



**Geological Survey of Canada
Commission Géologique du Canada**

Open File 1736

**UPDATE OF COAL INDEX FOR YUKON
AND DISTRICT OF MACKENZIE,
NORTHWEST TERRITORIES**

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INTRODUCTION

This index is an update of GSC Open File 1115, 1985, and provides a summary of data, from all known coal occurrences in Yukon and the western mainland of Northwest Territories (District of Mackenzie). The list includes all outcrops, former mine sites, and subsurface information from boreholes as of 1987. No limit has been set on the thickness of seams to be reported. Although many coal occurrences have little or no economic significance, they may be of use for studies such as thermal maturation. The following information is given for each location:

- The area is subdivided into NTS Quadrangles and its contained Map areas. A specific occurrence is located as precisely as possible (Latitude and Longitude) together with a description of relevant topographical features. Each occurrence is given a MAP Number (see Figure 1 of this Open File; Figure 1 of OF 1115). Map numbers qualified with an "a" give updated information on existing locations in OF 1115).
- Type of Locality: most of the coal occurrences are known only from outcrop. Other categories include mine site, subsurface (either borehole or geophysical) or trenches cleared during an exploration program.
- Under "Name" the formal status and age are given for the coal-bearing strata.
- "The Nature of Seams stratigraphy" provides information on the physical nature of the coal and associated strata, seam thickness, environments of deposition, and tectonic features.
- Coal ranks are classified according to ASTM standards. Where analyses are available, these are quoted individually, or as a range of values where large amounts of data have been published. In most cases, results for analyses 'as Received' are quoted for proximate, sulphur and calorific values. Vitrinite reflectance data is also listed when available.

- Very few indications of reserves are available, but where present, are quoted in terms of the scheme outlined by Bielenstein et al. (1979) in Department of Energy, Mines and Resources Report ER79-9.
- Under "History of Exploration or Mining" a synopsis is given of the exploration and prospecting activities of mining companies, where companies have conducted geophysical surveys, drilling, trenching, or geological mapping. For mining, dates, production rates and uses are given.
- Cumulative references are listed by number in order of appearance.

CUMULATIVE SUMMARY OF COAL LOCATIONS

Numbers marked with an asterisk refer to updated locations in this Open File; those not marked are from Open File 1115.

- Coal occurrences by rank:
- Lignite 4, 5a*, 11, 14, 15, 16, 19, 19a*, 20, 30, 30a*, 35, 36, 37, 38, 40, 53, 54, 55, 56, 57, 66, 67, 90*.
 - Sub-bit. 1, 5, 5a*, 8, 9, 10, 12, 13, 17, 18, 33, 34, 39, 58, 59, 60, 61, 90*.
 - hvb. 2, 3, 6, 7, 23, 28, 28a*, 29, 30, 31, 41, 41a*, 46, 49, 50, 54, 54a*, 70, 71, 72.
 - lvb. 69.
 - semi-anthracite and anthracite 21, 22?, 22a*, 62, 65, 73, 74.
 - unknown 45, 45a*, 75*, 76*, 77*, 78*, 79*, 80*, 81*, 82*, 83*, 84*, 85*, 86*, 87*, 88*, 89*.

- Coal occurrences by age:
- Tertiary 4, 5, 5a*, 9, 10, 16, 20, 28, 28a*, 34, 35, 37, 38, 39, 40, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67.
 - Upper Cretaceous 1, 30, 30a*, 68, 70, 71, 72, 90*?.
 - Lower Cretaceous 14, 15, 17, 18, 21, 22, 22a*, 23, 24, 25, 26, 27, 33, 42, 44, 46, 49, 53?, 54a*, 63, 64, 65, 69.
 - Cretaceous (undivided) 8, 11, 12, 13, 19, 19a*, 29, 32.
 - Jurassic 36, 41, 41a*, 43, 45, 45a*, 47, 48, 50, 62.
 - Carboniferous 2, 3, 6, 7, 31, 73, 74.
 - Lower Paleozoic 75*, 76*,
 - unknown 51, 52, 77*, 78*, 79*, 80*, 81*, 82*, 83*, 84*, 85*, 86*, 87*, 88*, 89*.

- Coal occurrences for which analyses are available:
- 2, 3, 5a*, 7, 9, 10, 16, 17, 19, 19a*, 20, 21, 28, 28a*, 30, 30a*, 39, 48, 49, 56, 57, 58, 59, 60, 69, 71, 73, 74, 90*.

- Coal mines:
- 22, 22a*, 33, 39, 46, 48, 49, 50, 55, 56, 58, 59, 71.

- Reserves available:
- 1, 2, 5, 5a*, 9, 10, 28, 28a*, 30, 30a*, 39, 41, 41a*, 58, 71.

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NTS MAP SHEET: 95D/11, 14

MAP NO: 5a

LATITUDE: 60 40' N

LONGITUDE: 127 10' W

REGION: Yukon

LOCATION-TYPE: Subsurface

LOCATION DESCRIPTION:

5 boreholes along Rock River, east of Rock River Fault.

See Map No. 5, Open File 1115.

NAME: Rock River Basin, Tertiary.

NATURE OF SEAMS, STRATIGRAPHY:

exposure limited to few tributaries, Gravity data indicate up to 1100 m Tertiary. Muddy lignite & woody lignite interbedded with mudstone, sandstone, representing vertically aggrading fluvial setting. Including

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swamp, marsh, levee, splay, few paleosols. Traces of amber. In general high proportion of wetland deposits.

RANK:

Lignite A-Subbituminous C.

Avg. 6645 BTU/lb. (15.45 MJ/Kg).

RESERVES:

56 million tonnes within 80 m of surface near boreholes 1 & 2.

HISTORY OF EXPLORATION OR MINING:

Extensive glaciolacustrine cover. 5 boreholes drilled by Sulpetro Minerals Ltd. 1981. High lateral facies variability will necessitate extensive drilling. CEL 352 to 355, as of 1984..

LEASES:

REFERENCES:

74, 75, 76, 79, 83.

NTS QUADRANGLE: 105

MAP NO:22a

NTS MAP SHEET:105D/6

LATITUDE: 60 31'N

LONGITUDE:135 15'W

REGIONYukon

LOCATION-TYPE: Outcrop, Mine

LOCATION DESCRIPTION:

See Map No.22, Open File 1115.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

FRI, DEC 11, 1987, 11:14 AM

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:

Whitehorse Coal Corp. CML 2989-2991. Also holds CEL 358 in northeast quadrant of 105D/6, Road Access, 6 trenches and mapping completed by mid-August, 1983.

LEASES:

REFERENCES:

84, 86

RECORD #;

2

NTS QUADRANGLE: 105

MAP NO:28a

NTS MAP SHEET:105F/15

LATITUDE: 61 58'N

LONGITUDE:132 35'W

REGIONYukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

See Map No.28, Open File 1115.

FRI, DEC 11, 1987, 11:14 AM

NAME:
NATURE OF SEAMS, STRATIGRAPHY:

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
Cyprus Anvil Corp. holds CML 2984-2986.

LEASES:

REFERENCES:
22, 30, 87.

NTS QUADRANGLE: 96

MAP NO:19a

NTS MAP SHEET:961/4

LATITUDE: 66 10'N

LONGITUDE:120 50'W

REGIONDistrict of Mackenzie

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

Seven outcrop areas indicated along shore and 0.8 km inland (Kidd, Fig.4)

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NAME:

NATURE OF SEAMS, STRATIGRAPHY:

See Map No. 19, open File 1115.

RANK:

Lignite. 6 samples as rec'd.

Moisture = 37.8-50.4; Ash = 4.6-22.6;

volatiles = 20.2-24.1; Fixed carbon = 18.9-24.8;

sulphur = 0.2-0.4; Cal/gm = 2340-3010; BTU/lb = 4210-5410.

RESERVES:

HISTORY OF EXPLORATION OR MINING:

Permafrost noted less than 1 m below surface.

LEASES:

REFERENCES:

21, 93.

NTS QUADRANGLE: 106

MAP NO: 30a

NTS MAP SHEET: 106E
LATITUDE: 65 15' N approx
LONGITUDE: 135 00' W approx
REGION: Yukon
LOCATION-TYPE: Outcrop, subsurface
LOCATION DESCRIPTION:
Bonnet Plume Basin.

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NAME: Bonnet Plume Fm.
NATURE OF SEAMS, STRATIGRAPHY:
See Map No 30, Open File 1115.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
CEL covering much of the map sheet taken out by Aberford Resources Ltd.
as of 1984. Formerly with Pan Ocean Oil Ltd.

LEASES:

REFERENCES:
90

NTS QUADRANGLE: 115

MAP NO: 41a

NTS MAP SHEET: 115H/8

LATITUDE: 61 21'N

LONGITUDE: 136 05'W

REGION: Yukon

LOCATION-TYPE: Outcrop, trench, subsurface

LOCATION DESCRIPTION:

See Map No, 41, Open File 1115.

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NAME: LaBerge Group, Jurassic
NATURE OF SEAMS, STRATIGRAPHY:

RANK:

RESERVES:
Arjay Kirker Resources, CML 2960, 61, 62.

HISTORY OF EXPLORATION OR MINING:

LEASES:

REFERENCES:

91

NTS QUADRANGLE: 115

MAP NO:45a

NTS MAP SHEET:115I/1

LATITUDE: 62 04'N

LONGITUDE:136 15'W

REGIONYukon

LOCATION-TYPE:Subsurface

LOCATION DESCRIPTION:

1.6 km southeast of Carmacks, south of Yukon River.

NAME:LaBerge Group, Jurassic.
NATURE OF SEAMS, STRATIGRAPHY:
See Map No.45, Open File 1115.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
Cyprus Anvil Mining Leases expanded in 1983, 1984. Teslin Exploration Ltd. took out CML's.

LEASES:

REFERENCES:
8,9,46,80,81.

NTS QUADRANGLE: 115

MAP NO:54a

NTS MAP SHEET:1150/11

LATITUDE: 63 42'N approx

LONGITUDE:139 10'W approx

REGIONYukon

LOCATION-TYPE:Outcrop, subsurface

LOCATION DESCRIPTION:

6 boreholes and measured sections adjacent McKinnon Creek, south of Indian River.

NAME:Earlier considered Tertiary, re-evaluated as Albian.

NATURE OF SEAMS, STRATIGRAPHY:

Interbedded sandstone (70%), conglomerate (17%); siltstone (11%); coal (2%). Coal beds 0.1-1.5 m thick. Fluvial-deltaic setting. Coeval with Bonnet Plume Formation, Tantalus Formation, Keno Hill Quartzite (77)

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Associated with gold-bearing conglomerates (up to 3.4 g/t)

RANK:

Subbituminous

RESERVES:

HISTORY OF EXPLORATION OR MINING:

Ruby Creek Coal Mine (Britannia Coal Mine)

LEASES:

REFERENCES:

77

FRI, DEC 11, 1987, 11:15 AM

RECORD #; 1

NTS QUADRANGLE: 95

MAP NO:75

NTS MAP SHEET:95C/5

LATITUDE: 60 29'N

LONGITUDE:125 56'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

Beaver River, 1.5 km strip, Mineral claim.

NAME: ?Road River Fm. Ordovician-Devonian.

NATURE OF SEAMS, STRATIGRAPHY:

Minor coaly seams ... in a 600 m sequence of graptolitic shale, cherty shale, dolomitic siltstone and silty limestone. Cf. Map No. 76.

RANK:

RESERVES:

TRANZ property, claim staked 1982 by Jv between Chevron Canada, Enterprise Expl. Ltd & SMD Mining Co. Ltd. for base metals.

HISTORY OF EXPLORATION OR MINING:

LEASES:

REFERENCES:

78

FRI, DEC 11, 1981, 11:16 AM

RECORD #: 1

NTS QUADRANGLE: 95

MAP NO: 76

NTS MAP SHEET: 95C/13

LATITUDE: 60 49'N

LONGITUDE: 125 47'W

REGION: Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Near NWT border, 180 km northeast of Watson Lake.

NAME: Road River Fm. Ordovician-Devonian.

NATURE OF SEAMS, STRATIGRAPHY:

Minor coaly beds in a sequence of graptolitic shale, cherty shale, dolomitic siltstone, silty limestone, and a volcano-sedimentary unit. cf. Map No. 75.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:

MARS property. Claim staked 1982 by JV between Chevron Canada, Enterprise Expl. Ltd. SMD Mining Co. Ltd. to examine exhalite unit.

LEASES:

REFERENCES:

78

FRI, DEC 11, 1987, 11:16 AM

RECORD #;

1

NTS QUADRANGLE: 116

MAP NO: 77

NTS MAP SHEET: 116B/16

LATITUDE: 64 51'N

LONGITUDE: 138 24'W

REGION Yukon

LOCATION-TYPE: Presumed outcrop

LOCATION DESCRIPTION:

Blackstone River, about 2 km west of confluence.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence in unmineralized target.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
Blackstone Property.

LEASES:

REFERENCES:
82.

NTS MAP SHEET: 116B/5

NTS QUADRANGLE: 116

MAP NO: 78

LATITUDE: 64 16' N

LONGITUDE: 139 32' W

REGION: Yukon

LOCATION-TYPE: Presumed outcrop

LOCATION DESCRIPTION:

Tributary of Chandindu River, 3 km east of Yukon River.

FRI, DEC 11, 1987, 11:16 AM

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence along placer lease.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:

JEROME property along placer lease.

LEASES:

REFERENCES:

82

FRI, DEC 11, 1987, 11:16 AM

RECORD #; 1

NTS QUADRANGLE: 116

MAP NO:79

NTS MAP SHEET:116C/9

LATITUDE: 64 32'N

LONGITUDE:140 40'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

5 km northeast of Yukon River, along tote trail.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted upstream of placer lease (Jan., 1984).

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:

LEDUC property

LEASES:

REFERENCES:

82

NTS QUADRANGLE: 116

MAP NO:80

NTS MAP SHEET:116B/5

LATITUDE: 64 19'N

LONGITUDE:139 40'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

Tributary 4 km north of Chandindu River.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

FRI, DEC 11, 1987, 11:16 AM

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
BARETTE property

LEASES:

REFERENCES:

82

NTS MAP SHEET: 116B/5

NTS QUADRANGLE: 116

MAP NO: 81

LATITUDE: 64 17'N

LONGITUDE: 139 39'W

REGION Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Chandindu River, along placer lease.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

RANK:

FRI, DEC 11, 1987, 11:16 AM

RESERVES:

HISTORY OF EXPLORATION OR MINING:
THANE property.

LEASES:

REFERENCES:

82

NTS MAP SHEET: 116C/8

NTS QUADRANGLE: 116

MAP NO: 82

LATITUDE: 64 28' N

LONGITUDE: 140 12' W

REGION: Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Tributary of Coal Creek, 12 km west of Yukon River.

FRI, DEC 11, 1987, 11:17 AM

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:

CHAIN property

LEASES:

REFERENCES:

82

NTS QUADRANGLE: 116

MAP NO:83

NTS MAP SHEET:116C/9

LATITUDE: 64 33'N

LONGITUDE:140 29'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

3 km northwest of Yukon River. Adjacent CLIFF property, Cliff Creek.

FRI, DEC 11, 1987, 11:16 AM

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
JEPHSON property, See Map No. 59.

LEASES:

REFERENCES:

82

FRI, DEC 11, 1961, 11:18 AM

RECORD #; 1

NTS QUADRANGLE: 106

MAP NO: 84

NTS MAP SHEET: 106K/5

LATITUDE: 66 28'N

LONGITUDE: 133 58'W approx

REGION Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Peel River, about 15 km west of NWT border.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
CARIBOU BORN property

LEASES:

REFERENCES:
85

FRI, DEC 11, 1987, 11:18 AM

RECORD #; 1

NTS QUADRANGLE: 105

MAP NO: 85

NTS MAP SHEET: 105D/11

LATITUDE: 60 32'N

LONGITUDE: 135 18'W

REGION Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

5 km south-southeast of Fish Lake.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
FISH LAKE property

LEASES:

REFERENCES:
84

NTS QUADRANGLE: 105

MAP NO: 86

NTS MAP SHEET: 105D/6
LATITUDE: 60 29'N
LONGITUDE: 135 13'W
REGION: Yukon
LOCATION-TYPE: Outcrop
LOCATION DESCRIPTION:
8 km south of Fish Lake.

NAME:
NATURE OF SEAMS, STRATIGRAPHY:
Occurrence noted.

RANK:

FRI, DEC 11, 1987, 11:18 AM

RESERVES:

HISTORY OF EXPLORATION OR MINING:
COAL RIDGE property

LEASES:

REFERENCES:
84

FRI, DEC 11, 1987, 11:18 AM

RECORD #; 1

NTS QUADRANGLE: 105

MAP NO:87

NTS MAP SHEET:105J/4

LATITUDE: 62 02'N

LONGITUDE:131 47'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

Small tributary immediately south of Ross River.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
CAROLYN property

LEASES:

REFERENCES:
88

FRI, DEC 11, 1987, 11:18 AM

RECORD #; 1

NTS QUADRANGLE: 105

MAP NO:88

NTS MAP SHEET:105L/14

LATITUDE: 62 53'N

LONGITUDE:135 24'W

REGIONYukon

LOCATION-TYPE:Outcrop

LOCATION DESCRIPTION:

Macmillan River, 5 km east of confluence with Kalzas River.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
DUO property

LEASES:

REFERENCES:
89

FRI, DEC 11, 1987, 11:19 AM

RECORD #; 1

NTS QUADRANGLE: 115

MAP NO: 89

NTS MAP SHEET: 1150/12

LATITUDE: 63 34'N

LONGITUDE: 139 46'W

REGION Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Yukon River at confluence with Sixty Mile River, south side.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

Occurrence noted.

RANK:

RESERVES:

HISTORY OF EXPLORATION OR MINING:
CRUIKSHANK property

LEASES:

REFERENCES:

92

NTS MAP SHEET: 115G/6

LATITUDE: 61,17'N

LONGITUDE: 139,23'W

REGION: Yukon

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Fork of Berry Creek, a small tributary of Badlands Creek, opposite Amphitheatre Mt., 4.5 miles direct from its junction with Duke River.

NAME: Unnamed, Paleocene, Map Unit 10 of Bostock (97)

NATURE OF SEAMS, STRATIGRAPHY:

Three seams 1.5, 1.2 & 1.0 m thick, over stratigraphic thickness of 5.5m
Interbedded with shale, clay.

TUE, DEC 22, 1987, 11:34 AM

RANK:

Subbituminous C.

Analyses as rec'd (also dry)

Moisture = 22.6, 22.3, 20.6; Ash = 10.1, 13.7, 27.6;

Volatiles = 35.9, 32.3, 27.7; Fixed Carbon = 31.4, 31.7, 24.1;

Sulphur = 0.1, tr, tr.; Calorific Value BTU/lb = 8065, 7485, 5750.

RESERVES:

HISTORY OF EXPLORATION OR MINING:

Sampled by J.E. Muller, 1950. Coal from nearby localities used for heating by local residents; see Map # 39, 40.

LEASES:

REFERENCES:

97

RECORD #;

1

NTS QUADRANGLE: 96

MAP NO:90

NTS MAP SHEET:96H

LATITUDE: 66 00'N approx

LONGITUDE:122 20'W approx

REGION District of Mackenzie

LOCATION-TYPE: Outcrop

LOCATION DESCRIPTION:

Deerpass Bay, general location only.

NAME:

NATURE OF SEAMS, STRATIGRAPHY:

2 thick seams, similar to those reported at Douglas Bay (Map No.19).
9.1 m and 3.7 m thick. The latter seam consists of highly contorted coal and clay.

RANK:

Lignite - subbituminous (94)

9.1m seam; as rec'd air dr, dry

Moisture	32.8	17.33	-
Volatiles	31.87	39.21	47.43
Ash	4.64	5.71	6.91
Fixed C	30.69	37.75	45.66
Sulphur	0.25	0.31	0.37
BTU/lb	7160	8808	10654

3.7 m seam	as rec'd,	air dr.	dry
	28.89	11.37	-
	30.03	37.43	42.23
	11.12	13.86	15.63
	29.96	37.34	42.14
	0.38	0.47	0.53
	6785	8457	9541

RESERVES:

HISTORY OF EXPLORATION OR MINING:

LEASES:

REFERENCES:

94