Energy, Mines and Resources Canada | Énergie, Mines et Ressources Canada

LEGEND

CRETACEOUS
UPPER CRETACEOUS

Kbr BELLY RIVER FORMATION: grey and green sandstone; silty, grey and green shale. Includes St. Mary River Formation south of Beaver Mines Lake

Ku WAPIABI and BELLY RIVER FORMATIONS: undivided

ALBERTA GROUP (Kbk–Kwp)

Kwp WAPIABI FORMATION: dark grey shale; silty shale; thin beds of fine grained, grey sandstone

Kca CARDIUM FORMATION: fine to coarse grained, grey sandstone; silty shale; conglomerate

Kbk BLACKSTONE FORMATION: dark grey, silty and concretionary shale; thin beds of fine grained, grey sandstone; basal chert-pebble conglomerate

LOWER CRETACEOUS

Kcn CROWSNEST FORMATION: agglomerate; red, green, yellow, and brown tuffaceous shale; green and grey tuffaceous sandstone; minor trachytic flows

Kbl BLAIRMORE GROUP (undivided): grey and greenish grey sandstone; green, silty mudstone (Beaver Mines Formation); grey sandstone and shale in the lower part (Gladstone Formation); basal chert- and quartzite-pebble conglomerate (Cadomin Formation)

JURASSIC AND LOWER CRETACEOUS

JKk KOOTENAY GROUP (undivided): dark grey and black carbonaceous shale; fine to coarse grained, light and dark grey sandstone and siltstone; medium volatile bituminous coal (Mist Mountain Formation). Coarsening-upward sequence of grey and brown sandstone at the base (Morrissey Formation)

JURASSIC

Jf FERNIE FORMATION: dark grey to black shale; silty shale; thin beds of grey sandstone; thin beds of grey limestone; basal coquina and phosphate-pebble conglomerate. May include thin Lower Triassic Sulphur Mountain Formation (TRsm) on the west flank of the Blairmore Range

PENNSYLVANIAN

ROCKY MOUNTAIN GROUP (Pm)

Pm MISTY FORMATION: fine grained, grey, dolomitic sandstone; minor limestone and chert

MISSISSIPPIAN

RUNDLE GROUP (Mlv – Met)

Met ETHERINGTON FORMATION: black and grey dolomite and limestone; grey sandstone; minor green and maroon shale, and chert breccia

Mmh MOUNT HEAD FORMATION: dark grey and black, cryptocrystalline to coarse crystalline limestone; grey and buff, fine to medium crystalline dolomite; dolomite and limestone breccia; black calcareous shale and green shale (Structure sections only.)

Mlv LIVINGSTONE FORMATION: massive, grey, fine to coarse crystalline limestone; grey, crinoidal limestone; cherty, grey limestone and dolomite (Structure sections only.)

Mbf BANFF FORMATION: dark grey and black, cherty and argillaceous limestone; black siltstone and mudstone; banded chert (Structure sections only.)

DEVONIAN AND MISSISSIPPIAN

DMx EXSHAW FORMATION: black, silty shale; grey siltstone and limestone (Structure sections only.)

DEVONIAN

UPPER DEVONIAN

Dpa PALLISER FORMATION: massive, dark grey and brownish grey limestone and dolomite; brown, crystalline dolomite (Structure sections only.)

Dfa FAIRHOLME GROUP AND ALEXO FORMATION (undivided): dark grey, silty and argillaceous limestone; dark and light grey dolomite; siltstone and sandstone (Structure sections only.)

CAMBRIAN

MIDDLE CAMBRIAN

Cgn GORDON FORMATION: micaceous green shale; grey, fine crystalline limestone; minor limonitic quartz sandstone

Cu Cambrian formations: undivided (Structure sections and stratigraphic diagram only.)

MIDDLE CAMBRIAN OR (?)OLDER

Cfh FLATHEAD FORMATION: pale orange, medium and coarse grained, conglomeratic, quartz sandstone; basal quartzite and conglomerate

PROTEROZOIC

MIDDLE PROTEROZOIC (HELIKIAN)

PURCELL SUPERGROUP (Hwt–Hrv)

Hrv ROOSVILLE FORMATION (Kintla Formation[1], Member D): green and grey argillite, siltstone, and sandstone; oolitic limestone; stromatolitic dolomite
[1]Formation name, now abandoned, used on the 1943 geological map of the Beaver Mines area by Hage, 1943; GSC map 739A.

Hph PHILLIPS FORMATION (Kintla Formation, Member C): red quartzite, sandstone, siltstone, and argillite

GATEWAY FORMATION (Hgwl–Hgwu)

Hgwu Upper part (Kintla Formation, Member B): grey and green sandstone; greyish green siltstone; grey and maroon argillite

Hgwm Middle part (Kintla Formation, upper part of Member A): red siltstone and sandstone; thin beds of greyish green siltstone

Hgwl Lower part (Kintla Formation, lower part of Member A): yellowish grey and red sandstone; colour laminated siltstone; red argillite

Hsp SHEPPARD FORMATION: pale greyish green dolomite, dolomitic siltstone and sandstone; chloritized and pillowed andesite

Hpl PURCELL LAVA: dark green, chloritized, amygdaloidal and pillowed andesite

SIYEH FORMATION (Hsyl–Hsyu)

Hsyu Upper part: green, grey, and red argillite; light grey, molar tooth dolomite; algal limestone and dolomite

Hsym Middle part: grey algal dolomite

Hsyl Lower part: grey and green argillite; grey dolomite and limestone; grey algal limestone and dolomite; oolitic limestone

Hgr GRINNELL FORMATION: red argillite; red and white sandstone and siltstone; intraformational conglomerate

APPEKUNNY FORMATION (Hapl–Hapu)

Hapu Upper part: green and maroon argillite; greyish green and pale red quartzite

Hapm Middle part: green argillite; white and grey quartzite

Hap APPEKUNNY FORMATION: undivided

Hapl Lower part: green and black argillite; white and pale greyish green quartzite; buff weathering dolomite

ALTYN FORMATION

Halu Middle and upper parts: grey, platy, buff weathering, fine crystalline dolomite; massive, gritty, algal dolomite; black argillite

Hal ALTYN FORMATION: undivided

Hall Lower part: dark grey argillite; thin bedded, buff weathering, grey dolomite and limestone

Hwt WATERTON FORMATION: colour laminated, grey, green, and red dolomite and limestone; thin bedded, grey, and green argillite. Includes pre-Waterton strata in the West Castle River area.

Outcrop examined, bedding attitude not determined	x
Geological boundary (defined, approximate, assumed)	
Bedding (horizontal, inclined, vertical, overturned, and assumed overturned)	
Fault, thrust or high-angle reverse (teeth indicate upthrust side; defined, approximate, assumed)	
Fault, extension (defined)	
Anticline (arrow indicates direction of plunge; defined, approximate, assumed)	
Syncline (arrow indicates direction of plunge; defined, approximate, assumed)	
Anticline/syncline [asymmetrical (long arrow points in direction of dip of axial surface), overturned]	
Fossil locality (GSC catalogue no.)	35304
Coal mine, abandoned	C
Stratigraphic section	
Borehole (gas, dry and abandoned, with identification)	
Paleontological age* (determined, indeterminate)	KMa, i
Tentative formational assignment	(?)Hapm
Line of structure cross-section	A ——— A′

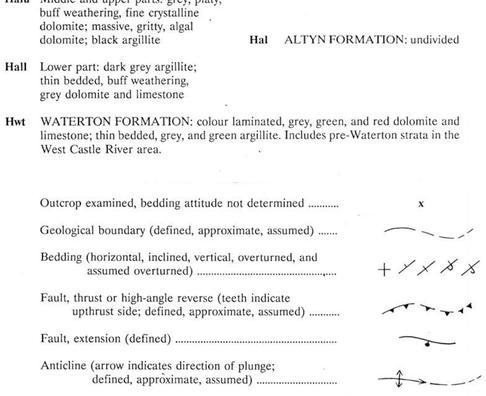
*For explanation of time symbols, see Geological Survey of Canada, Paper 76-1B, p. 263-265.

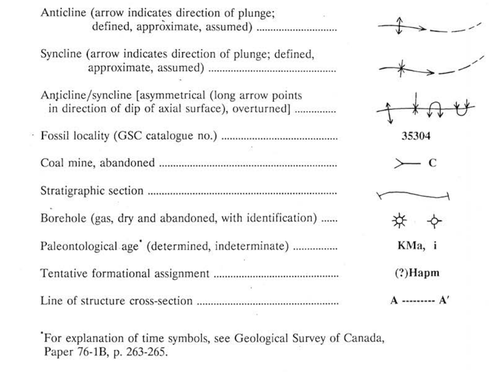
Note 1. The structure of the Alberta Group and Belly River Formation in the Haig Brook and Cate Creek fensters is poorly understood, because of slumping and poor exposure.

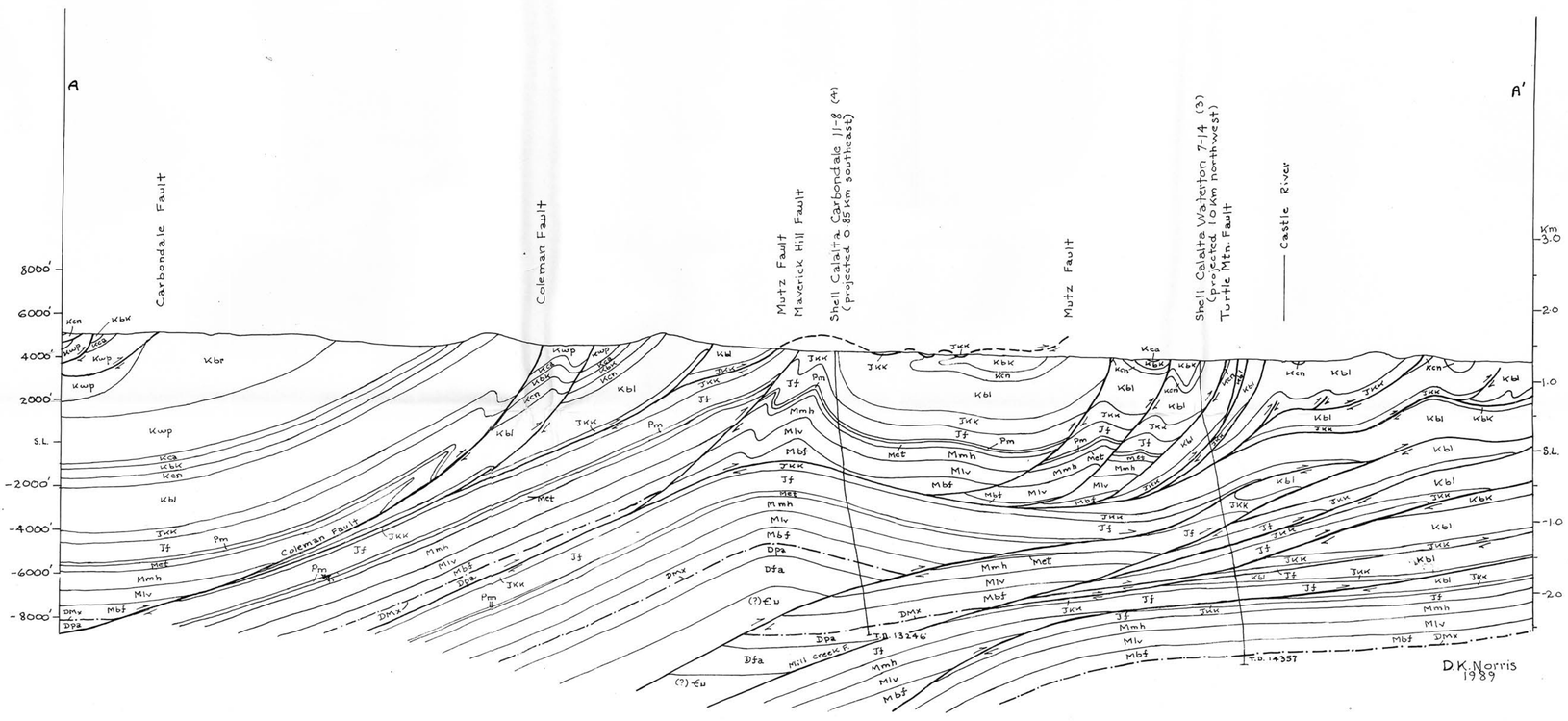
Note 2. The Lewis Fault and the Cretaceous rocks in its footwall may be present at the headwaters of St. Eloi Brook.

Schedule of wells
(In order of spudding date)

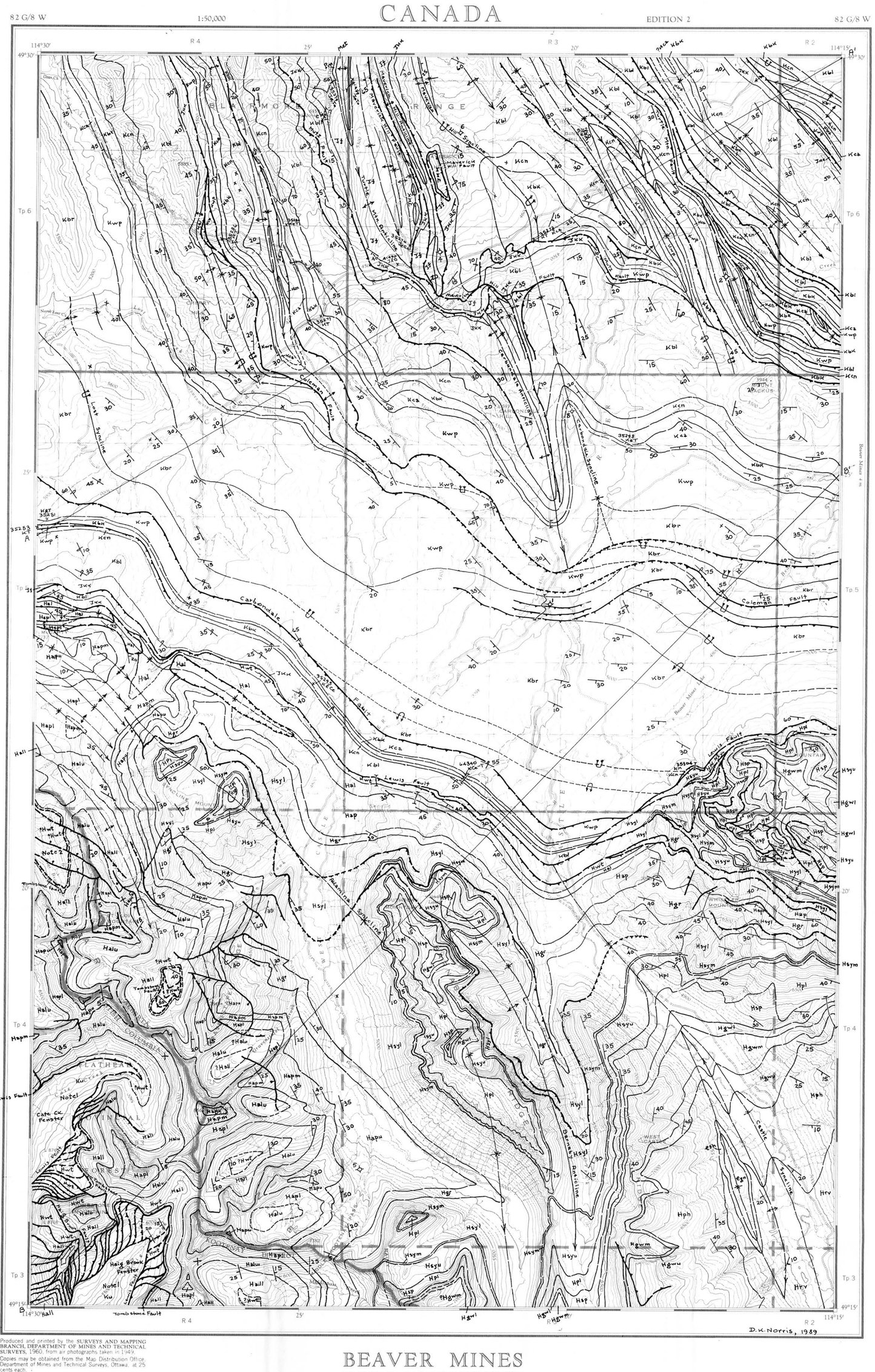
1. Kelly Well 16–16–5–3W5 ..... Dry and abandoned
2. Shell Calalta Carbondale 6–12–6–3W5 ..... Gas
3. Shell Calalta Waterton 7–14–6–3W5 ..... Dry and abandoned
4. Shell Calalta Carbondale 11–8–6–3W5 ..... Dry and abandoned
5. Shell West Castle 5–7–4–3W5 ..... Dry and abandoned
6. Shell et al. Waterton 7–20–6–3W5 ..... Gas
7. Shell Waterton 7–24–5–3W5 ..... Dry and abandoned
8. Shell Home Waterton 11–34–5–3W5 ..... Dry and abandoned







82 G/8 W — 1:50,000 — CANADA — EDITION 2 — 82 G/8 W



Produced and printed by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF MINES AND TECHNICAL SURVEYS, 1960, from air photographs taken in 1949.
Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa, at 25 cents each.

BEAVER MINES
ALBERTA - BRITISH COLUMBIA
WEST OF FIFTH MERIDIAN - OUEST DU CINQUIÈME MÉRIDIEN

SCALE 1:50,000 ÉCHELLE

Miles 0 1 2 3 Milles
Metres 1000 500 0 1000 2000 3000 4000 m
Yards 1000 500 0 1000 2000 3000 4000 Verges

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection
MAGNETIC DECLINATION 21° 08′ EAST

ÉQUIDISTANCE DES COURBES 100 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Réseau géodésique nord-américain unifié (1927)
Projection transverse de Mercator
DÉCLINAISON MAGNÉTIQUE AU CENTRE DE LA FEUILLE EN 1960: 21°08′ EST

Geology, Beaver Mines, West Half (Carbondale River), Alberta and British Columbia
by
D.K. Norris

Geological synthesis based on field observations, data from exploratory wells, and airphoto interpretation by D.K. Norris, 1958, 1960, 1961, and 1989.

D.K. Norris, 1989

OPEN FILE · DOSSIER PUBLIC
2405
GEOLOGICAL SURVEY
COMMISSION GÉOLOGIQUE
OTTAWA