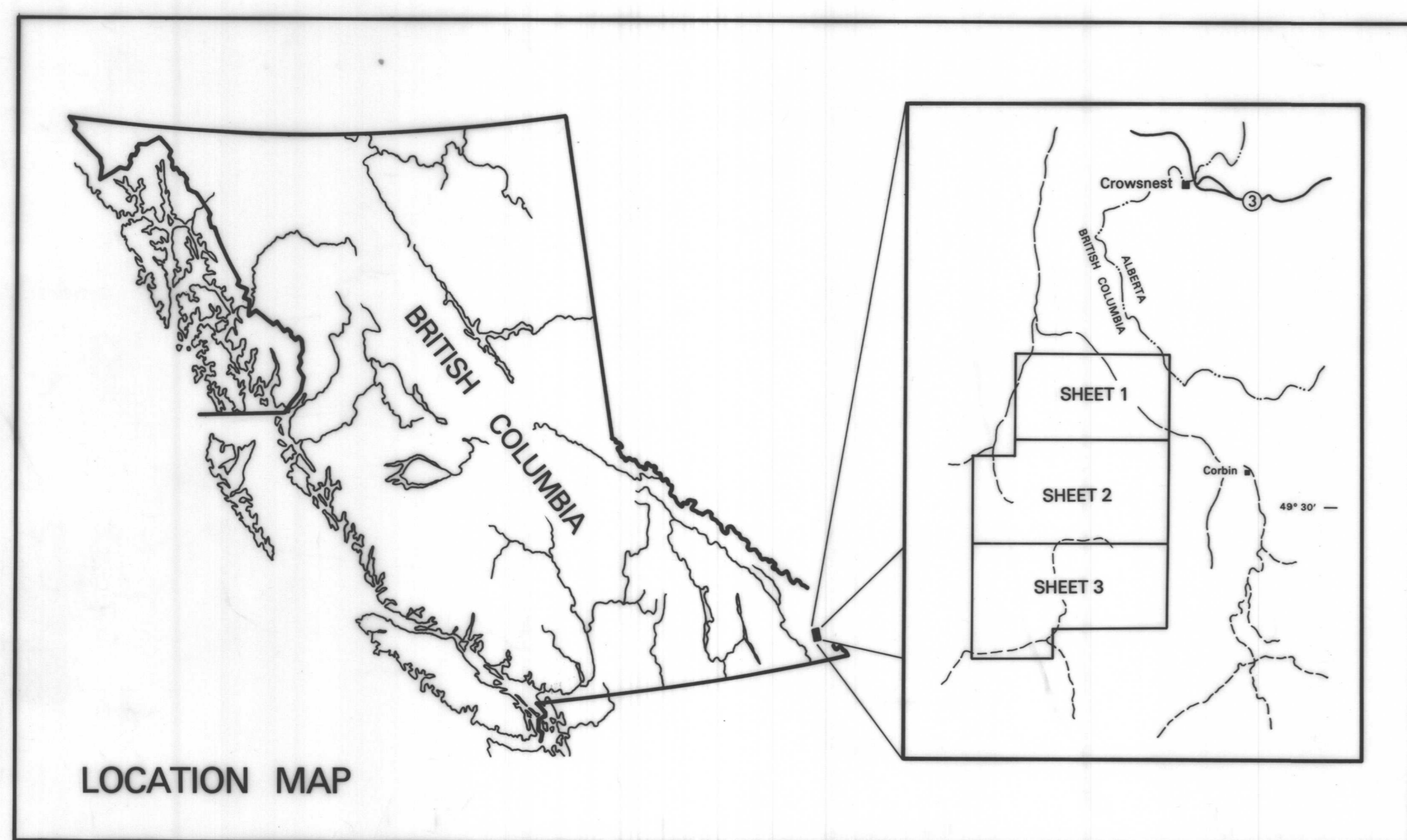
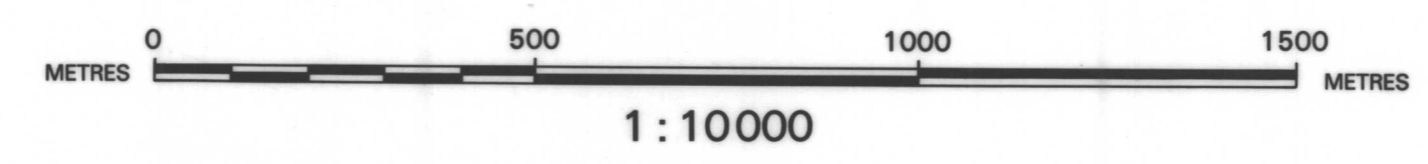


31 (1)



SHEET 1
PRELIMINARY MAP 31
FEBRUARY 1979
**GEOLOGY OF CROWSNEST COALFIELD
NORTHEAST PART**



GEOLOGY BY: FRANK B. GIGLIOTTI, DAVID E. PEARSON

ORTHOPHOTO PRODUCED
BY
MAP PRODUCTION DIVISION
MINISTRY OF THE ENVIRONMENT
VICTORIA

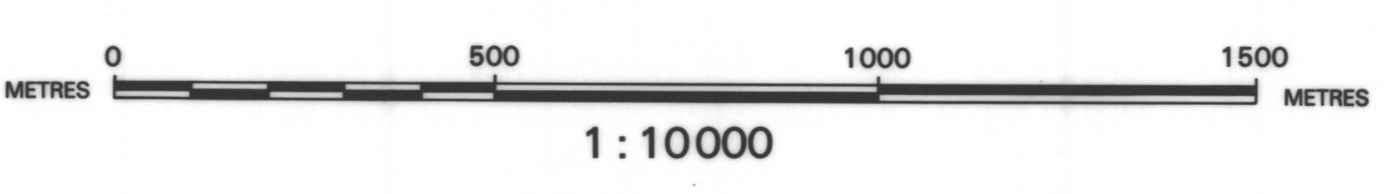
SYMBOLS	
Moose Mountain Sandstone	..... M
Coal seam; exposed, assumed	—
Conglomerate; exposed, assumed	.....
Sandstone; exposed, assumed	.....
Thrust Fault; approximate, assumed (teeth on upthrust plate)	.....
Fault; approximate (bar on downthrown side)	.....
Bedding; tops known, overturned	.....
Anticline; Syncline	.....
Carbonate; exposed	.....
Fernie formation	F
No exposure	.....
Siltstone	.....
Sandstone	.....
Coal	.....
Height in metres above basal sand	600
Thickness of seams in metres	7m
Mean maximum reflectance of vitrinite in oil (R_0)	1.61

EXPLANATION	
THESE MAPS SHOW THE DISTRIBUTION OF COAL SEAMS OF THE JURASSIC-CRETACEOUS AGE KOOTENAY FORMATION IN THE VICINITY OF MOUNT TAYLOR AT THE NORTH END OF THE SOUTHERN DOMINION COAL BLOCK (PARCEL 82). THE COAL MEASURES WHICH OCCUR BETWEEN THE BASAL SANDSTONE AND THE OVERLYING BLAIRMORE GROUP ROCKS ON THE EAST SIDE OF MOUNT TAYLOR ARE APPROXIMATELY 500 METRES THICK. TO THE SOUTH OF LEACH CREEK THIS INTERVAL OCCUPIES 180 METRES WITH ONLY TWO COAL SEAMS. HERE, THE EAST CROP FAULT, A LOW-ANGLE NORMAL FAULT, HAS EVIDENTLY DISPLACED ABOUT TWO-THIRDS OF THE SUCCESSION.	
THE RANK OF THE COAL HAS BEEN DETERMINED BY MEASURING IN OIL THE MEAN MAXIMUM REFLECTANCE OF THE COAL MACERAL VITRINITE (R_0). MAX. VALUES <1.12 PER CENT INDICATE HIGH VOLATILE BITUMINOUS COALS; VALUES >1.12 PER CENT, INDICATE MEDIUM VOLATILE COALS AND THOSE >1.51 PER CENT INDICATE LOW VOLATILE BITUMINOUS COALS. IN THE LEACH CREEK AREA, HIGH VOLATILE COALS OF 0.89% R_0 ARE STRUCTURALLY SEPARATED ACROSS THE EAST CROP FAULT FROM LOW VOLATILE COALS (1.63% R_0). ALL MEDIUM VOLATILE COALS HAVE BEEN DISPLACED ON THE FAULT. THE RANK OF COALS DECREASES NORTHWARDS OVER THE BARNES ANTICLINE, SO THAT ON THE EAST SIDE OF MICHEL HEAD THE SEAM OVERLYING THE BASAL RIDGE MOUNTAIN SANDSTONE IS OF MEDIUM VOLATILE RANK (1.26% R_0).	
SEAM CORRELATION ON THE WEST SIDE OF MOUNT TAYLOR IS DIFFICULT, THOUGH IT IS APPARENT THAT A NORMAL FAULT WITH A DOWNTHROW TO THE EAST, JUXTAPoses HIGH VOLATILE WITH MEDIUM VOLATILE COALS.	
STRUCTURALLY THE AREA IS COMPLEX. THE DOMINANT FEATURE OF THE AREA IS THE EAST DROP FAULT, THE THROW OF WHICH INCREASES TOWARDS THE SOUTH OF THE MAPPED AREA. THE BARNES ANTICLINE IS A MAJOR FLEXURAL SLIP FOLD THAT AFFECTS THE COAL MEASURES IN THE AREA OF MICHEL RIDGE. AT THE NORTH END OF MICHEL HEAD, THRUSTING SEPARATES BOTH COAL MEASURES AND THE BASAL RIDGE MOUNTAIN SANDSTONE. THE PRECISE DETAILS OF THESE THRUSTS ARE NOT KNOWN.	



SHEET 2
PRELIMINARY MAP 31
FEBRUARY 1979

**GEOLOGY OF CROW'S NEST COALFIELD
NORTHEAST PART**



GEOLOGY BY: FRANK B. GIGLIOTTI, DAVID E. PEARSON

ORTHOPHOTO PRODUCED
BY
MAP PRODUCTION DIVISION
MINISTRY OF THE ENVIRONMENT
VICTORIA

SYMBOLS	
Moose Mountain Sandstone	..... M.....
Coal seam; exposed, assumed	—
Conglomerate; exposed, assumed	.....
Sandstone; exposed, assumed	.....
Thrust Fault; approximate, assumed (teeth on upthrust plate)	.....
Fault; approximate (bar on downthrown side)	.....
Bedding; tops known, overturned	.....
Anticline; Syncline	.....
Carbonate; exposed	.....
Fernie formation	F
No exposure	.....
Siltstone	.....
Sandstone	.....
Coal	.....
Height in metres above basal sand	.....
Thickness of seams in metres	.....
Mean maximum reflectance of vitrinite in oil (R_0)	.....

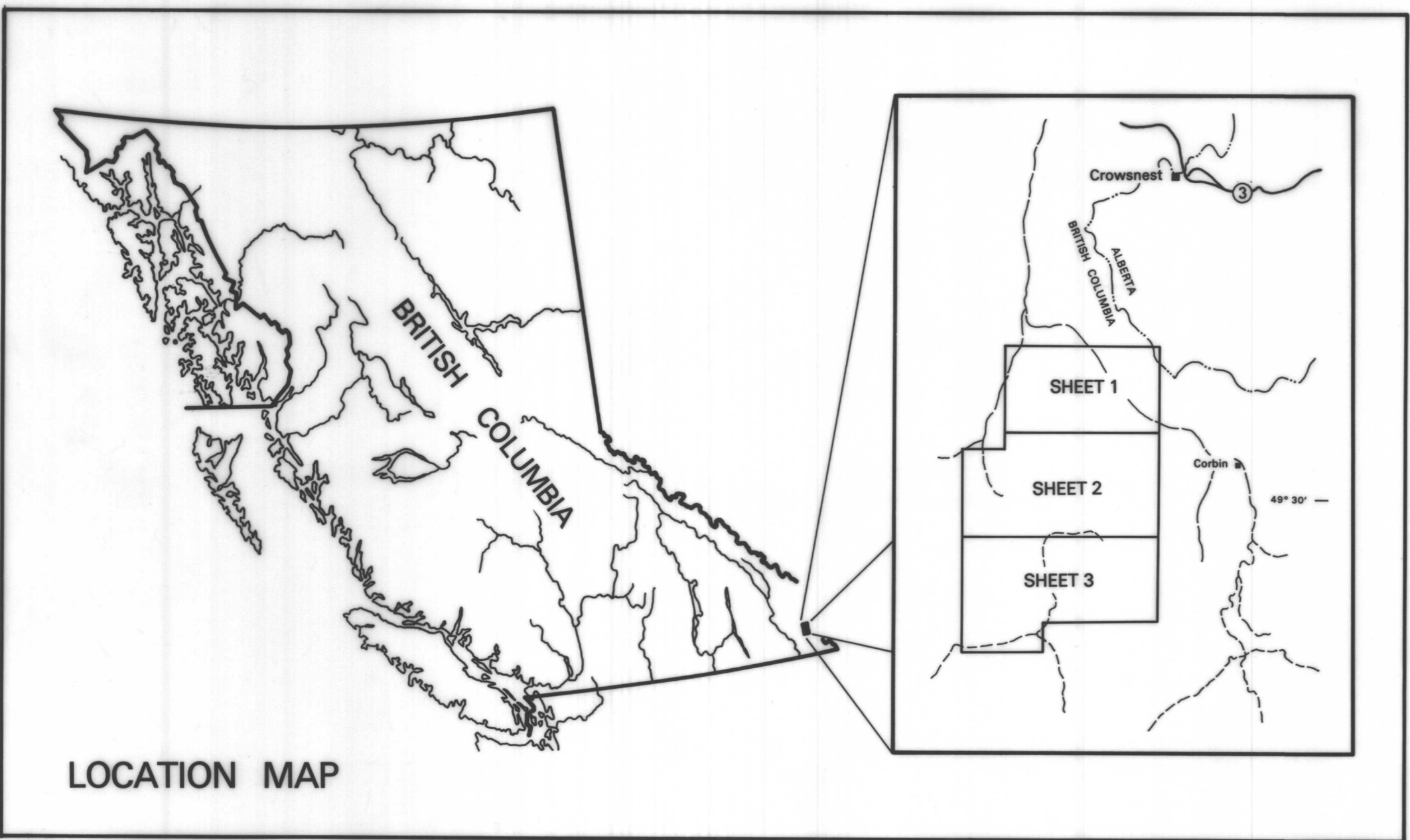
EXPLANATION

THESE MAPS SHOW THE DISTRIBUTION OF COAL SEAMS OF THE JURASSIC-CRETACEOUS AGE KOOTENAY FORMATION IN THE VICINITY OF MOUNT TAYLOR AT THE NORTH END OF THE SOUTHERN DOMINION COAL BLOCK (PARCEL B2). THE COAL MEASURES WHICH OCCUR BETWEEN THE BASAL SANDSTONE AND THE OVERLYING BLAIRMORE GROUP ROCKS ON THE EAST SIDE OF MOUNT TAYLOR ARE APPROXIMATELY 80 METRES THICK TO THE SOUTH OF LEACH CREEK. THIS INTERVAL OCCUPIES 160 METRES WITH ONLY TWO COAL SEAMS. HERE, THE EAST CROP FAULT, A LOW-ANGLE NORMAL FAULT, HAS EVIDENTLY DISPLACED ABOUT TWO-THIRDS OF THE SUCCESSION.

THE RANK OF THE COAL HAS BEEN DETERMINED BY MEASURING IN OIL THE MEAN MAXIMUM REFLECTANCE OF THE COAL MACERAL VITRINITE (R_0). VALUES <1.12 PER CENT INDICATE HIGH VOLATILE BITUMINOUS COALS, VALUES >1.12 PER CENT INDICATE MEDIUM VOLATILE COALS AND THOSE >1.51 PER CENT INDICATE LOW VOLATILE BITUMINOUS COALS. IN THE LEACH CREEK AREA, HIGH VOLATILE COALS OF 0.89% R_0 ARE STRUCTURALLY SEPARATED ACROSS THE EAST CROP FAULT FROM LOW VOLATILE COALS (1.63% R_0). ALL MEDIUM VOLATILE COALS HAVE BEEN DISPLACED ON THE FAULT. THE RANK OF COALS DECREASES NORTHWARDS OVER THE BARNES ANTICLINE, SO THAT THE NORTH END OF MICHEL HEAD, THUS BEING SEPARATED FROM THE BASAL MOOSE MOUNTAIN SANDSTONE BY THE EAST CROP FAULT, IS OF MEDIUM VOLATILE RANK (1.26% R_0).

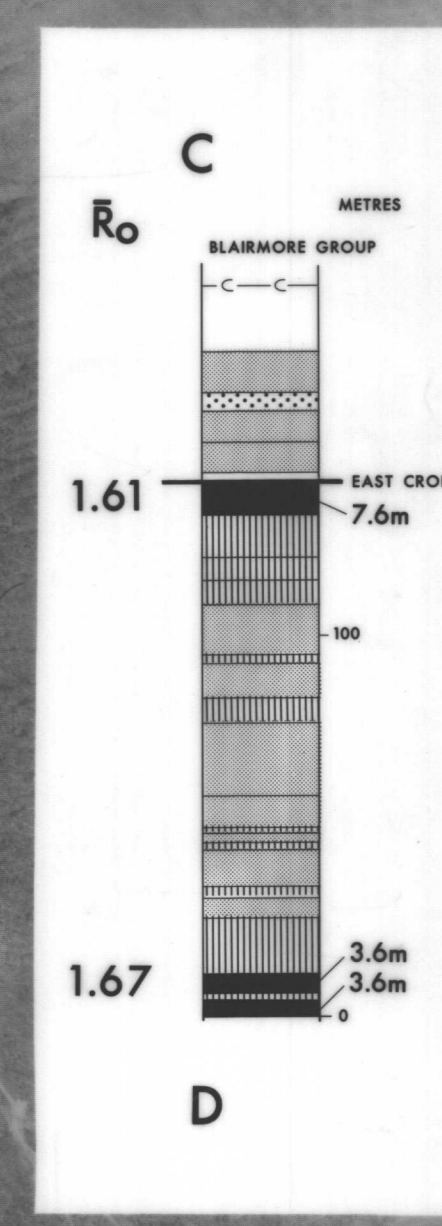
SEAM CORRELATION ON THE WEST SIDE OF MOUNT TAYLOR IS DIFFICULT, THOUGH IT IS APPARENT THAT A NORMAL FAULT WITH A DOWNTHROW TO THE EAST, JUNCTURES HIGH VOLATILE WITH MEDIUM VOLATILE COALS.

STRUCTURALLY THE AREA IS COMPLEX. THE DOMINANT FEATURE OF THE AREA IS THE EAST CROP FAULT, THE THROW OF WHICH INCREASES TOWARDS THE SOUTH OF THE MAPPED AREA. THE BARNES ANTICLINE IS A MAJOR FLEXURAL SLIP FOLD THAT AFFECTS THE COAL MEASURES IN THE AREA OF MICHEL RIDGE. AT THE NORTH END OF MICHEL HEAD, THUS BEING SEPARATED FROM THE BASAL MOOSE MOUNTAIN SANDSTONE BY THE EAST CROP FAULT, THE PRECISE DETAILS OF THESE THRUSTS ARE NOT KNOWN.



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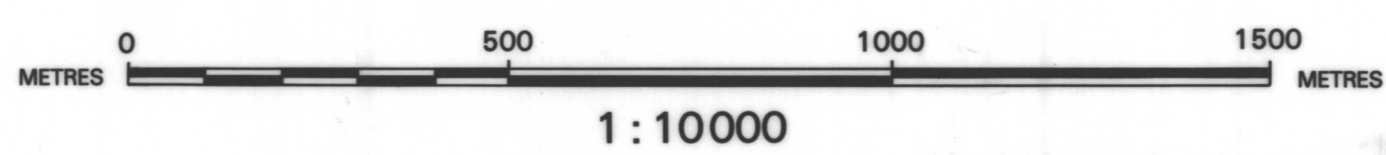
Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources



SHEET 3

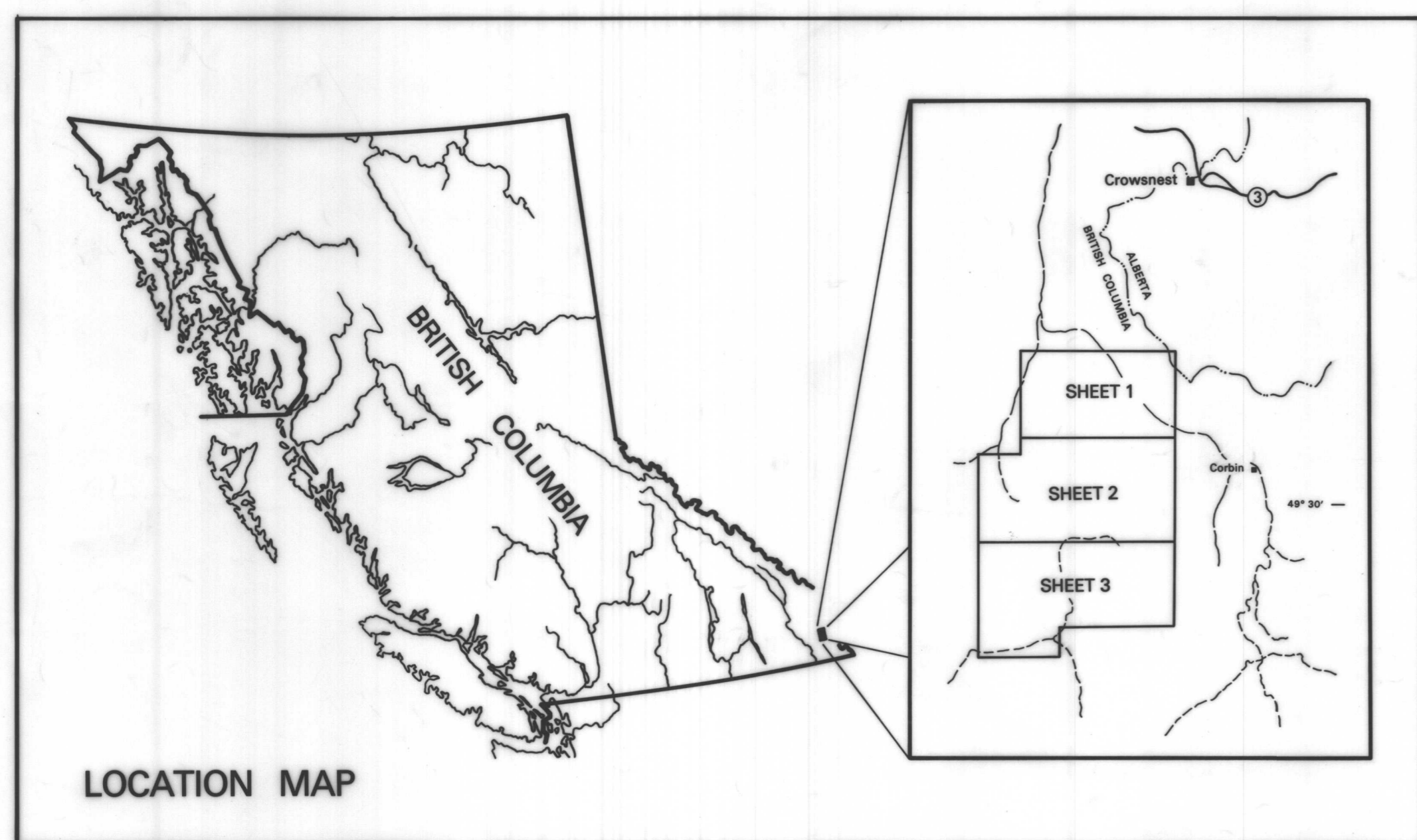
PRELIMINARY MAP 31
FEBRUARY 1979

GEOLOGY OF CROWSNEST COALFIELD NORTHEAST PART



GEOLOGY BY: FRANK B. GIGLIOTTI, DAVID E. PEARSON

ORTHOPHOTO PRODUCED
BY
MAP PRODUCTION DIVISION
MINISTRY OF THE ENVIRONMENT
VICTORIA



SYMBOLS

- Moose Mountain Sandstone
- Coal seam; exposed, assumed
- Conglomerate; exposed, assumed
- Sandstone; exposed, assumed
- Thrust Fault; approximate, assumed (teeth on upthrust plate)
- Fault; approximate (bar on downthrown side)
- Bedding; tops known, overturned
- Anticline; Syncline
- Carbonate; exposed
- 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 (R_o)

EXPLANATION

THESE MAPS SHOW THE DISTRIBUTION OF COAL SEAMS OF THE JURASSIC-CRETACEOUS AGE KOOTENAY FORMATION IN THE VICINITY OF MOUNT TAYLOR AT THE NORTH END OF THE SOUTHERN DOMINION COAL BLOCK (PARCEL 82). THE COAL MEASURES WHICH OCCUR BETWEEN THE BASAL SANDSTONE AND THE OVERLYING BLAIRMORE GROUP ROCKS ON THE EAST SIDE OF MOUNT TAYLOR ARE APPROXIMATELY 180 METRES THICK. TO THE SOUTH OF LEACH CREEK THIS INTERVAL OCCUPIES 180 METRES WITH ONLY TWO COAL SEAMS. HERE, THE EAST CROP FAULT, A LOW-ANGLE NORMAL FAULT, HAS EVIDENTLY DISPLACED ABOUT TWO-THIRDS OF THE SEQUENCE.

THE RANK OF THE COAL HAS BEEN DETERMINED BY MEASURING IN OIL THE MEAN MAXIMUM REFLECTANCE OF THE COAL MACERAL VITRINITE (R_o). MAX. VALUES <1.12 PER CENT INDICATE HIGH VOLATILE BITUMINOUS COALS; VALUES >1.12 PER CENT INDICATE MEDIUM VOLATILE COALS AND THOSE >1.81 PER CENT INDICATE LOW VOLATILE BITUMINOUS COALS. IN THE LEACH CREEK AREA, HIGH VOLATILE COALS OF 0.89% R_o ARE STRUCTURALLY SEPARATED ACROSS THE EAST CROP FAULT FROM LOW VOLATILE COALS (1.62% R_o). ALL MEDIUM VOLATILE COALS HAVE BEEN DISPLACED ON THE FAULT; THE RANK OF COALS DECREASES NORTHWARDS OVER THE BARNES ANTICLINE, SO THAT ON THE EAST SIDE OF MICHEL HEAD THE SEAM OVERLYING THE BASAL MOOSE MOUNTAIN SANDSTONE IS OF MEDIUM VOLATILE RANK (1.26% R_o).

SEAM CORRELATION ON THE WEST SIDE OF MOUNT TAYLOR IS DIFFICULT, THOUGH IT IS APPARENT THAT A NORMAL FAULT WITH A DOWNTHROW TO THE EAST, JUNCTURES HIGH VOLATILE WITH MEDIUM VOLATILE COALS.

STRUCTURALLY THE AREA IS COMPLEX. THE DOMINANT FEATURE OF THE AREA IS THE EAST CROP FAULT, THE THROW OF WHICH INCREASES TOWARDS THE SOUTH OF THE MAPPED AREA. THE BARNES ANTICLINE IS A MAJOR FLEXURAL SLIP FOLD THAT AFFECTS THE COAL MEASURES IN THE AREA OF MICHEL RIDGE. AT THE NORTH END OF MICHEL RIDGE, THRUSTING SEPARATES BOTH COAL MEASURES AND THE BASAL MOOSE MOUNTAIN SANDSTONE. THE PRECISE DETAILS OF THESE THRUSTS ARE NOT KNOWN.

#31 (3)