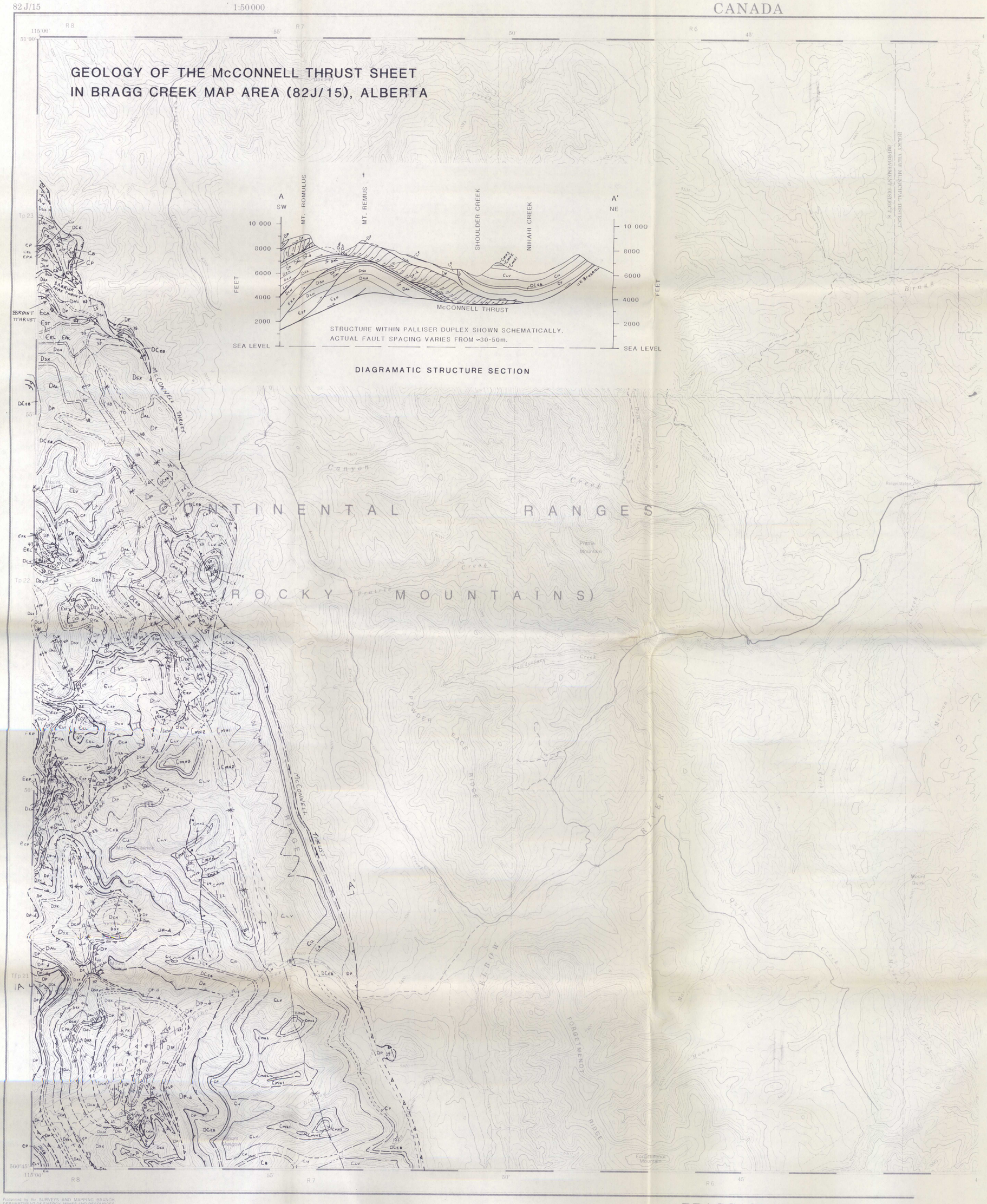
GEOLOGY OF THE McCONNELL THRUST SHEET IN BRAGG CREEK MAP AREA (82J/15), ALBERTA



CRETACEOUS

KOOTENAY GROUP (Kmm)

Kmm — MIST MOUNTAIN FORMATION: grey and black, dark chert rich, fine to coarse grained sandstone, commonly carbonaceous, limonitic, crossbedded; grey to black, carbonaceous shale; grey carbonaceous siltstone; minor coal

CARBONIFEROUS

RUNDLE GROUP (Cp-Ce)

Ce — ETHERINGTON FORMATION: light grey limestone, cherty limestone, sandy dolostone and limestone, locally crosslaminated; dolostone, locally nodular bedded; dolomitic siltstone, locally crosslaminated; waxy, green shale

MOUNT HEAD FORMATION (Cmh1-Cmh3)

Cmh3 — UPPER UNIT (Opal and Carnarvon members): dark grey limestone, dolostone, commonly cherty; dark grey marlstone; minor shale; light grey, dolomitic limestone with minor shale interbeds forms upper part of unit

Cmh2 — MIDDLE UNIT (Loomis Member): light grey, resistant, medium to coarse grained, lime grainstone, commonly oolitic

Cmh1 — LOWER UNIT (Wileman, Baril and Salter members): yellowish brown weathering, recessive, silty dolostone, commonly crosslaminated; silty limestone; calcareous and dolomitic siltstone; grey dolostone and limestone, locally cherty; light grey, resistant, medium to coarse grained, lime grainstone, commonly oolitic

Clv — LIVINGSTONE FORMATION: light grey, resistant, medium to very coarse grained, skeletal lime grainstone, commonly crossbedded, locally cherty; minor medium grey limestone, dolostone

Cu — UNNAMED FORMATION F: dark grey limestone, commonly dolomitic, with locally abundant chert nodules in upper part; brownish grey weathering marlstone, more common in lower part; interbeds of light grey lime grainstone common near top

Cp — PEKISKO FORMATION: light grey, resistant, medium to coarse grained, skeletal lime grainstone, locally crossbedded, cherty; subordinate medium grey limestone; minor marlstone

Cb — BANFF FORMATION: orange-brown weathering, medium and dark grey, argillaceous and silty, dolomitic limestone; calcareous siltstone and shale, commonly laminated; minor shale; cherty limestone in upper part; slump fold horizons common near base

DCeb — EXSHAW AND BANFF FORMATIONS (undivided)

DEVONIAN AND CARBONIFEROUS

DCe — EXSHAW FORMATION: rusty weathering, recessive black shale (lower part); brown weathering, medium grey, calcareous and noncalcareous siltstone, commonly bioturbated (upper part)

DEVONIAN

Dp — PALLISER FORMATION: massive weathering, resistant, burrow mottled, dolomitic limestone and dolostone; dark grey fenestral limestone, near base and top; algal laminated dolostone and recessive brown weathering intraformational (evaporitic?) breccias near top; limestone karst breccias locally at base. Dp-d extensively faulted Palliser Formation between roof and floor thrust forming a duplex.

Dal — ALEXO FORMATION: light grey, silty dolostone, dolostone, dolomitic siltstone; yellow-tan weathering, intraformational (evaporitic?) breccia, more common in southern part of area; grey limestone; minor green silty shale locally

Dsx — SOUTHESK FORMATION: light grey weathering, light and medium grey, fine to coarse crystalline dolostone, massive to medium bedded; dark grey weathering, dark grey medium crystalline dolostone, commonly with *Amphipora*, common in middle and locally upper part

Dcn — CAIRN FORMATION: dark brownish grey and dark grey, medium to coarse crystalline dolostone, commonly with *Amphipora* and stromatoporid rich beds, massive to medium bedded, rubbly weathering; light grey, medium crystalline dolostone interbeds common near top; minor brownish weathering, recessive, argillaceous limestone, commonly nodular; local, platy limestone, dolomitic limestone and tan to yellow weathering, thin bedded dolostone in lower part. Map unit locally includes thin (<3 m) lenses of Yahatinda Formation at base

Dya — YAHATINDA FORMATION: tan or reddish weathering dolostone, silty dolostone, locally mudcracked; red and green silty mudstone and mudstone; rare quartz sandstone and dolostone pebble conglomerate. Thickness commonly exaggerated on map

CAMBRIAN

€pk — PIKA FORMATION: dark grey limestone, very thin to thin bedded, commonly with trilobite fragments, orange weathering dolomitic partings, burrow mottlings, and in lower part thin shale partings, minor intraclast beds; light grey weathering dolomitized equivalents; a few metres of grey-green shale overlies a basal carbonate unit.

€el — ELDON FORMATION: dark and medium grey, resistant, medium crystalline dolostone, commonly burrow mottled, well bedded; minor intraclast and peloid grainstone; In Little Elbow River area- dark grey micritic limestone, massive to thick bedded, commonly with brown weathering, dolomitized, burrow mottling

€ep — ELDON AND PIKA FORMATIONS (undivided): Pika Formation <10 m thick, may be locally absent

€st — STEPHEN FORMATION: green, red, grey shale; dark grey, limestone commonly with orange weathering, dolomitic, burrow mottling; fragmental limestone with abundant trilobite debris; minor flat pebble conglomerate

€ca — CATHEDRAL FORMATION: dark grey limestone, commonly banded or parted; burrow mottled, dolomitic limestone; massive dolomitized equivalents

Geological boundary (defined, approximate, assumed)

Bedding, tops known (inclined, overturned) — 70 70

Bedding, tops unknown (inclined) — 45

Minor fold axis (trend and plunge) — 5

Fault, normal (defined, approximate, assumed; solid circle indicates downthrow side)

Fault, reverse or thrust (defined, approximate, assumed; teeth on upthrust side)

Fault, tear (defined, approximate, assumed)

Anticline (defined, approximate, assumed; arrow indicates direction of plunge)

Monocline (approximate; longer arrow indicates steeper limb)

Syncline (defined, approximate, assumed; arrow indicates direction of plunge)

Anticline, syncline, overturned (defined, approximate)

Line of section — A A'

Geological interpretation by M.E. McMechan, 1986, based on studies of vertical airphotographs and ground and air observations by M.E. McMechan, 1986, N.C. Ollerenshaw, 1979, 1980, 1982; and an unpublished Bow-Athabasca compilation by R.A. Price and E.W. Mountjoy (1966) and for the region between 50°56' and 50°59' N an unpublished Ph.D. thesis by L. Maurel: The nature and significance of the Barrier Peak thrust stack Rocky Mountain Front Ranges, Alberta, Canada; University of Calgary, 1987.

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Roads — Routes
hard surface, all weather — route pavée, toute saison
hard surface, fair weather — route pavée, beau temps seulement
loose or stabilized surface, all weather — gravier, agglomérée, toute saison
loose surface, fair weather — de gravier, beau temps seulement
unpaved street — rues non pavées
cart track — sentier
trail, cut line or portage — sentier, percée ou portage

FOR COMPLETE REFERENCE SEE REVERSE SIDE. (POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO)

BRAGG CREEK

ALBERTA

WEST OF FIFTH MERIDIAN - OUEST DU CINQUIÈME MÉRIDIEN

Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Mètres
Yards 1000 0 1000 2000 3000 4000 Verges

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