

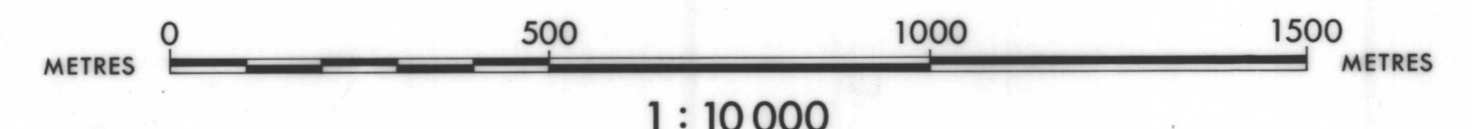
#27 (1)



SHEET 1

PRELIMINARY MAP 27
JANUARY 1978

GEOLOGY OF CROWSNEST COALFIELD
WEST PART



GEOLOGY BY : DAVID E. PEARSON DAVID A. GRIEVE

ORTHOPHOTO PRODUCED BY
MAP PRODUCTION DIVISION
MINISTRY OF THE ENVIRONMENT
VICTORIA

SYMBOLS

Moose Mountain Sandstone ; upper contact , basal contact	.....
Coal seam ; exposed , assumed	.....
Conglomerate ; exposed , assumed	.....
Sandstone ; exposed	.....
Thrust fault ; approximate , assumed (teeth on upthrust side)	.....
Fault ; approximate (bar on downthrown side)	.....
Bedding ; tops known	.....
Anticline	.....
Fernie formation	..... F
No exposure	.....
Siltstone	.....
Sandstone	.....
Coal	.....
Height in metres above basal sand	..... 100
Thickness of seams in metres	..... 2.7
Mean maximum reflectance of vitrinite in oil (\bar{R}_0)	..... 0.86

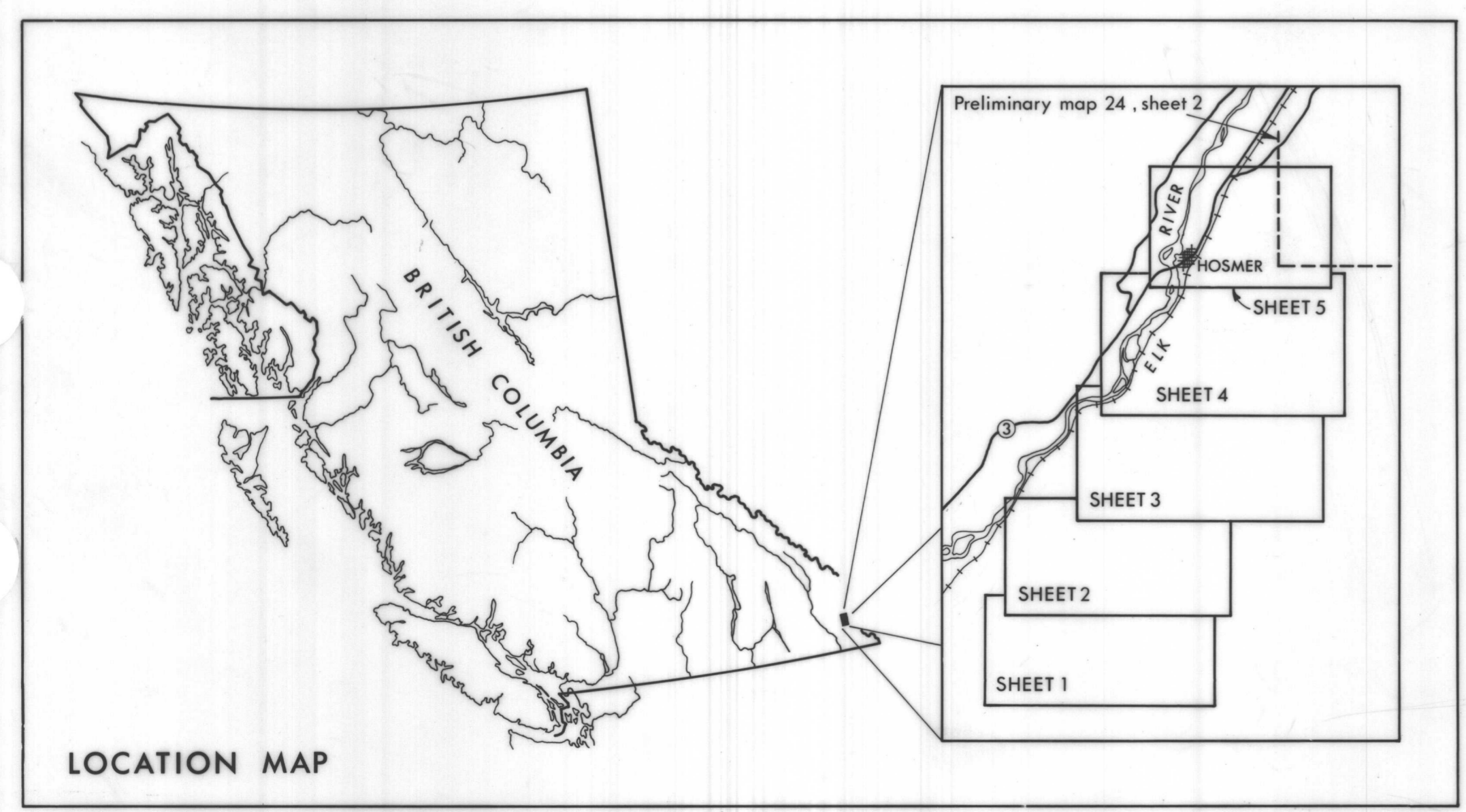
EXPLANATION

These maps show the distribution of coal seams of the Jurassic-Cretaceous age Kootenay Formation on the scarp slope of Fernie Ridge. The coal measures lying between the basal sandstone and the overlying Elk member vary in thickness from 590 metres north of Hosmer Creek to 570 metres on Coal Creek Mountain. Coal forms about 8 per cent of the succession.

The rank of the coal has been determined by measuring in oil, the mean maximum reflectance (\bar{R}_0) of the coal maceral vitrinite. Values <1.12 per cent indicate high volatile bituminous coals; values >1.12 per cent indicate medium volatile bituminous coals. About half of the coal seams in the succession on Coal Creek Mountain are of high volatile rank, whereas north of Hosmer Creek virtually all of the coal seams are of this rank. There is therefore a major rank change northward across the area.

The rank of the coal also changes down the dip of the seam. This is seen at the south end of the map-area where, for example, on Coal Creek Mountain a thin seam beneath the Elk conglomerate increases in reflectance from 0.82 per cent \bar{R}_0 to 1.18 per cent in Coal Creek Valley, thereby becoming a medium volatile coal. Similarly, the split seams with a reflectance of 1.01 per cent \bar{R}_0 that are exposed on Coal Creek Mountain have changed to a medium volatile rank with a reflectance of 1.35 per cent \bar{R}_0 in Coal Creek Valley.

Fernie Ridge is a strike section of the coal measures. In cross-section, in Hosmer Creek Valley and Coal Creek Valley, dip values decrease upward, indicating that any fold structures diminish in size upward. Thus the small plunging fold exposed in the basal sandstone north of Coal Creek Mountain has only local influence.



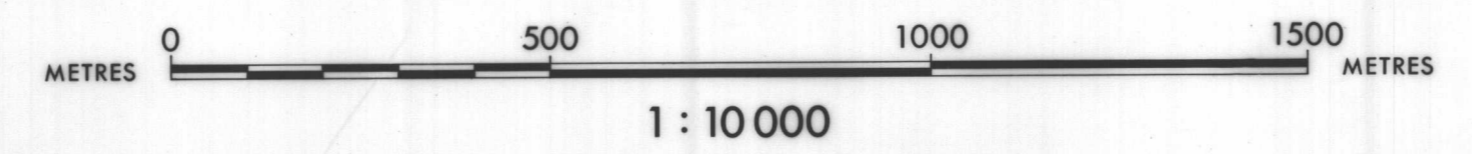
LOCATION MAP



SHEET 2

PRELIMINARY MAP 27
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- Anticline
- Fernie formation
- No exposure
- Siltstone
- Sandstone
- Coal
- Height in metres above basal sand
- Thickness of seams in metres
- Mean maximum reflectance of vitrinite in oil (\bar{R}_o)

EXPLANATION

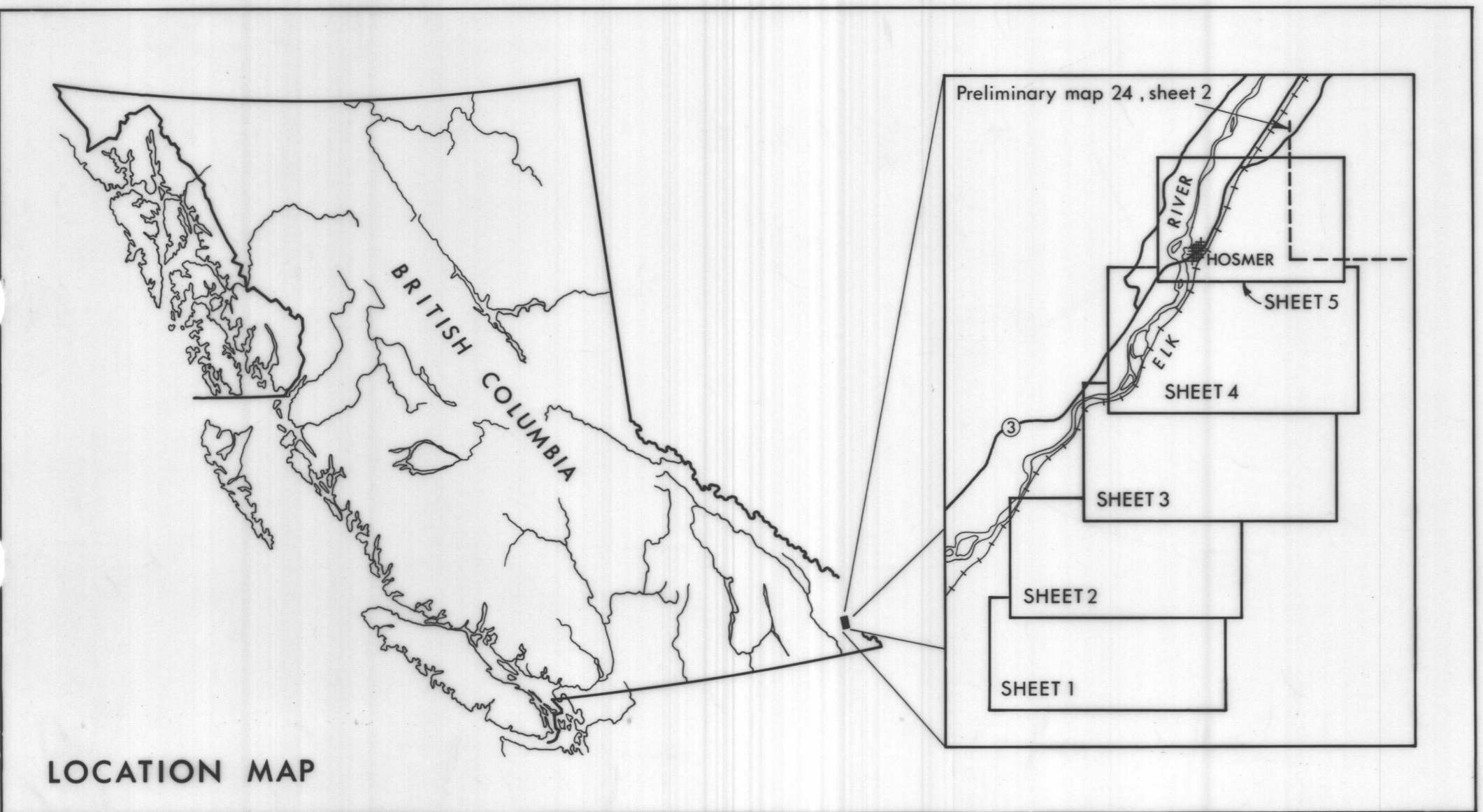
These maps show the distribution of coal seams of the Jurassic-Cretaceous age Kootenay Formation on the scarp slope of Fernie Ridge. The coal measures lying between the basal sandstone and the overlying Elk member vary in thickness from 250 metres north of Hoamer Creek to 570 metres on Coal Creek Mountain. Coal forms about 8 per cent of the succession.

The rank of the coal has been determined by measuring in oil, the mean maximum reflectance (\bar{R}_o) of the coal maceral vitrinite. Values <1.12 per cent indicate high volatile bituminous coals, values >1.12 per cent indicate medium volatile bituminous coals. About half of the coal seams in the succession on Coal Creek Mountain are of high volatile rank, whereas north of Hoamer Creek virtually all of the coal seams are of this rank. There is therefore a major rank change northward across the area.

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#27 (2)



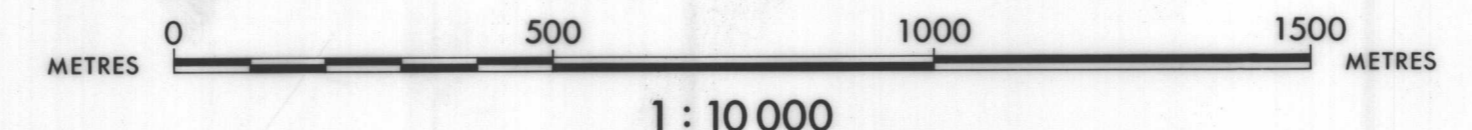
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SHEET 3

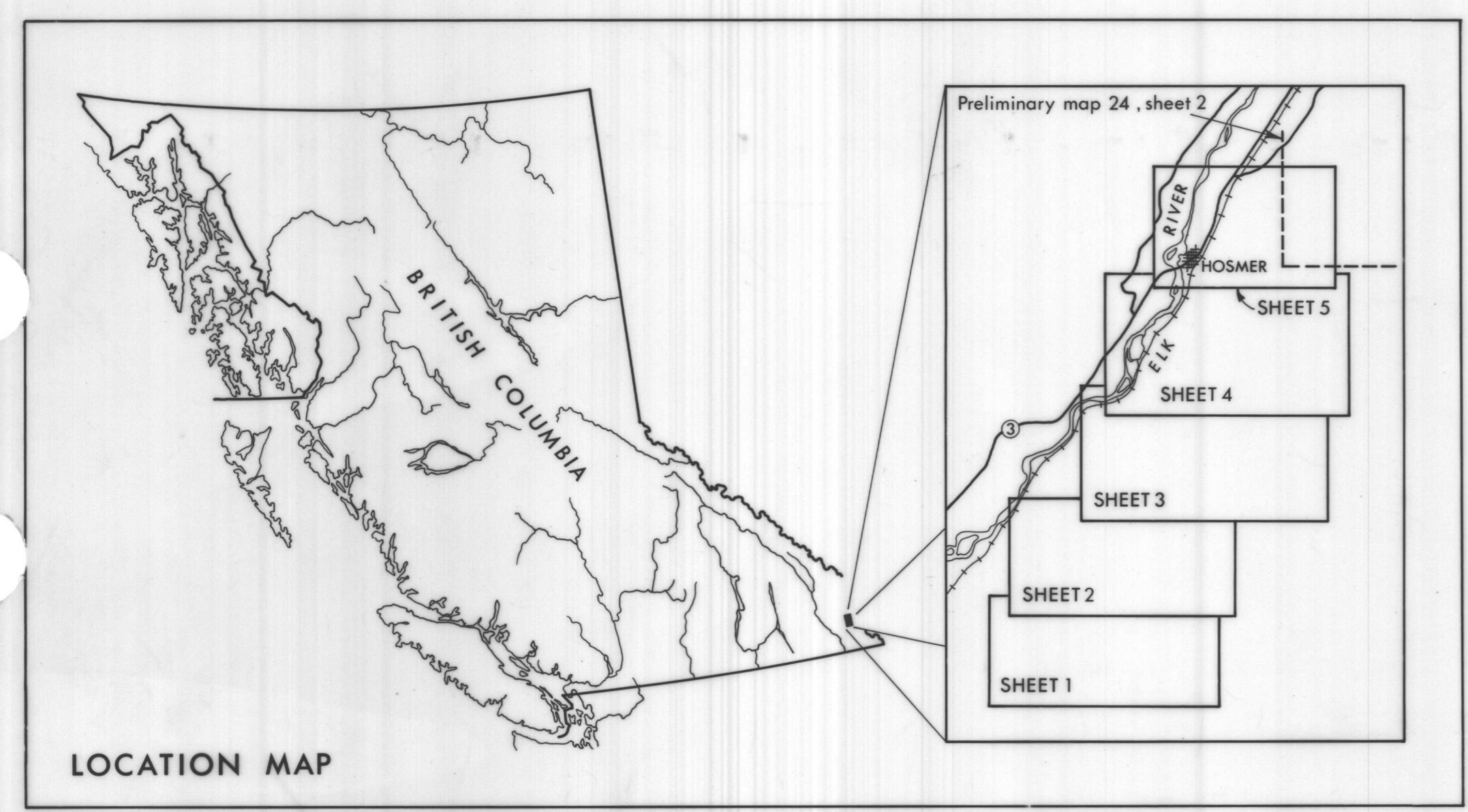
PRELIMINARY MAP 27
JANUARY 1978

GEOLOGY OF CROWSNEST COALFIELD
WEST PART



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- Anticline
- Fernie formation
- No exposure
- Siltstone
- Sandstone
- Coal
- Height in metres above basal sand
- Thickness of seams in metres
- Mean maximum reflectance of vitrinite in oil (\bar{R}_o)

EXPLANATION

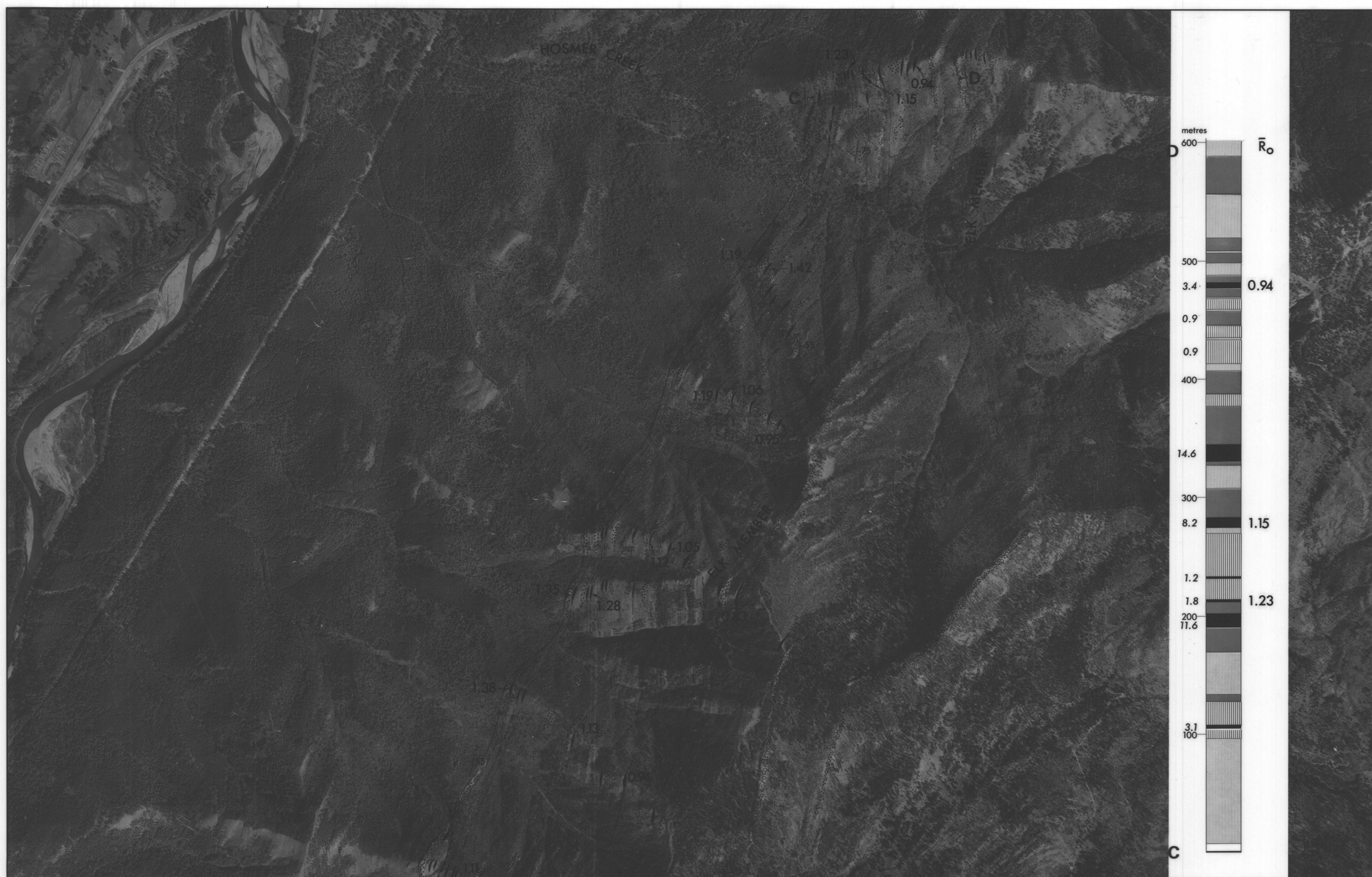
These maps show the distribution of coal seams of the Jurassic-Cretaceous age Kootenay Formation on the steep slope of Fernie Ridge. The coal measures lying between the basal sandstone and the overlying Elk member vary in thickness from 500 metres north of Hosmer Creek to 570 metres on Coal Creek Mountain. Coal forms about 8 per cent of the succession.

The rank of the coal has been determined by measuring in oil, the mean maximum reflectance (\bar{R}_o) of the coal maceral vitrinite. Values <1.12 per cent indicate high volatile bituminous coals; values >1.12 per cent indicate medium volatile bituminous coals. About half of the coal seams in the succession on Coal Creek Mountain are of high volatile rank, whereas north of Hosmer Creek virtually all of the coal seams are of this rank. There is therefore a major rank change northward across the area.

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#27 (4)



SHEET 4

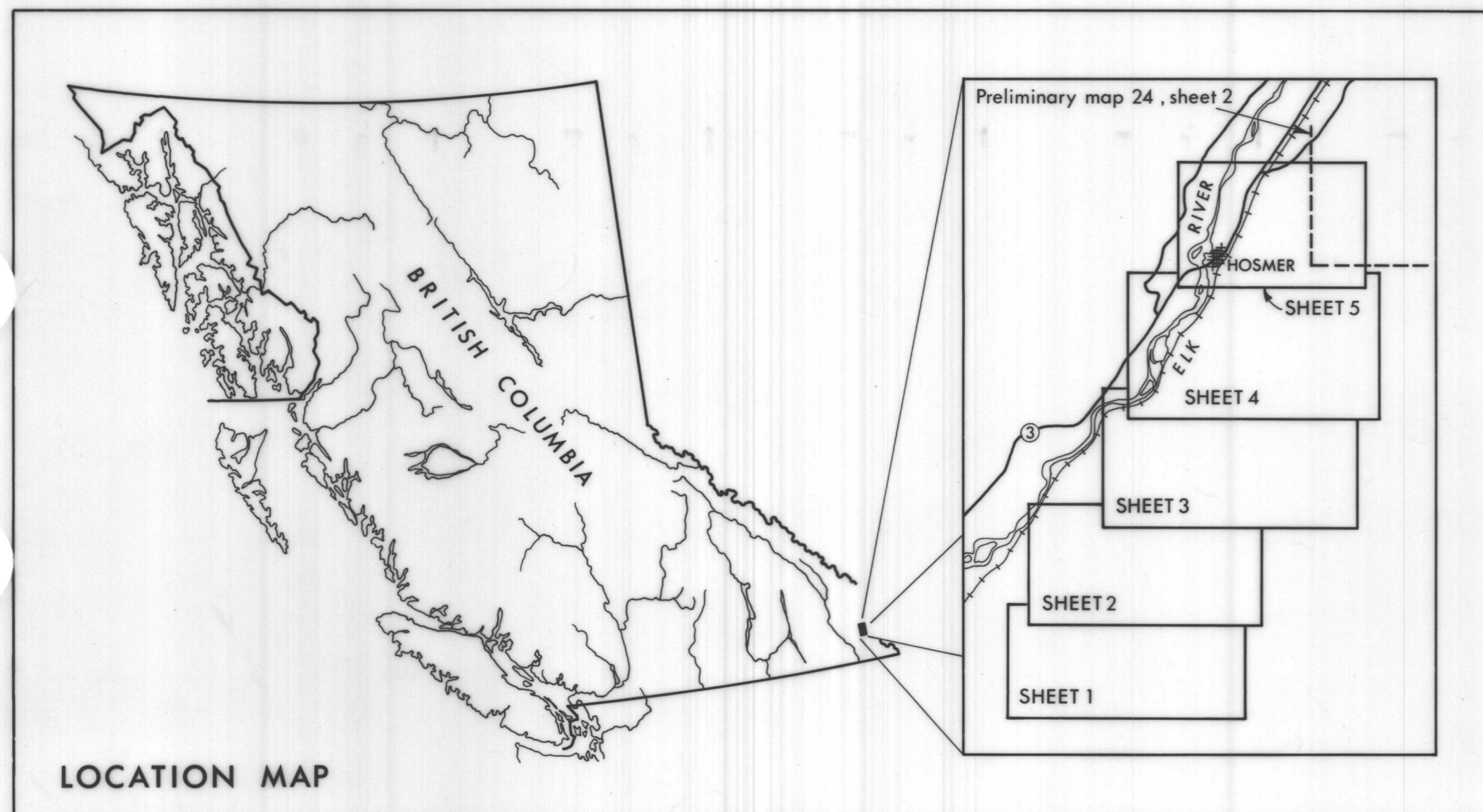
PRELIMINARY MAP 27
JANUARY 1978

GEOLOGY OF CROWSNEST COALFIELD
WEST PART



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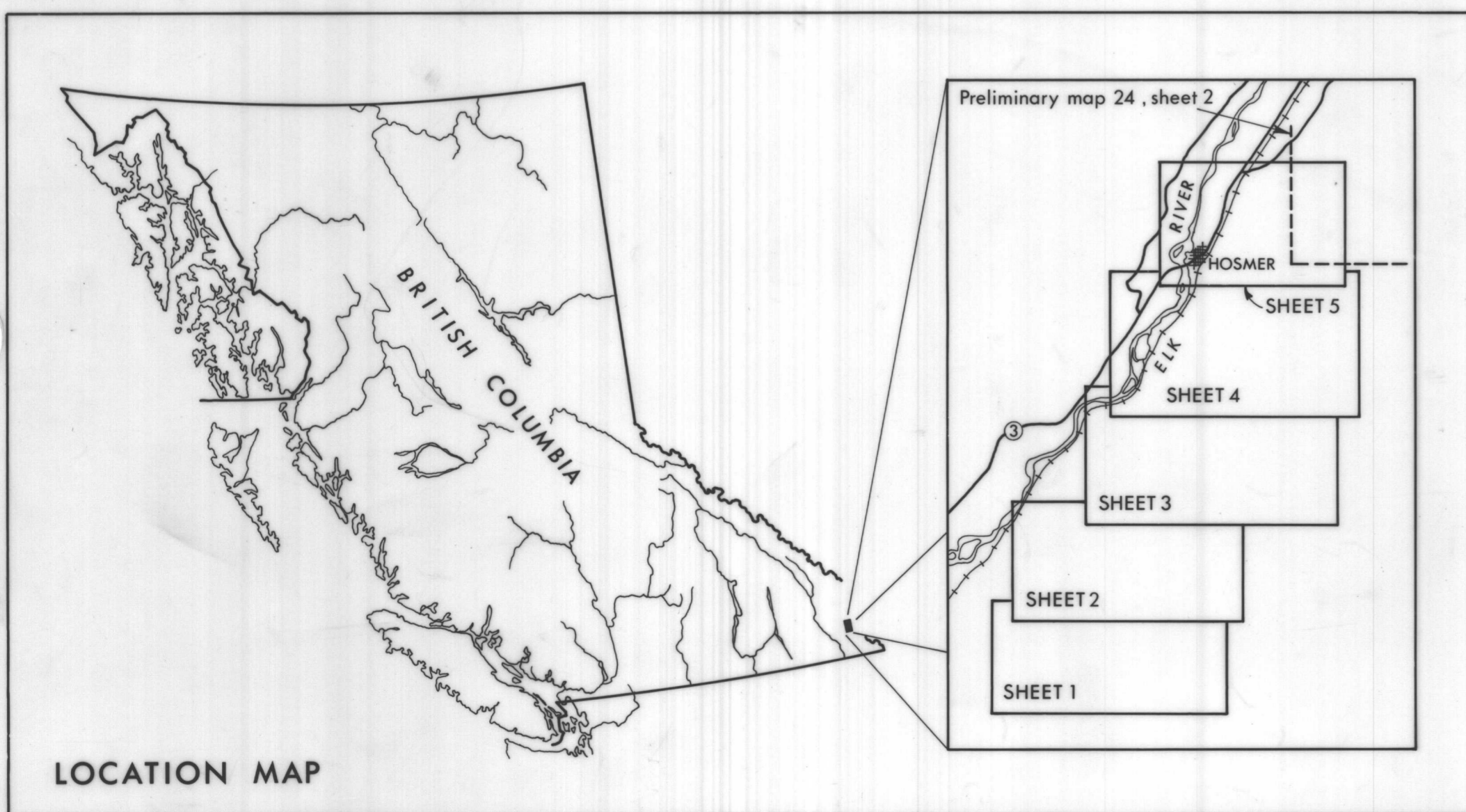
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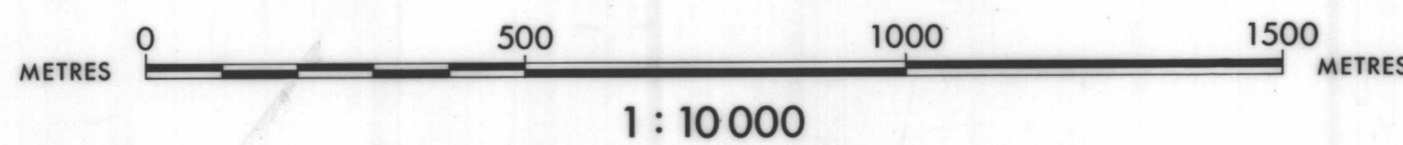
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SHEET 5

PRELIMINARY MAP 27
JANUARY 1978

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WEST PART



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