	3.	260.	7.
2028	.4	17.	2.7	210.	8.
2029	.3	24.	3.2	540.	13.
2033	.1	29.	3.3	540.	11.
2034	.1	26.	3.9	200.	7.
2035	.3	25.	3.4	260.	13.
2036	.2	23.	3.6	170.	10.
2037	N D	17.	3.6	260.	10.
3070	N D	28.	3.5	290.	19.
3071	.3	6.	2.8	170.	14.
4110	N D	25.	2.4	80.	14.
4111	N D	31.	2.9	120.	14.
5036	.2	34.	3.25	669.	26.
S 1030	N D	34.	2.44	365.	20.

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FINAL REPORT

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SAMPLE TYPE:

SOIL

SAMPLE NUMBER	ZN PPM
1032	100.
1033	74.
1034	51.
1035	55.
1038	59.
1040	62.
1041	65.
1042	9.
1043	62.
1044	77.
1045	81.
1046	83.
1047	66.
1048	80.
1059	27.
1060	31.
1061	39.
1062	29.
1063	22.
1064	32.
1065	26.
1066	32.
1067	45.
1068	29.
1069	60.
1070	59.
1071	55.
1072	68.
1073	21.
1074	63.



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FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	ZN PPM
1075	51.
1076	23.
1077	35.
1078	66.
1079	51.
1080	56.
1081	27.
1082	30.
1083	24.
1084	40.
1085	XXU52.
1086	7.
1087	26.
1088	36.
1089	54.
1090	51.
1091	21.
1092	26.
1093	14.
1094	19.
1095	30.
1096	20.
1097	54.
1098	42.
1099	42.
1100	34.
1101	63.
1102	61.
1103	52.
1104	53.



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G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
 SOIL

SAMPLE NUMBER	ZN PPM
1105	115.
1106	68.
1107	65.
1108	72.
1109	47.
1110	68.
1111	45.
1112	61.
1113	67.
1114	64.
1115	64.
1116	54.
1117	67.
1118	62.
1119	53.
1120	45.
1121	53.
1122	49.
1123	54.
1124	54.
1125	59.
1126	57.
1127	61.
1128	37.
1129	40.
1130	81.
1131	67.
1132	56.
1133	73.
1134	55.



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SAMPLE TYPE:

SOIL

SAMPLE NUMBER	ZN PPM
1135	56.
1136	64.
1137	55.
1138	61.
1139	72.
1140	57.
1141	88.
1142	140.
1143	74.
1144	73.
1145	79.
1147	65.
1148	65.
1149	62.
1150	41.
1151	30.
1152	58.
1153	67.
1154	77.
1155	61.
1156	68.
1157	77.
1158	75.
1159	43.
1160	42.
1161	M S
1162	72.
1163	66.
1164	99.
1196	101.

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WORK ORDER # NORCEN

NORCEN ENERGY RESOURCES
715-5TH AVE. S.W.
CALGARY, ALBERTA
T2P 2X7

SAMPLE GROUP #15

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
SOIL

SAMPLE NUMBER	ZN PPM
1197	86.
1198	91.
1199	82.
1200	80.
1201	28.
1202	89.
1203	22.
1204	77.
1205	92.
1206	92.
1207	85.
1208	68.
2027	62.
2028	776.
2029	76.
2033	66.
2034	73.
2035	68.
2036	76.
2037	62.
3070	77.
3071	40.
4110	50.
4111	52.
5036	95.
S 1030	93.



BARRINGER MAGENTA LIMITED
 OFFICES & MINERALS
 LABORATORY:
 3750 - 19th ST., N.E., SUITE 105
 CALGARY, ALBERTA T2E 6V2
 PHONE: (403) 276-9701
 TELEX: 03-827584

AUTHORITY: ART SLINGSBY

29/AUG/80
 PAGE 11 OF 12
 WORK ORDER # NORDEN

NORDEN ENERGY RESOURCES
 715-5TH AVE. S.W.
 CALGARY, ALBERTA
 T2P 2X7

SAMPLE GROUP #15

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
 STREAM SEDIMENT

SAMPLE NUMBER	AG PPM	CU PPM	FE %	MN PPM	PB PPM
S					
1017	N D	53.	4.19	270.	11.
1018	.2	66.	5.02	380.	15.
1019	N D	26.	4.14	375.	14.
1020	N D	15.	3.16	155.	7.
2004	N D	27.	5.88	525.	13.
2005	N D	29.	5.31	295.	9.
2006	N D	4.	6.05	165.	8.
2007	N D	10.	3.55	175.	9.
2013	N D	37.	6.36	380.	13.
2014	N D	15.	5.14	665.	7.
2015	N D	34.	5.21	265.	9.

*P=QUESTIONABLE PRECISION; *I=INTERFERENCE; IS=INSUFFICIENT SAMPLE
 NA=NOT ANALYZED; ND=NOT DETECTED; MS=MISSING SAMPLE; T=TRACE



BARRINGER MAGENTA LIMITED
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AUTHORITY: ART SLINGSBY

29/AUG/80
PAGE 12 OF 12
WORK ORDER # NORCEN

NORCEN ENERGY RESOURCES
715-5TH AVE. S.W.
CALGARY, ALBERTA
T2P 2X7

SAMPLE GROUP #15

FINAL REPORT

G E O C H E M I C A L L A B O R A T O R Y R E P O R T

SAMPLE TYPE:
STREAM SEDIMENT

SAMPLE NUMBER	ZN PPM
S	
1017	64.
1018	72.
1019	64.
1020	24.
2004	86.
2005	80.
2006	18.
2007	33.
2013	91.
2014	84.
2015	74.

WO NO: R0-0457

ANALYSTS DATE: 09/07/80 MATRIX: HF

FILE: T0-0457

SAMPLE ID	AL2O3 %	FE2O3 %	CAO %	MO %	TIO2 %	MP02 %	BA2O %	K2O %	PP05 %
1146-R	22.8	8.76	.277	2.87	.402	.0821	.771	4.13	.13
2001-R	10.9	7.35	.124	.989	.282	.0243	.315	2.93	.14
2002-R	5.73	5.09	.512	.570	.0590	.110	.623	.932	.03
2003-R	11.3	7.19	1.65	2.14	.243	.229	.464	1.41	.06
2004-R	22.3	10.6	1.45	3.03	.533	.374	1.25	3.23	.11
5001-R	24.8	11.1	.213	3.34	.598	.119	1.06	3.58	.15
5002-R	21.8	9.24	.114	2.81	.571	.0673	.900	4.07	.09
5003-R	23.6	10.3	.084	2.19	.460	.118	1.05	3.17	.13
5004-R	7.84	4.76	1.37	.407	.103	.0871	1.40	.722	.02
1187-R	14.1	5.13	.119	2.97	.385	.0313	1.97	2.14	.05
1189-R	10.6	7.80	.090	2.48	.394	.0522	1.85	1.23	.05
1194-R	13.1	4.79	.078	1.58	.693	.0385	1.19	2.04	.03
2005-R	14.3	13.3	3.29	3.19	.422	.695	.755	1.63	.02
2006-R	15.6	10.7	3.19	3.18	.420	.761	.750	2.33	.06
2007-R	9.16	8.74	20.4	9.52	.166	2.12	.336	2.40	.18
2008-R	26.1	6.31	.169	1.98	.547	.0514	1.24	4.53	<.01
2009-R	24.1	8.77	.061	3.14	.565	.0513	1.12	3.58	.05
2010-R	24.5	12.8	.584	2.46	.313	2.28	1.02	3.83	.20
3001-R	8.61	4.03	.081	1.34	.126	.0574	2.82	.647	.63
3002-R	.625	1.12	.022	.0355	.0034	.0188	<.003	.102	<.01
3003-R	.592	2.82	.865	.0804	.0029	.0150	<.003	.118	.52
3004-R	.464	3.98	.048	.0277	.0033	.0536	<.003	.075	<.01
3005-R	1.95	38.5	.003	.0325	.0232	.0091	.019	.465	<.01
3006-R	4.60	6.28	2.16	1.07	.0545	.124	.185	.903	.07
5005-R	4.71	1.96	.774	.216	.0435	.0813	1.72	.405	.01
5006-R	14.3	8.64	.102	2.42	.416	.142	1.30	3.11	.09
5007-R	9.56	4.65	.470	1.24	.356	.0610	2.09	1.05	.04
5008-R	22.7	8.03	.168	2.38	.423	.105	1.21	3.66	.15

WO NO:80-0457 ANALYSIS DATE: 09/07/80 MATRIX: HF

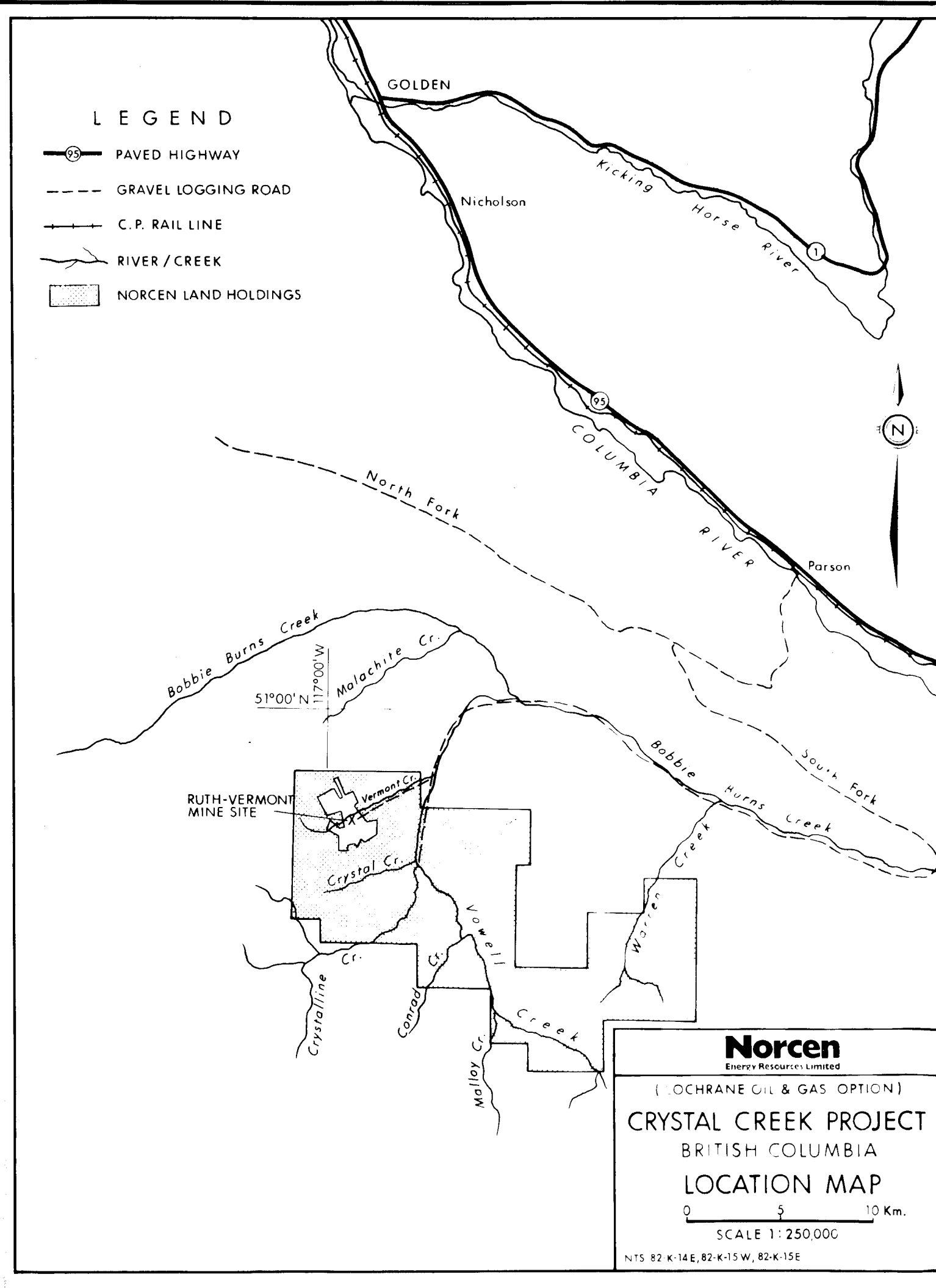
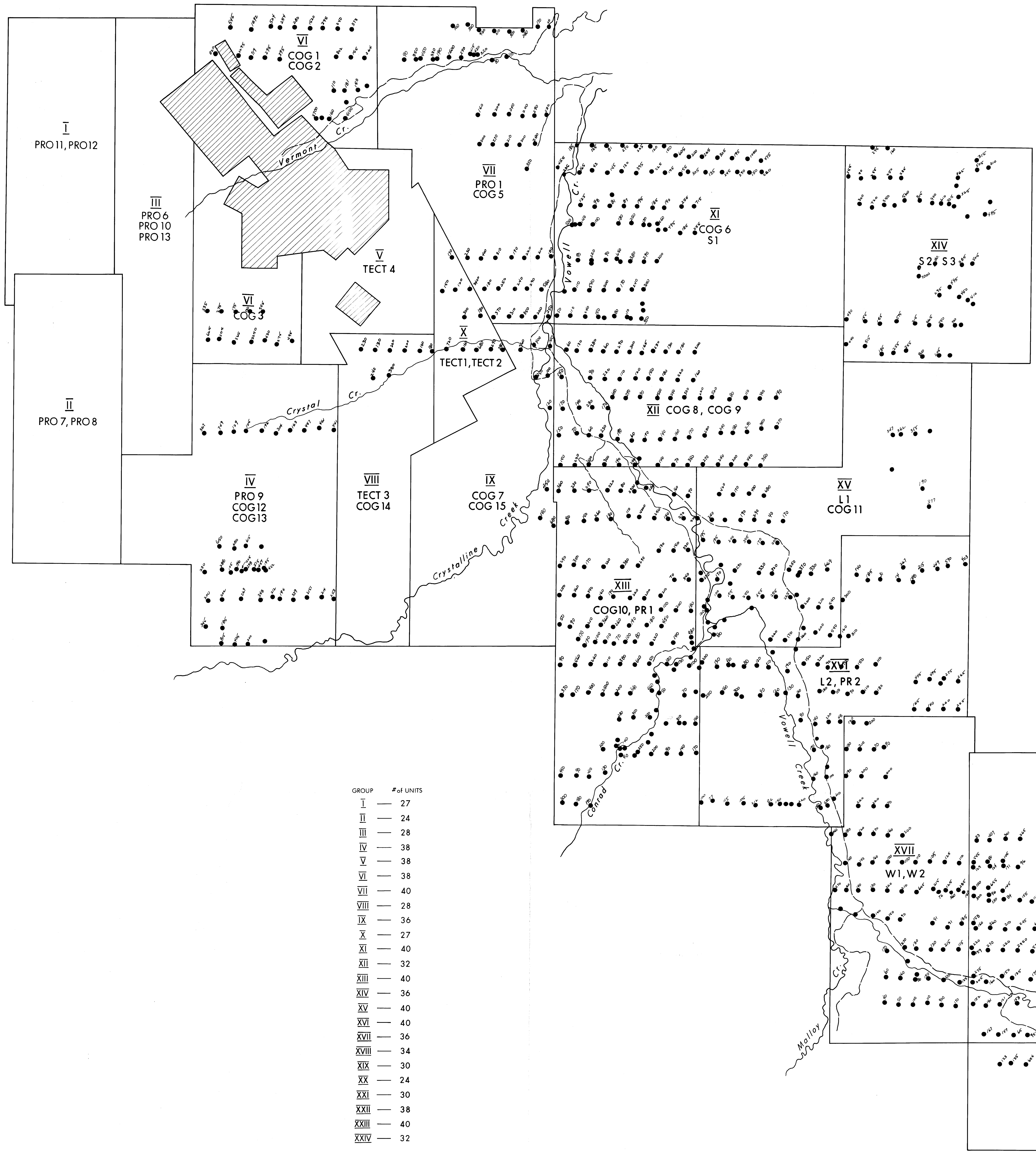
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SAMPLE ID	BF PPM	CD PPM	CR PPM	CO PPM	CU PPM	PH PPM	NI PPM	AG PPM
1146-R	2.0	<7	385	31	14.9	<5	68	<5
2001-R	1.2	<7	2240	40	27.4	35	26	<5
2002-R	.7	<7	1890	57	27.7	30	44	<5
2003-R	.9	<7	1180	46	68.1	<5	57	<5
2004-R	2.1	<7	322	46	45.5	15	95	<5
5001-R	2.4	<7	178	30	35.7	<5	78	<5
5002-R	2.0	<7	414	25	30.1	500	71	<5
5003-R	2.4	<7	341	29	53.9	<5	73	<5
5004-R	.7	7	1090	26	23.2	<5	36	<5
1187-R	1.5	<7	1120	28	7.1	<5	53	<5
1189-R	.6	<7	1700	36	23.1	15	60	<5
1190-R	1.5	<7	1150	29	9.1	<5	41	<5
2005-R	1.2	<7	502	38	47.6	10	88	<5
2006-R	1.6	<7	576	33	82.0	20	77	<5
2007-R	.9	10	84.9	17	5.1	70	32	<5
2008-R	3.5	<7	369	<3	8.1	10	40	<5
2009-R	2.5	<7	189	18	25.1	<5	58	<5
2010-R	2.9	<7	82.7	67	57.9	5	118	<5
3001-R	.4	<7	1120	23	9.5	25	37	<5
3002-R	.1	36	1480	23	833	41000	13	462
3003-R	.1	442	887	17	2000	10000	15	493
3004-R	.2	43	4560	64	9560	17200	47	263
3005-R	.4	<7	1100	152	94.3	1450	152	12
3006-R	.7	<7	1250	25	37.6	430	39	<5
5005-R	.2	<7	1580	24	8.9	165	17	<5
5006-R	2.1	<7	455	31	25.8	40	60	<5
5007-R	.6	<7	1240	31	2.9	75	39	<5
5008-R	2.5	<7	224	22	32.2	115	58	<5

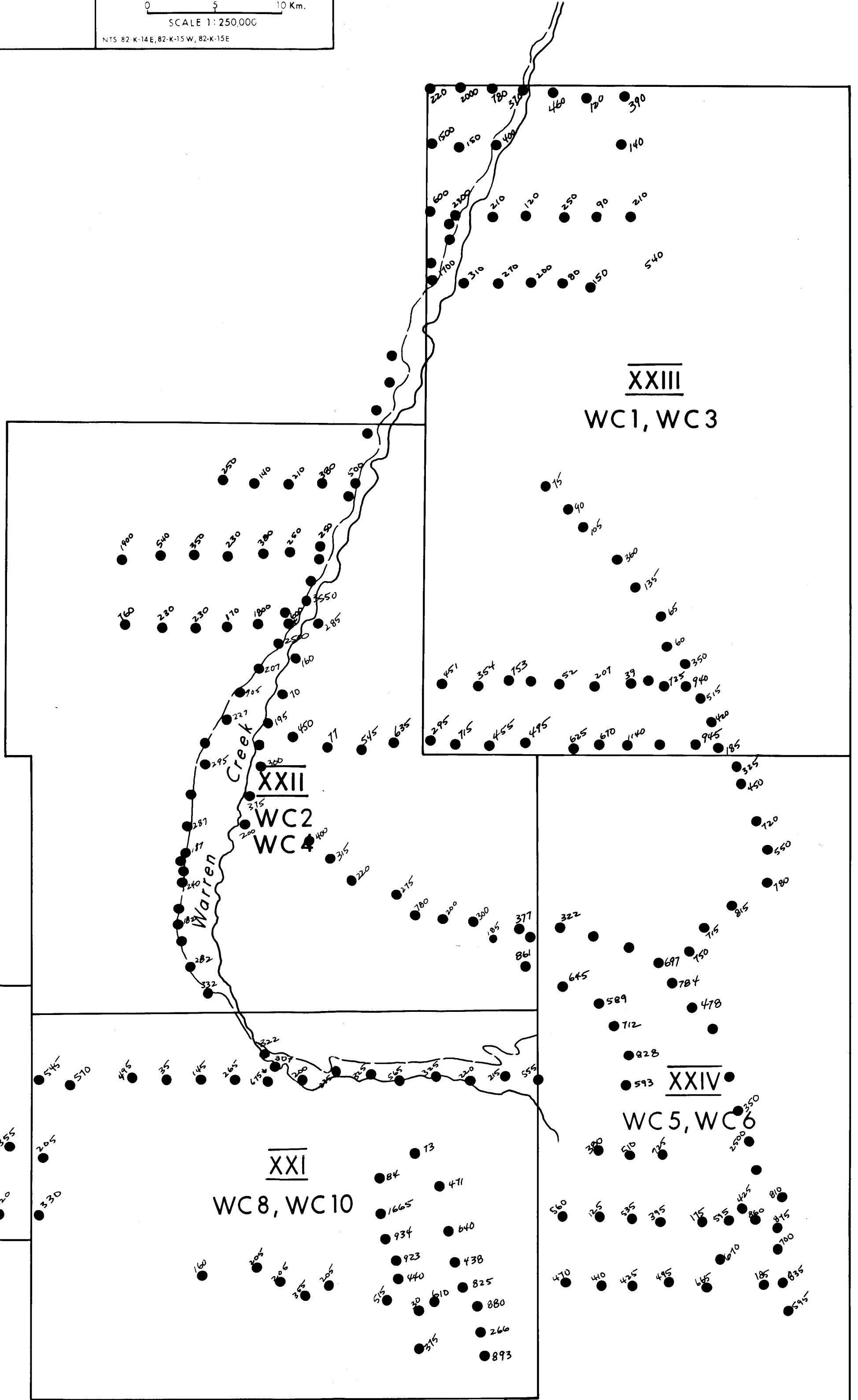
WO NO:80-0457 ANALYSIS DATE: 09/07/80 MATRIX: HF

FILE:10-0457

SAMPLE ID	SR PPM	TH PPM	ZR PPM	V PPM	70 PPM	MO PPM
1146-R	68.3	23	80	100	93	<30
2001-R	41.8	20	56	124	27	40
2002-R	28.4	14	13	99.7	28	30
2003-R	48.9	18	49	103	72	40
2004-R	123	28	94	114	116	30
5001-R	110	22	97	118	112	<30
5002-R	83.3	19	119	120	114	<30
5003-R	115	25	94	113	102	<30
5004-R	44.2	12	22	73.9	33	<30
1187-R	67.8	8	45	104	39	<30
1189-R	43.3	9	33	113	52	<30
1194-R	43.3	28	42	153	36	<30
2005-R	83.0	13	46	111	132	<30
2006-R	121	15	90	106	87	<30
2007-R	274	11	37	45.4	41	<30
2008-R	149	14	93	122	77	<30
2009-R	114	18	93	118	95	<30
2010-R	137	15	81	100	184	30
3001-R	56.7	9	23	75.5	34	<30
3002-R	17.8	<6	<3	72.9	5090	<30
3003-R	64.0	<6	<3	36.3	86800	<30
3008-R	6.2	<6	<3	205	3990	<30
3005-R	13.8	<6	10	48.2	217	<30
3006-R	97.5	<6	10	77.9	86	<30
5005-R	19.2	<6	14	69.1	33	<30
5006-R	80.9	17	75	106	87	<30
5007-R	38.2	12	21	99.9	53	<30
5008-R	139	17	91	97.6	113	<30



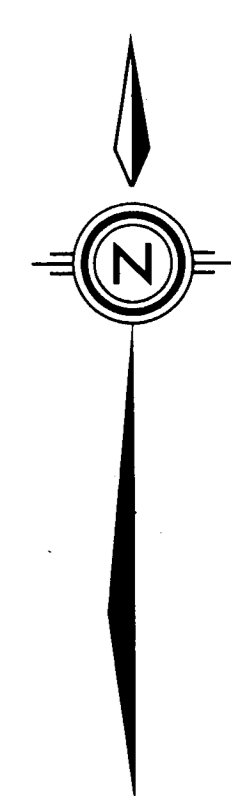
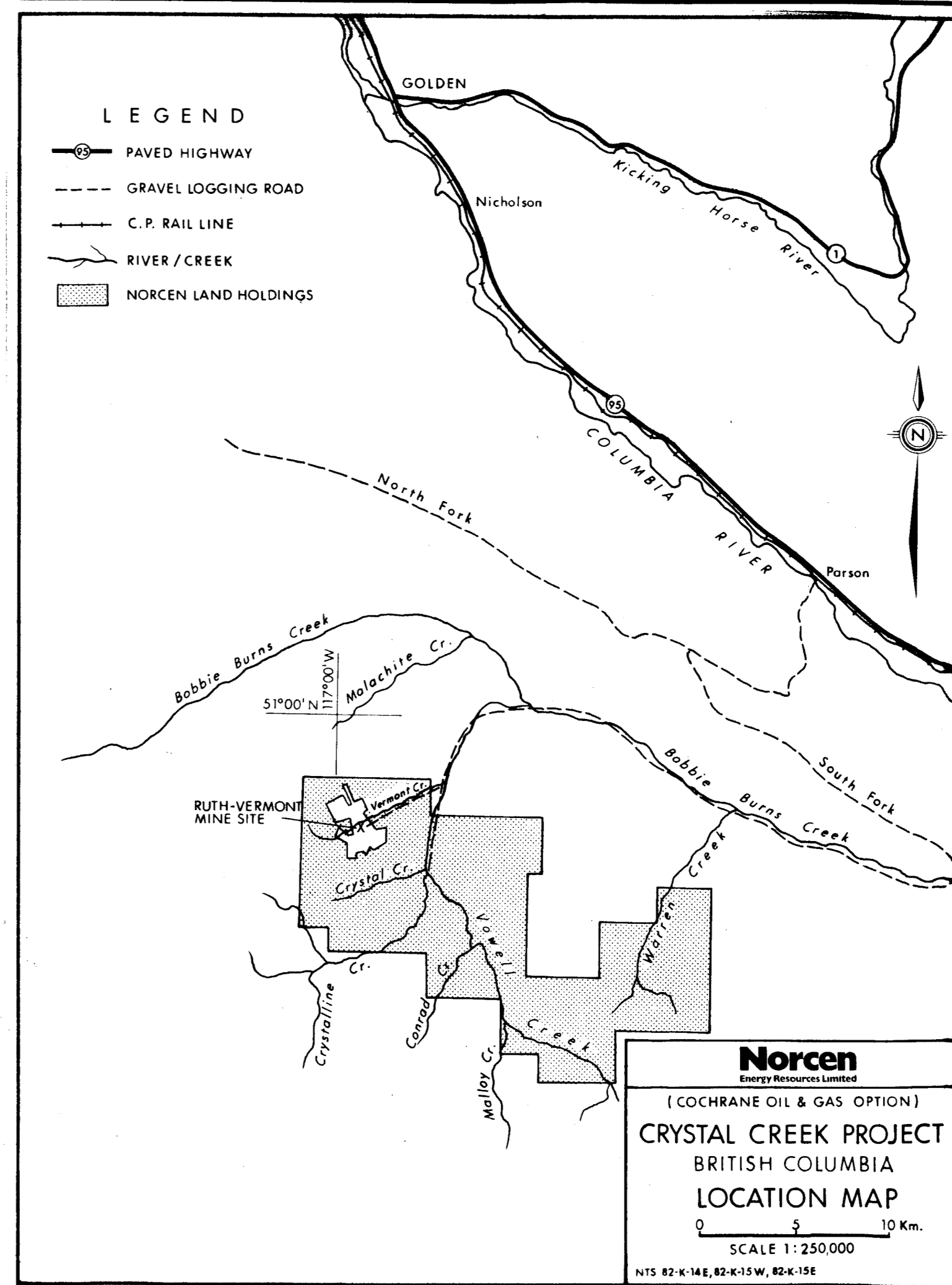
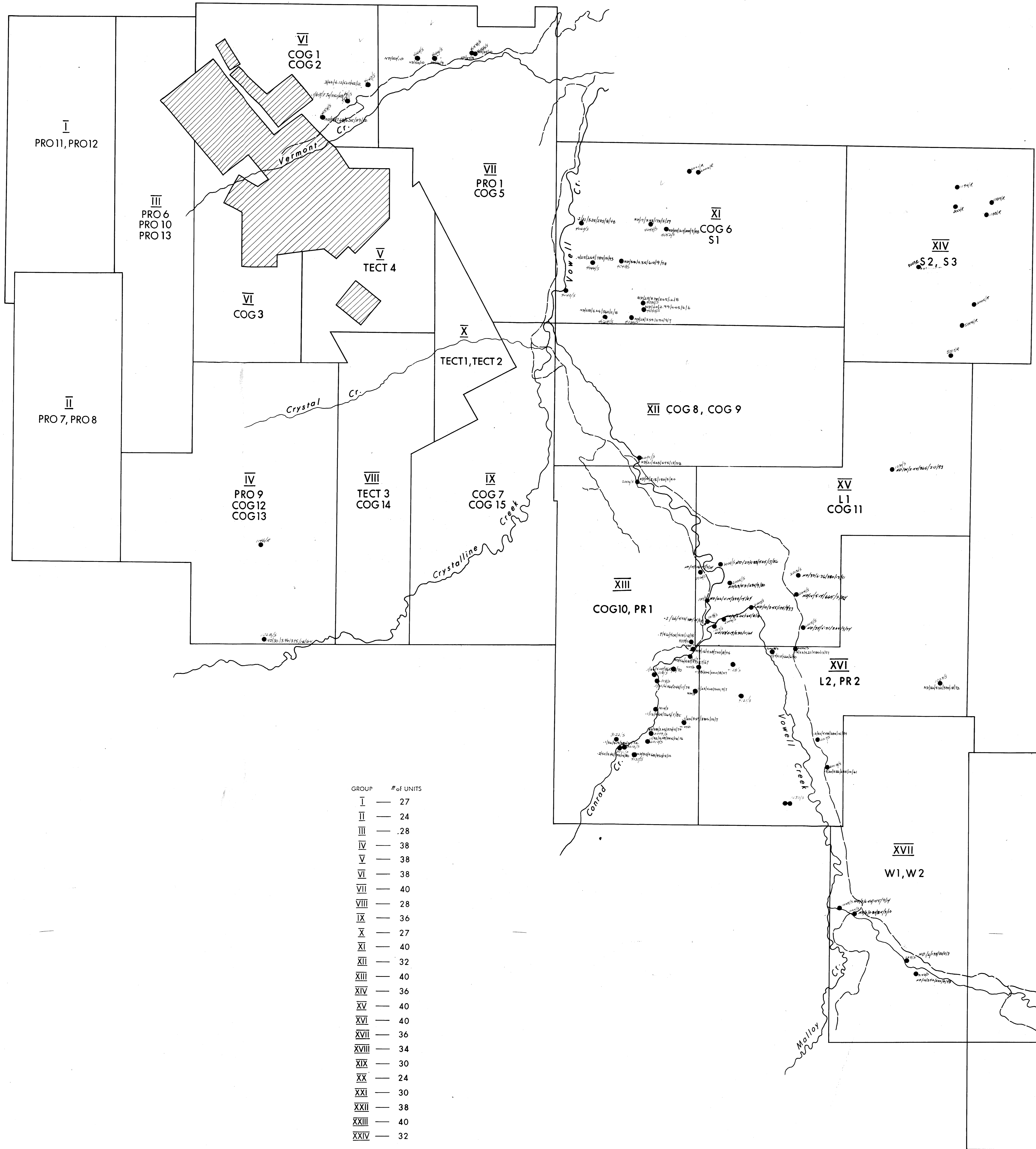
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I	27
II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
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X	27
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XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40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



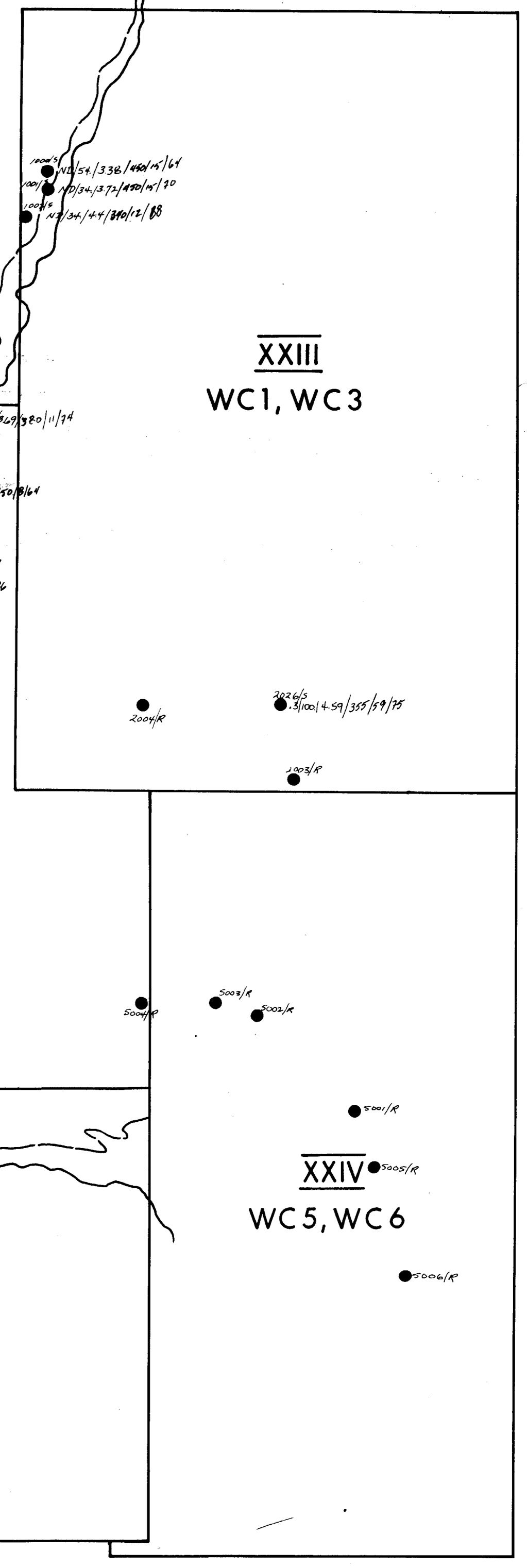
MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
8104
 NO.

part 282

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



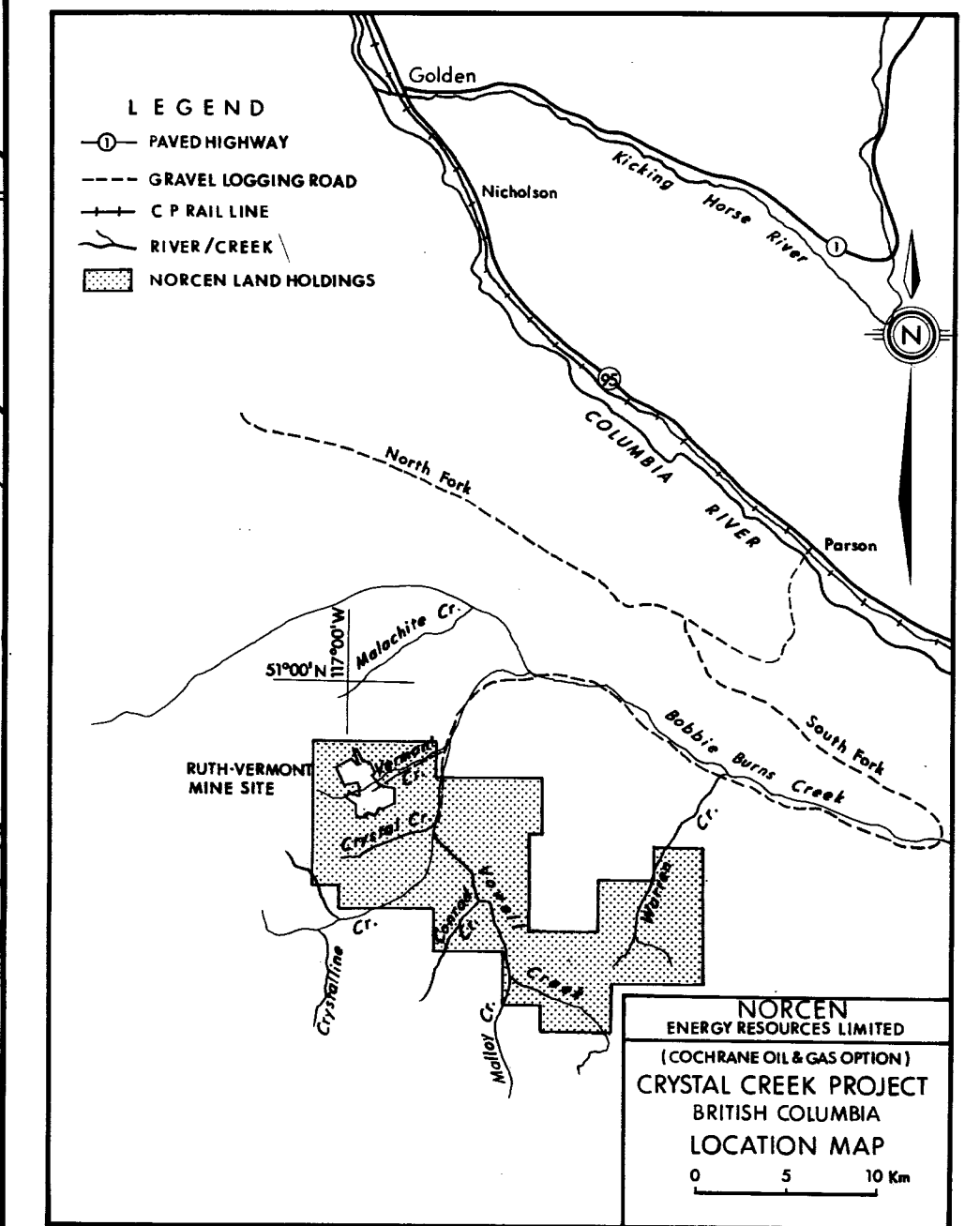
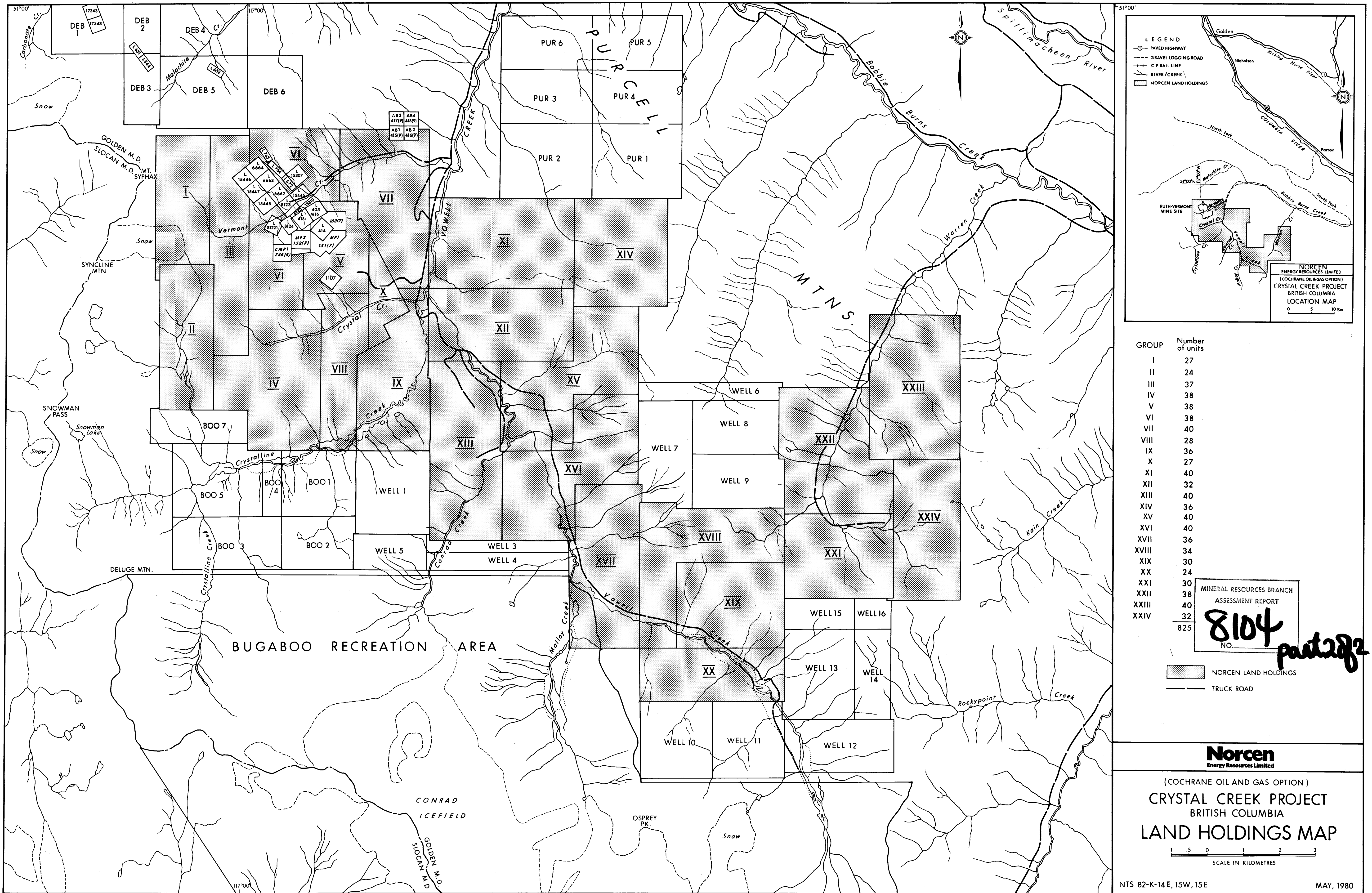
GROUP	# of UNITS
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II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
XI	40
XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104
NO.

part 2 of 2

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



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

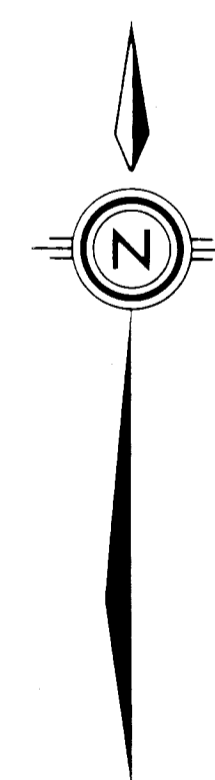
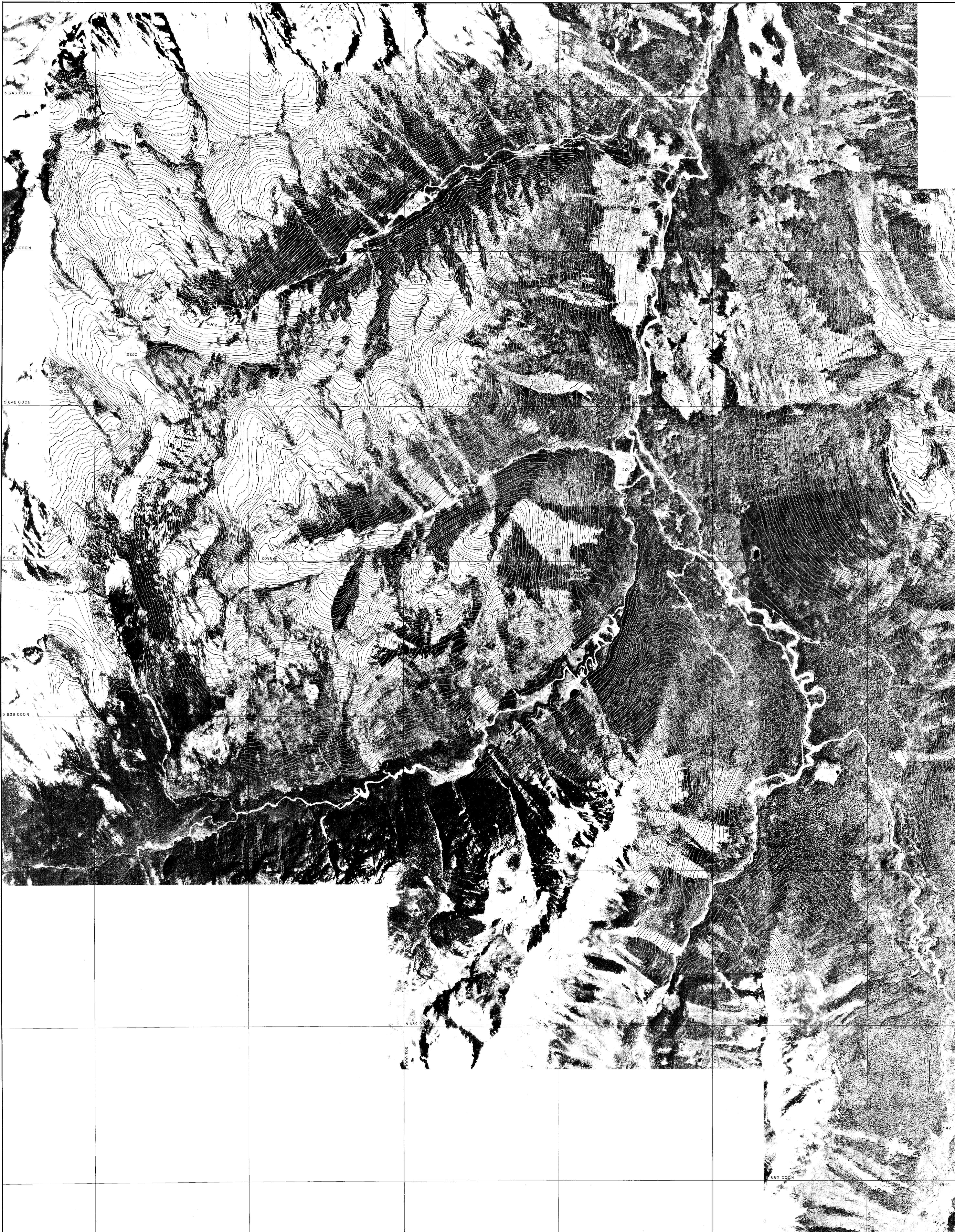
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104
NO. *part 2 of 2*

NORCEN LAND HOLDINGS
TRUCK ROAD

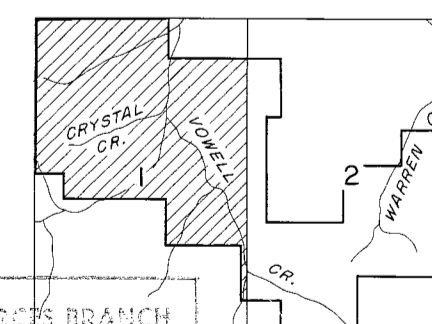
Norcen
Energy Resources Limited

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

SCALE IN KILOMETRES
0 1 2 3



SHEET INDEX



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104 part 2
NO. **82**
NORCEN
ENERGY RESOURCES LIMITED

CRYSTAL CREEK PROJECT
BRITISH COLUMBIA

SCALE
400 200 0 400 800 1200 1600
METRES METRES METRES

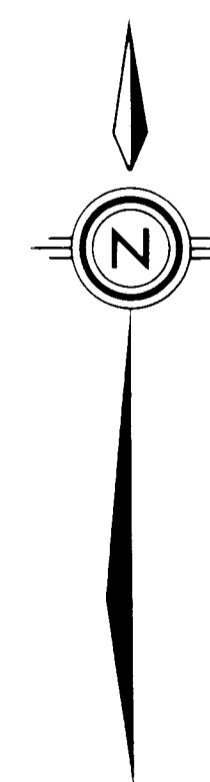
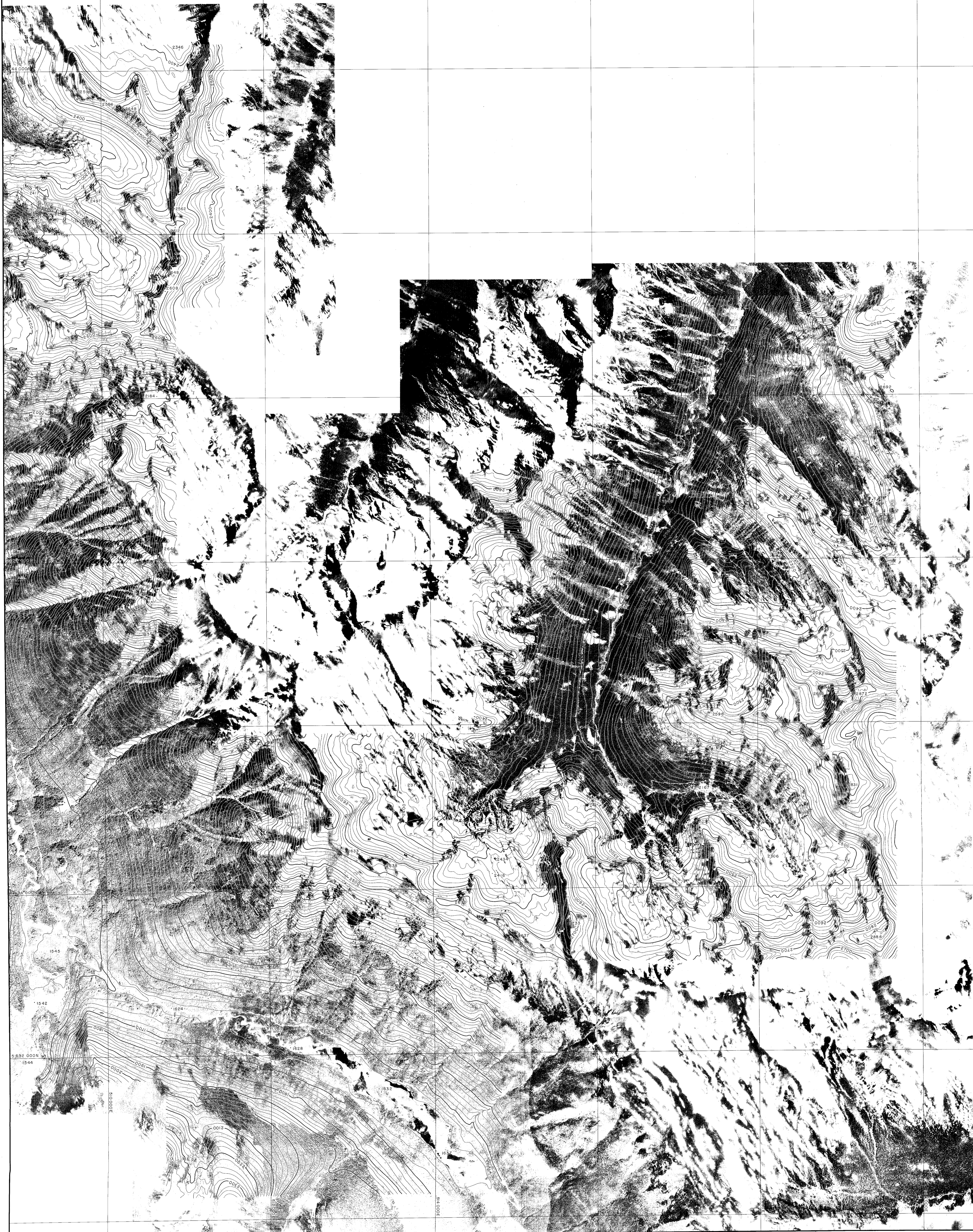
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CONTOUR INTERVAL 20 METRES

AERIAL PHOTOGRAPHY BY
GOVT. OF CANADA, JULY 1976

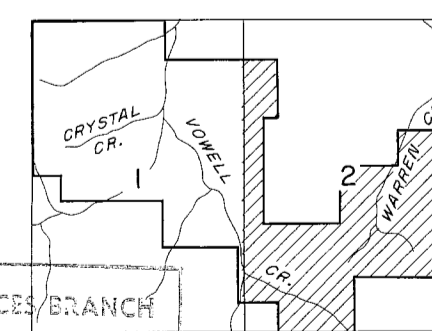
CONTROL BY
N.T.S. 82X, 1:250,000

NORTH WEST SURVEY CORPORATION INTERNATIONAL LTD.

DRAWN BY V.Y.	CHECKED BY V.Y.	R.A.	DATE MAY 1980	JOB NO. 80-142	SHEET 1 OF 2
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SHEET INDEX



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8104 part 2
NO. **82**
NORCEN
ENERGY RESOURCES LIMITED

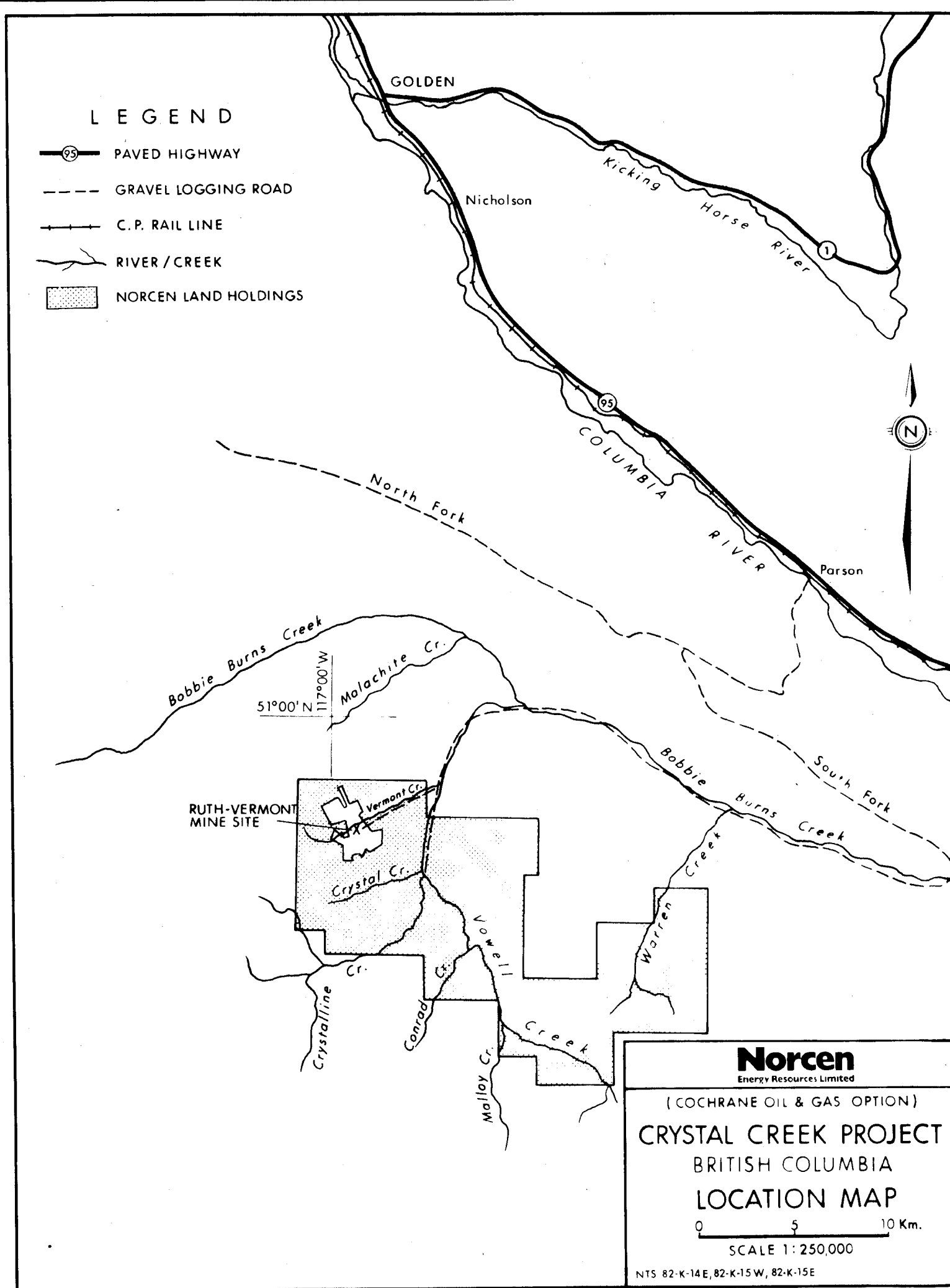
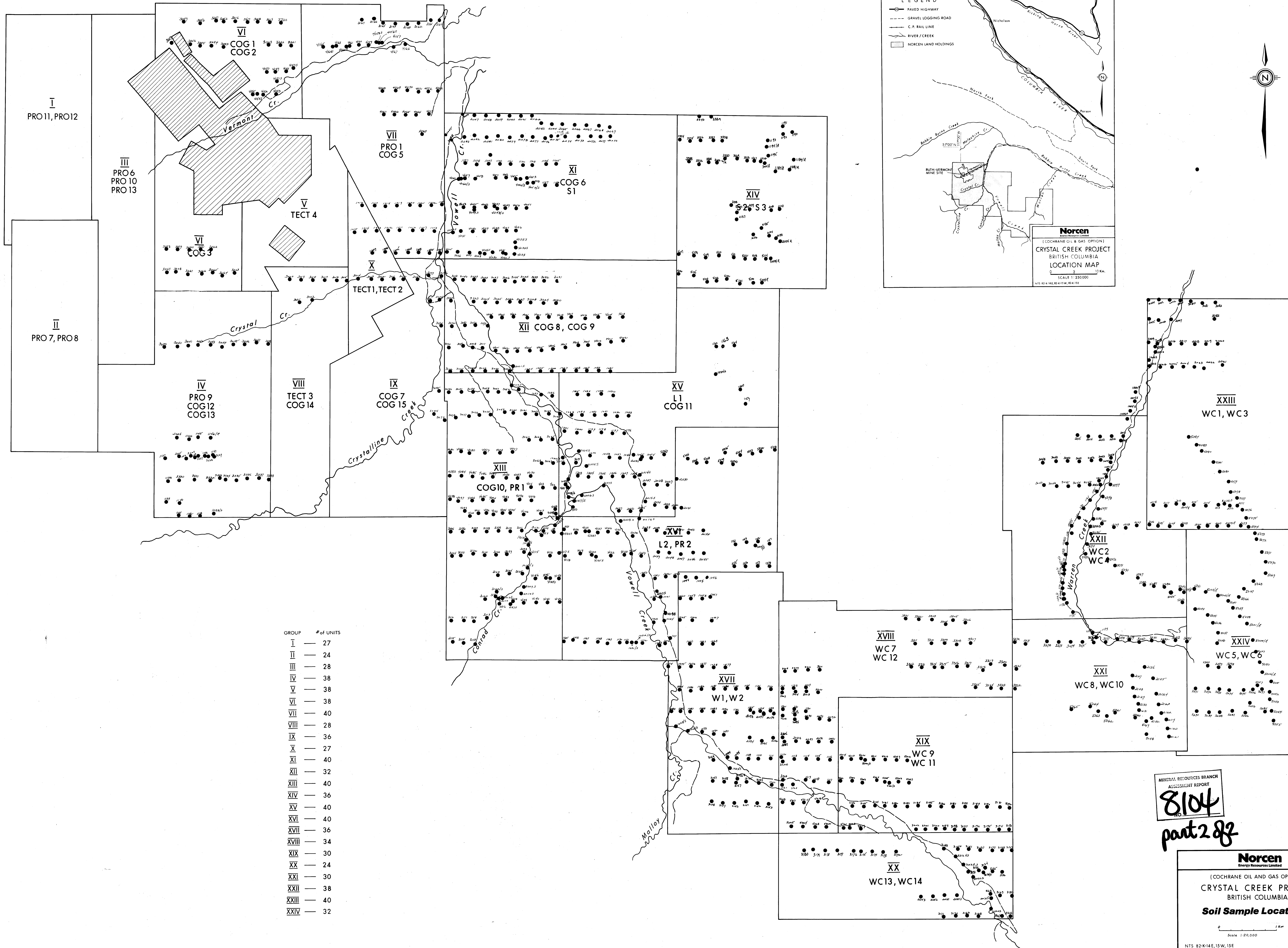
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA

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

NORTH WEST SURVEY CORPORATION INTERNATIONAL LTD.

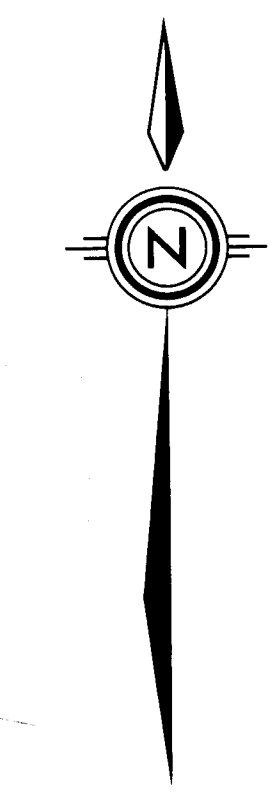
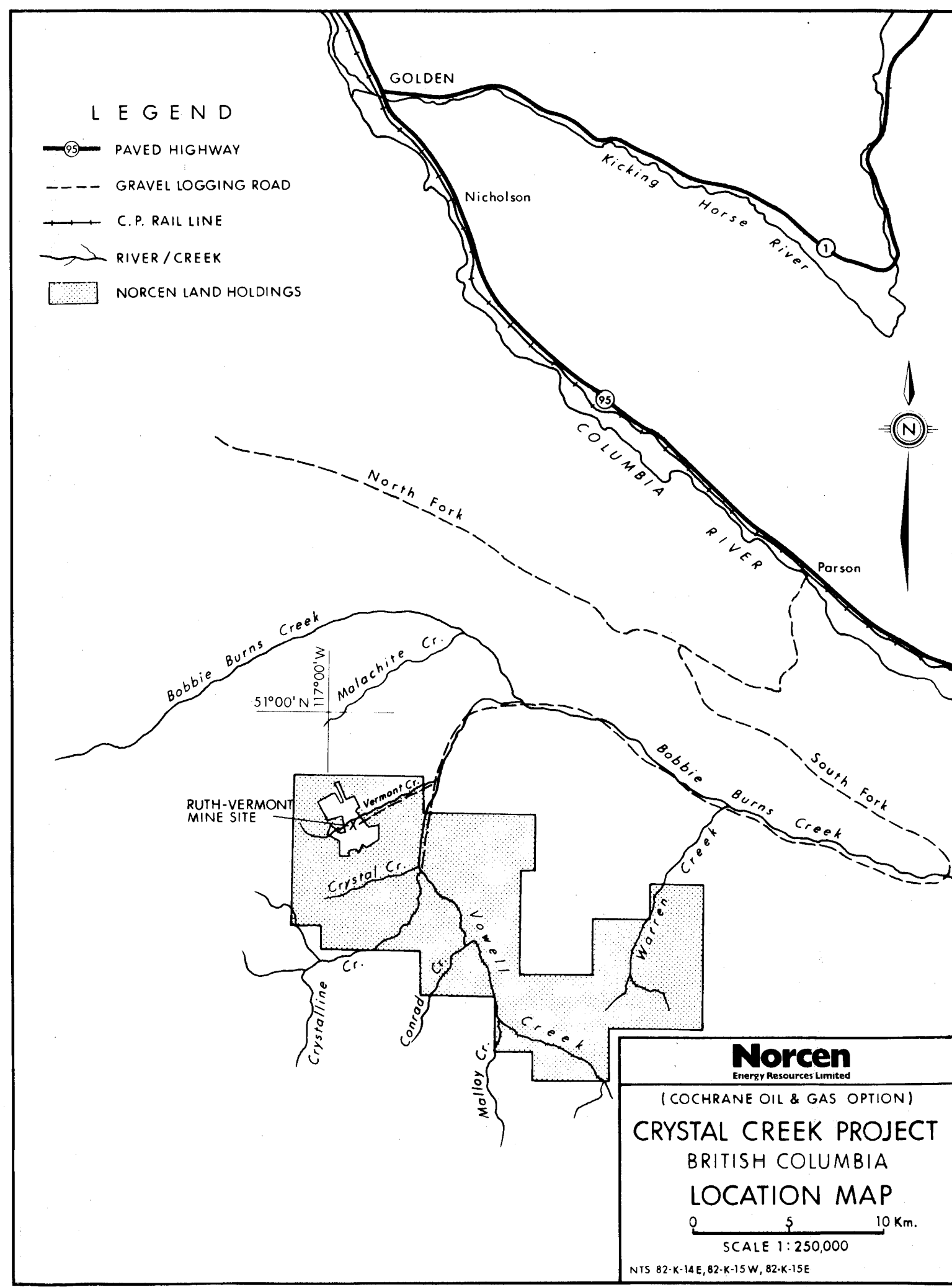
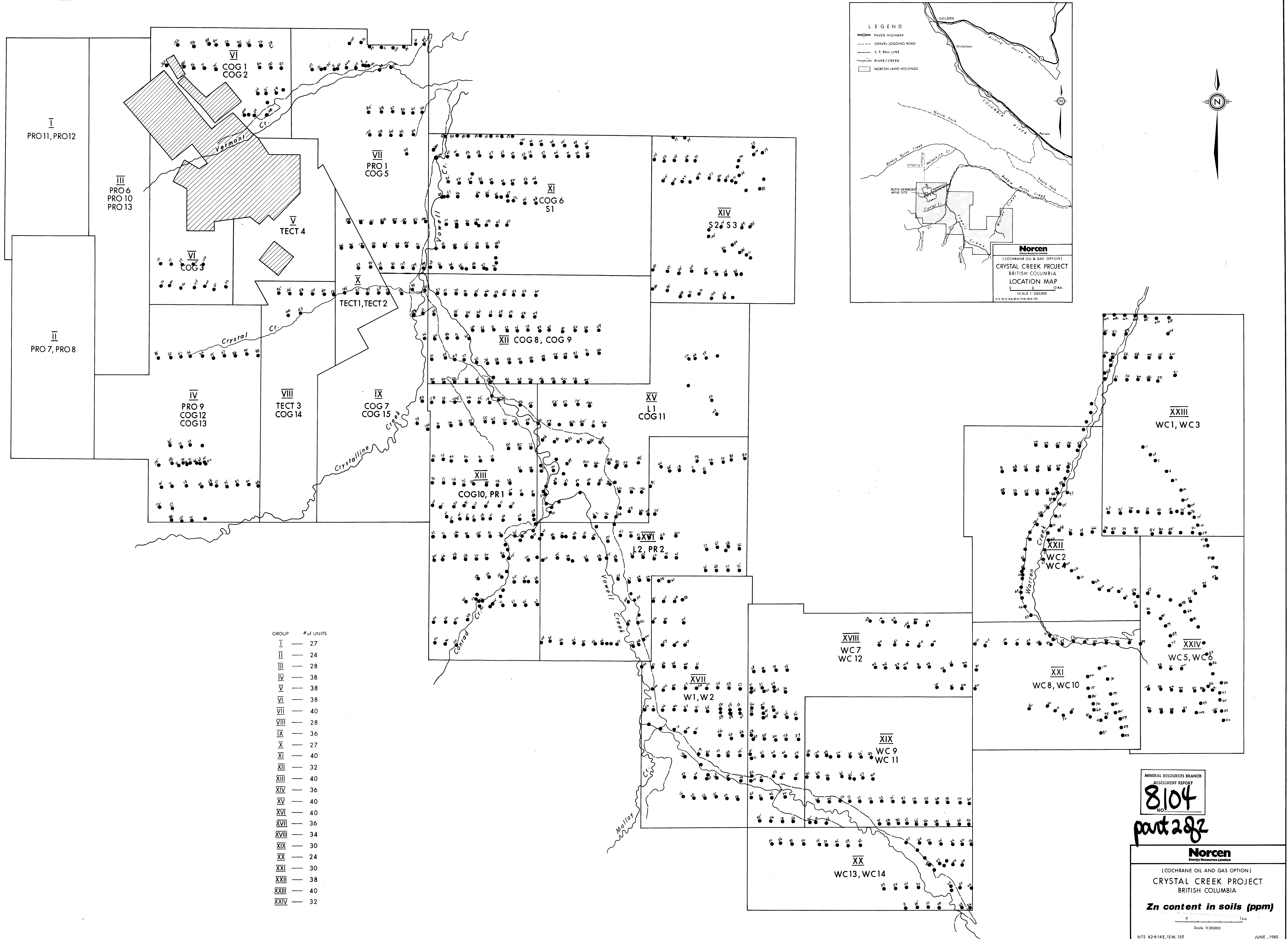
DRAWN BY R.A. DATE MAY 1980 SHEET 2 OF 2
CHECKED BY V.T. JOB NO. 80-142



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

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104
part 2 of 2

Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Soil Sample Locations
Scale 1:25,000
NTS 92-N-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

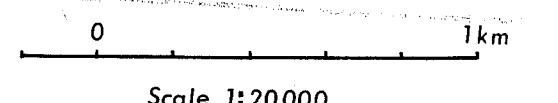
MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
8104
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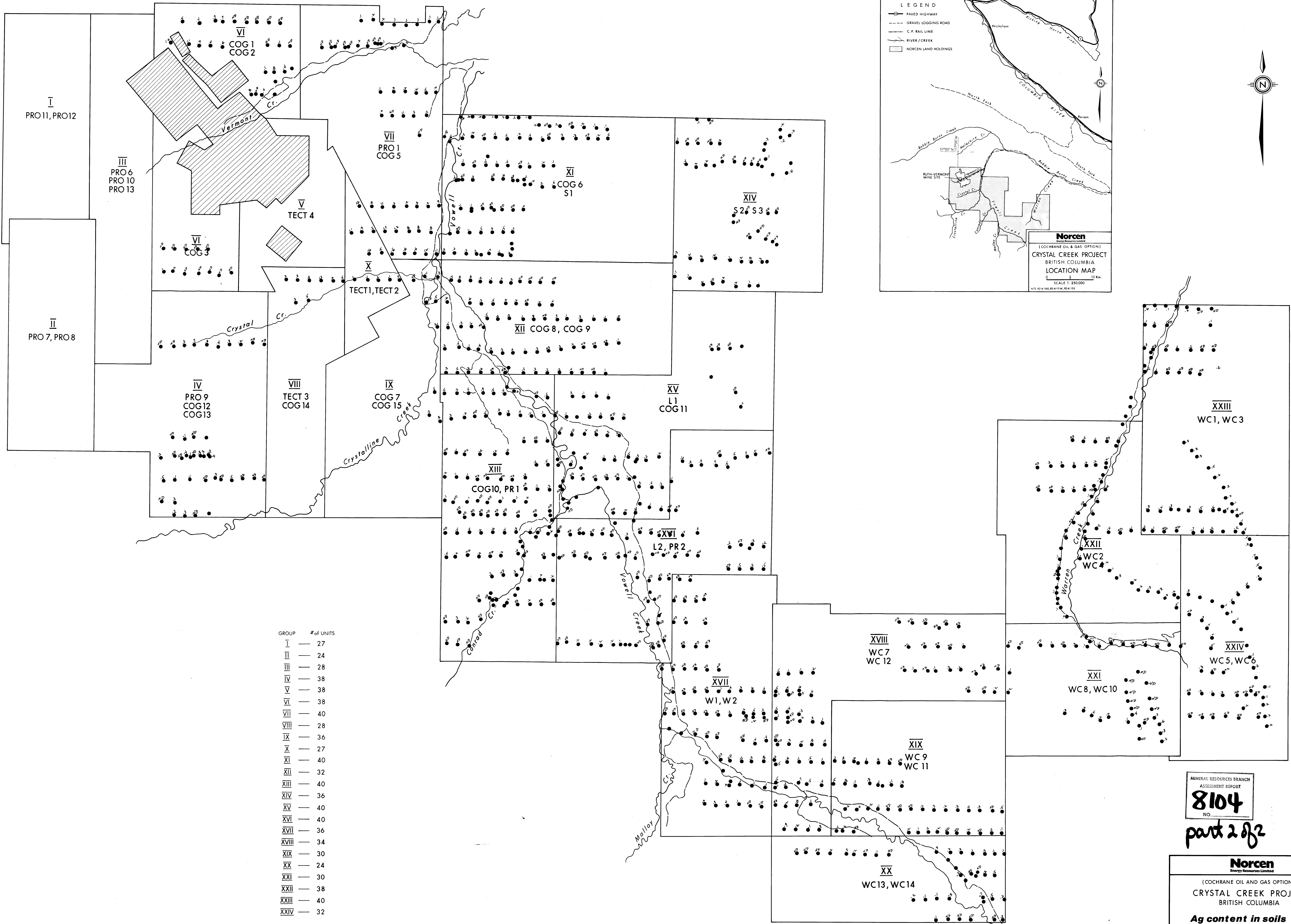
part 2 of 2

Norcen
 Energy Resources Limited

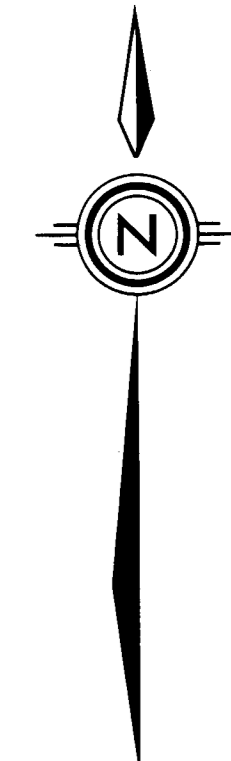
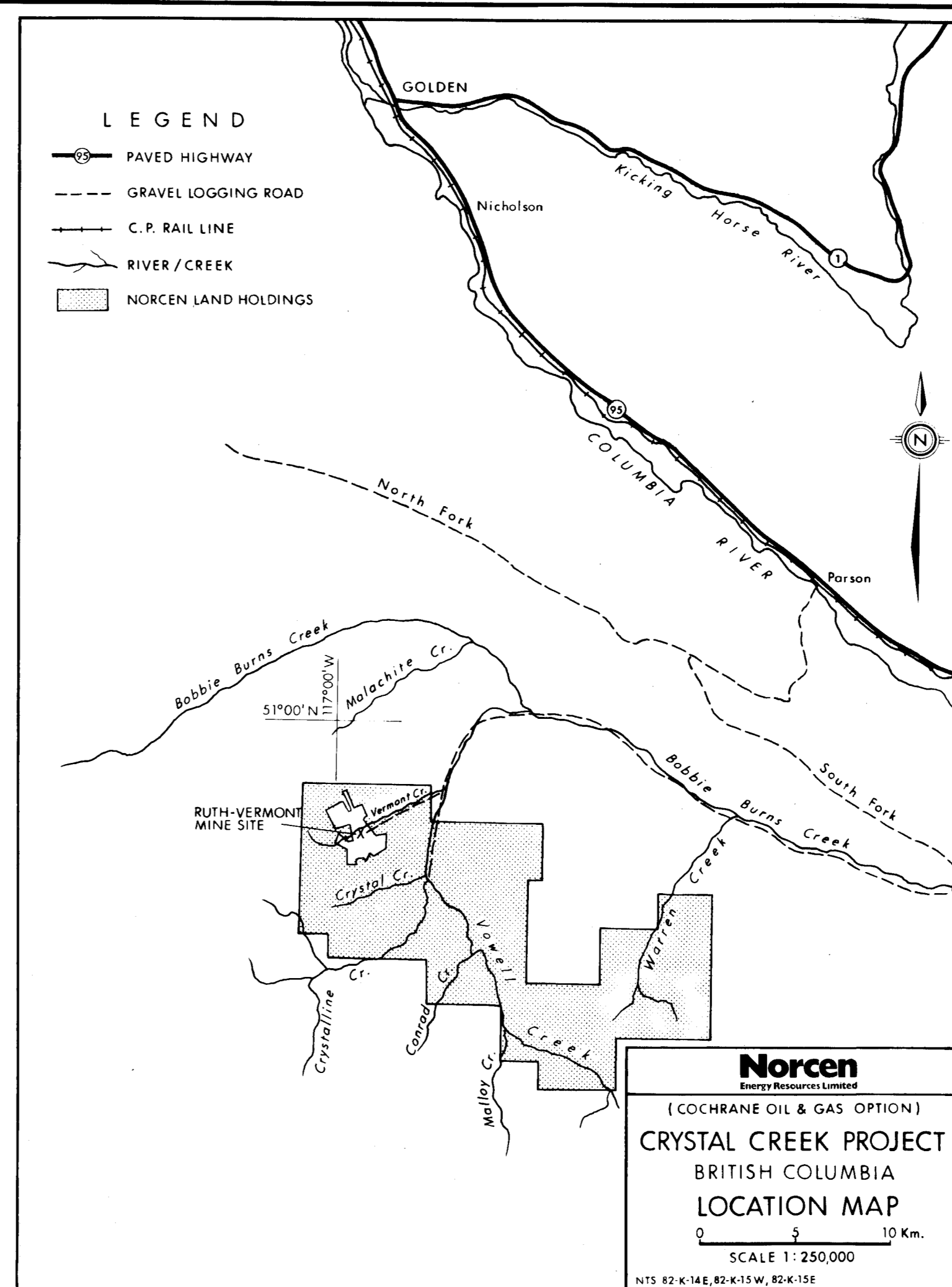
(COCHRANE OIL AND GAS OPTION)
 CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA

Zn content in soils (ppm)





GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	27
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

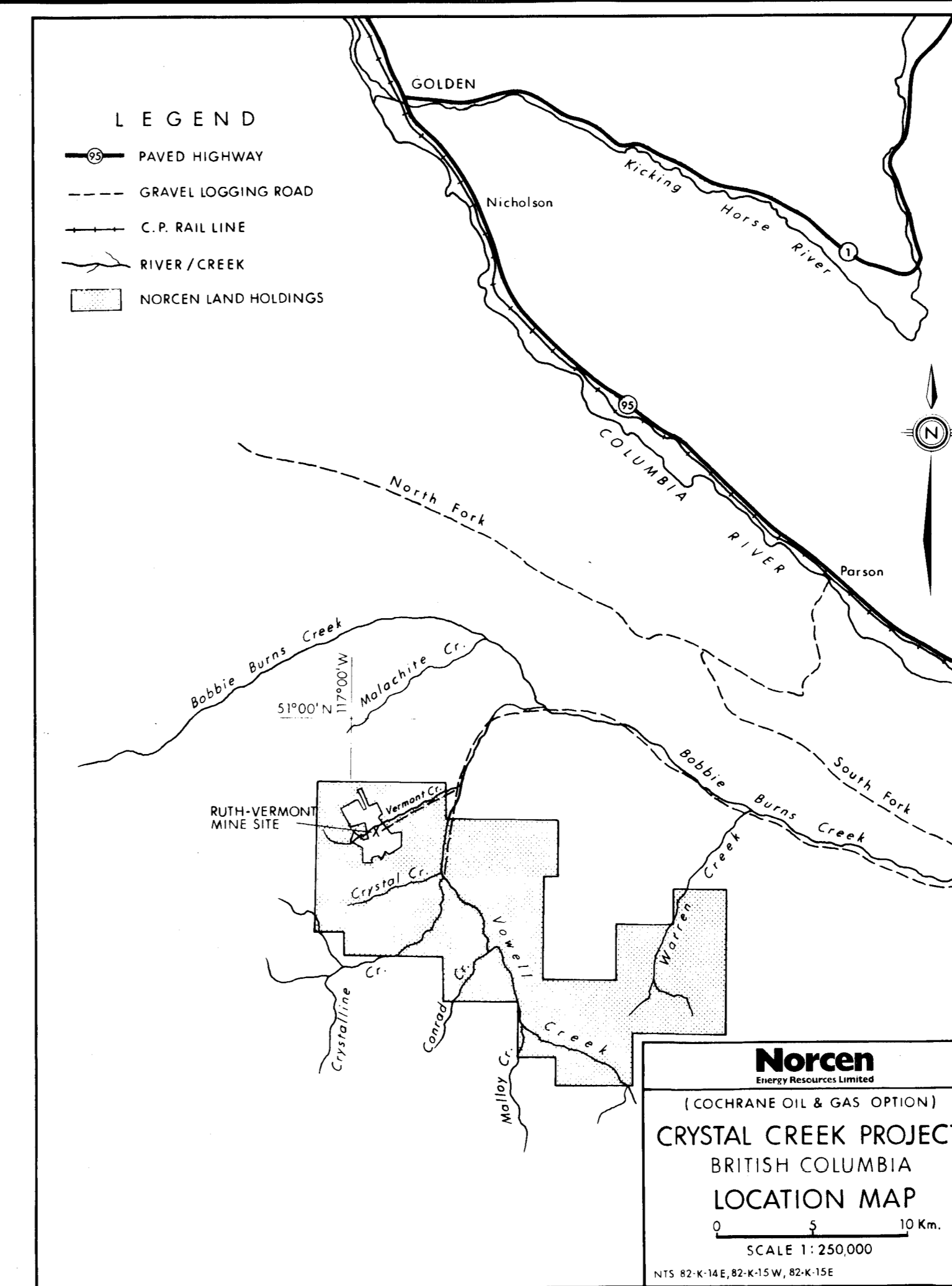
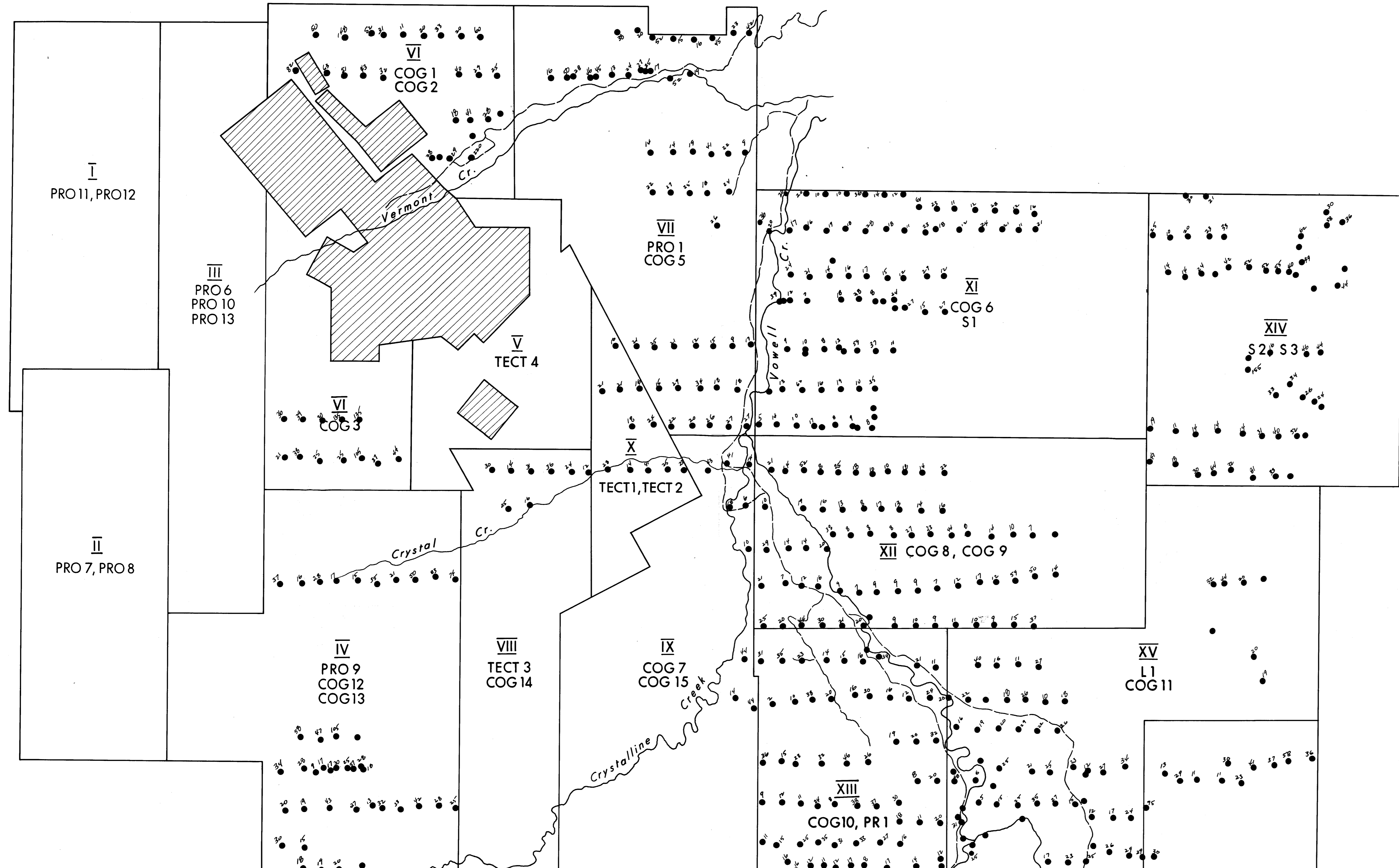


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8104
NO.

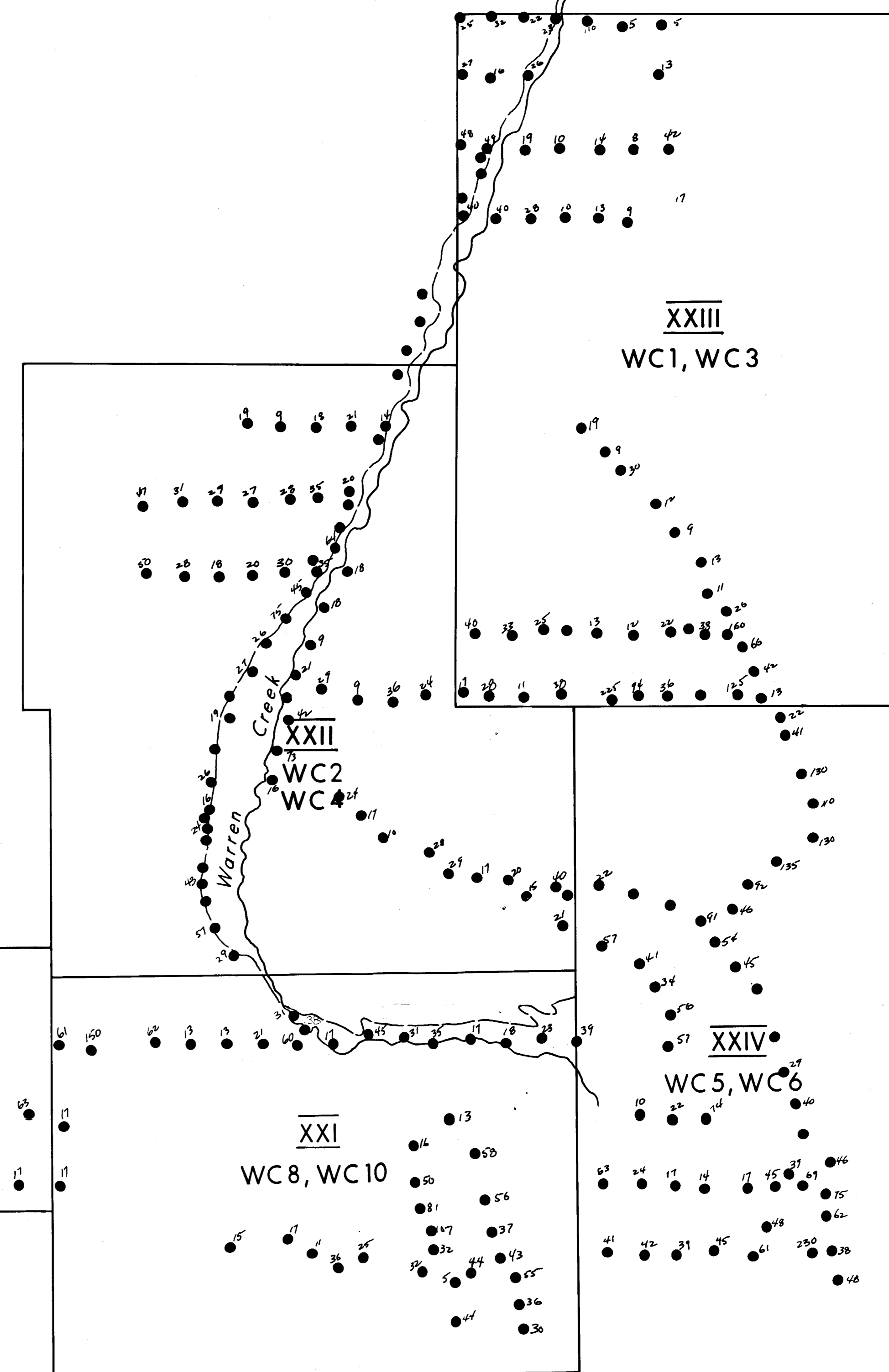
part 2 of 2

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

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



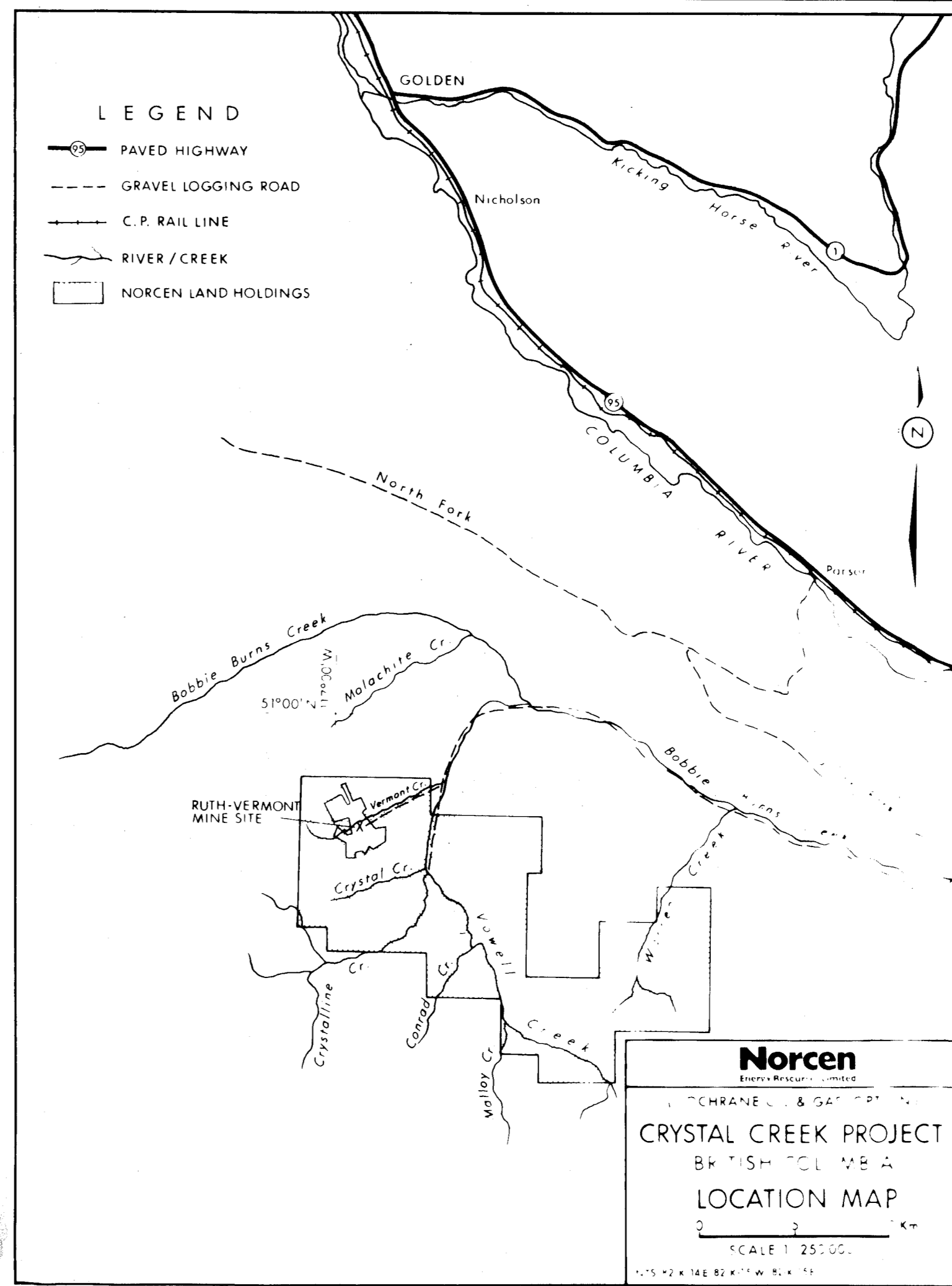
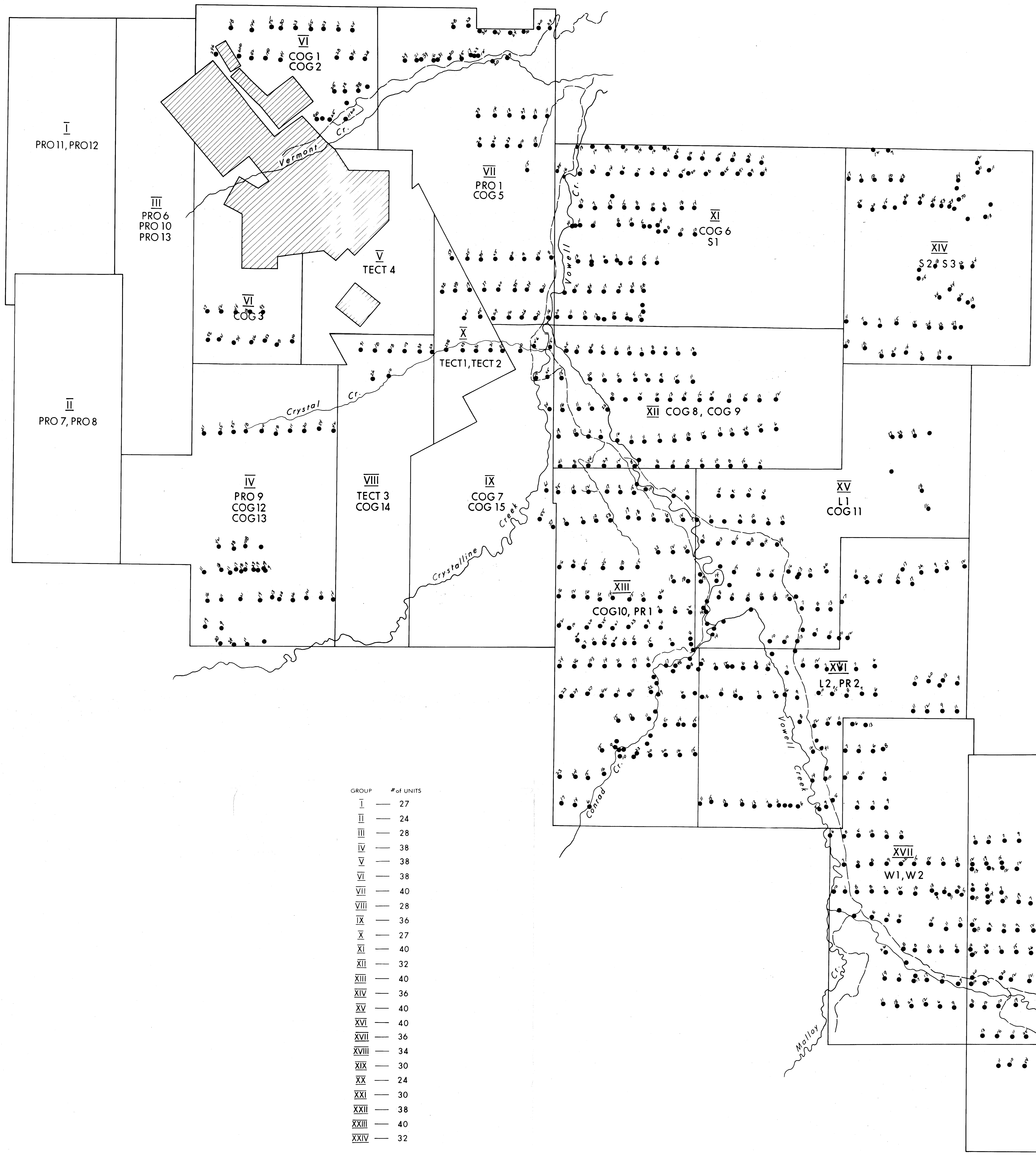
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II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
XI	40
XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32



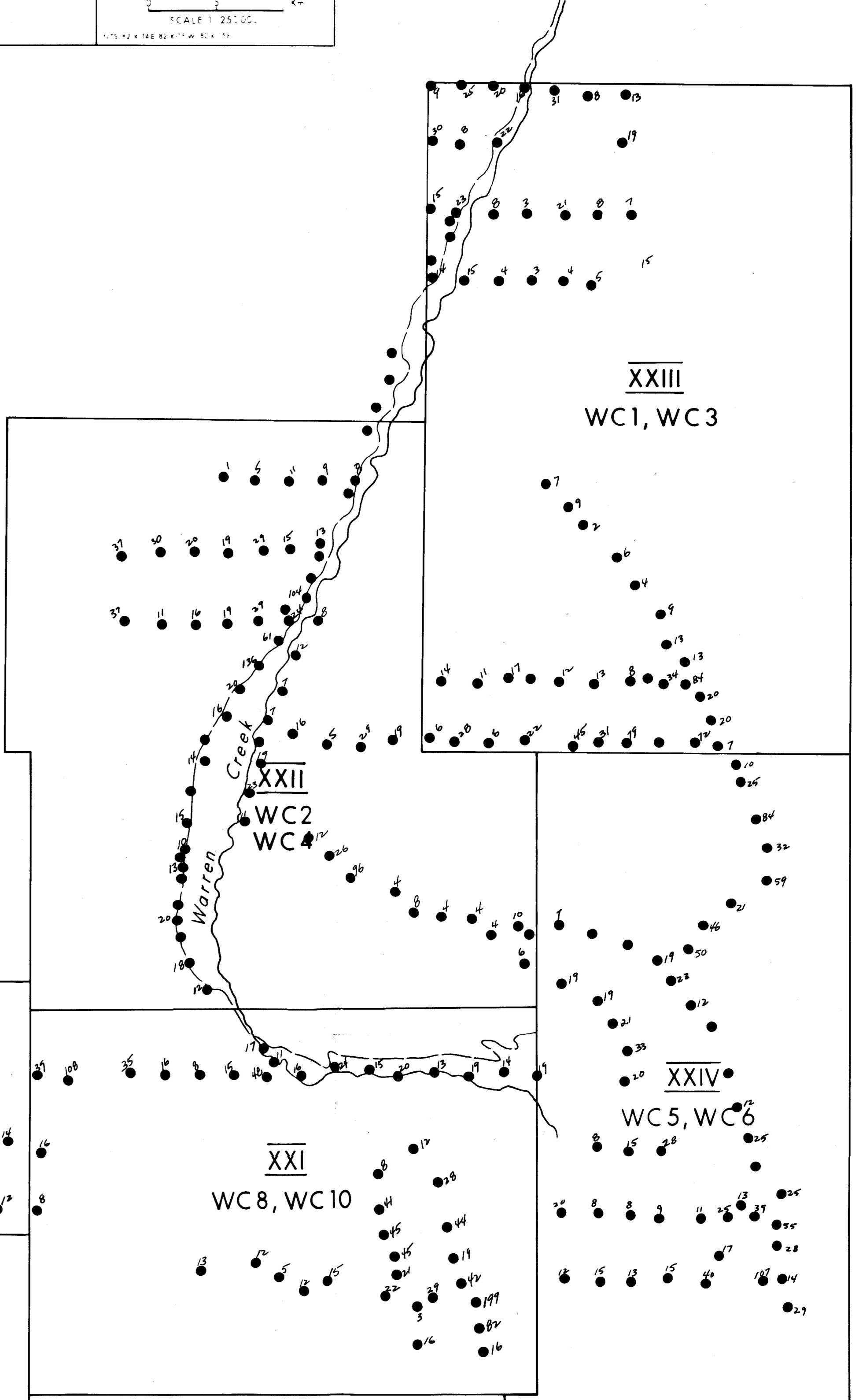
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Norcen
Energy Resources Limited
(COCHRANE OIL AND GAS OPTION)
CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Cu content in soils (ppm)

Scale 1:20,000
JUNE, 1980



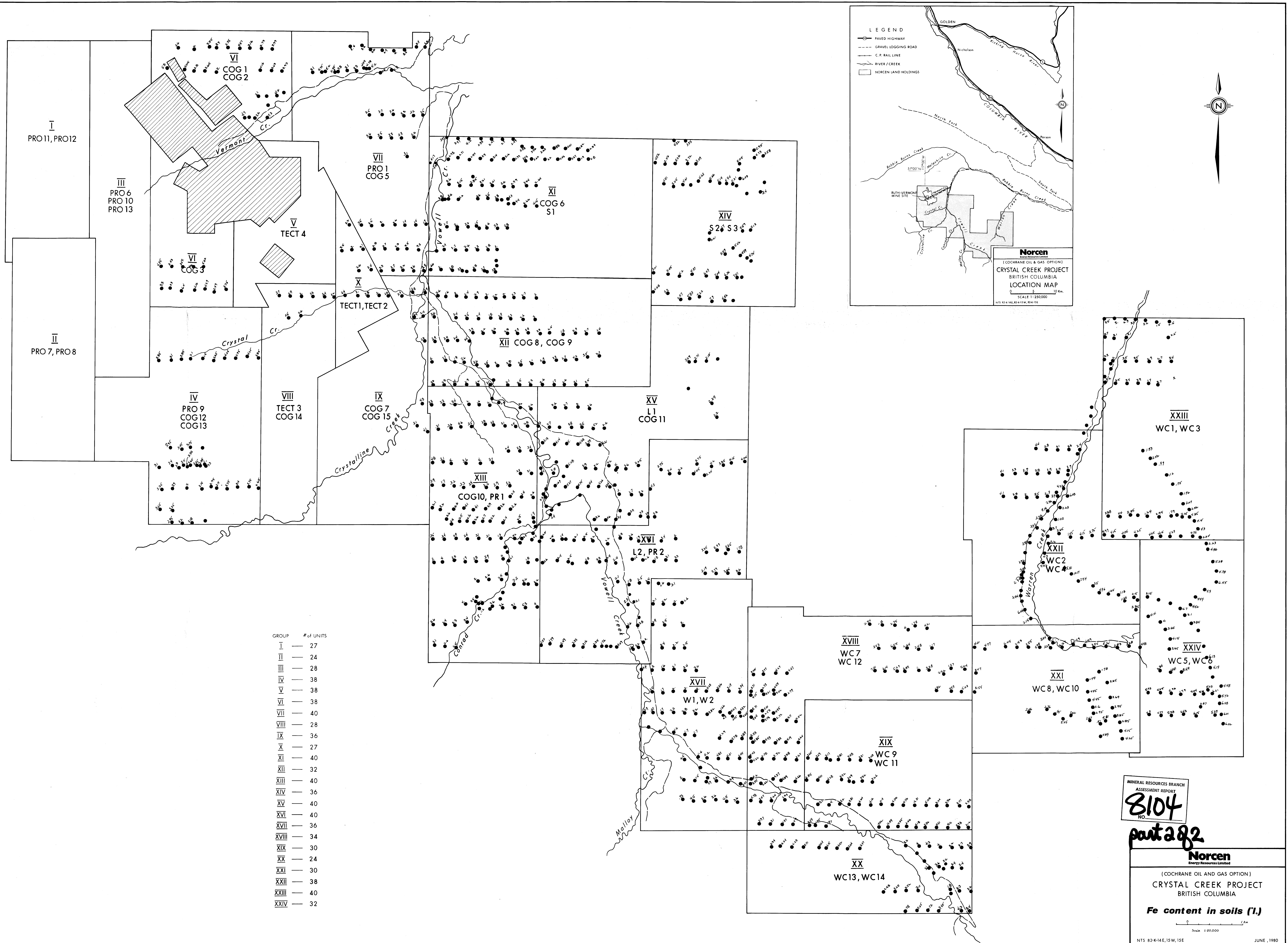
GROUP	# of UNITS
I	27
II	24
III	28
IV	38
V	38
VI	38
VII	40
VIII	28
IX	36
X	27
XI	40
XII	32
XIII	40
XIV	36
XV	40
XVI	40
XVII	36
XVIII	34
XIX	30
XX	24
XXI	30
XXII	38
XXIII	40
XXIV	32



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Norcen
Energy Resources Limited
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CRYSTAL CREEK PROJECT
BRITISH COLUMBIA
Pb content in soils (ppm)
Scale 1:20,000
NTS 82-K-14E, 15W, 15E
JUNE, 1980



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Norcen
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 (COCHRANE OIL AND GAS OPTION)
 CRYSTAL CREEK PROJECT
 BRITISH COLUMBIA
Fe content in soils (1.)
 Scale 1:20,000
 NTS 82-K-14E, 15W, 15E JUNE, 1980