Recommended citation:
Norris, D.K.
1993: Geology and structure cross-sections, Langford Creek (West Half), Alberta; Geological Survey of Canada, Map 1837A, scale 1:50 000

GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA

LANGFORD CREEK

GEOLOGY

MAP 1837A

(West Half)

WEST OF THE FIFTH MERIDIAN

ALBERTA

Scale 1:50 000 - Échelle 1/50 000

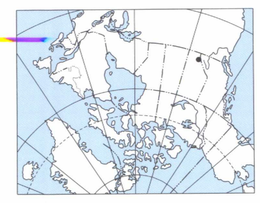
Kilometers 1 0 1 2 3 4 Kilometers

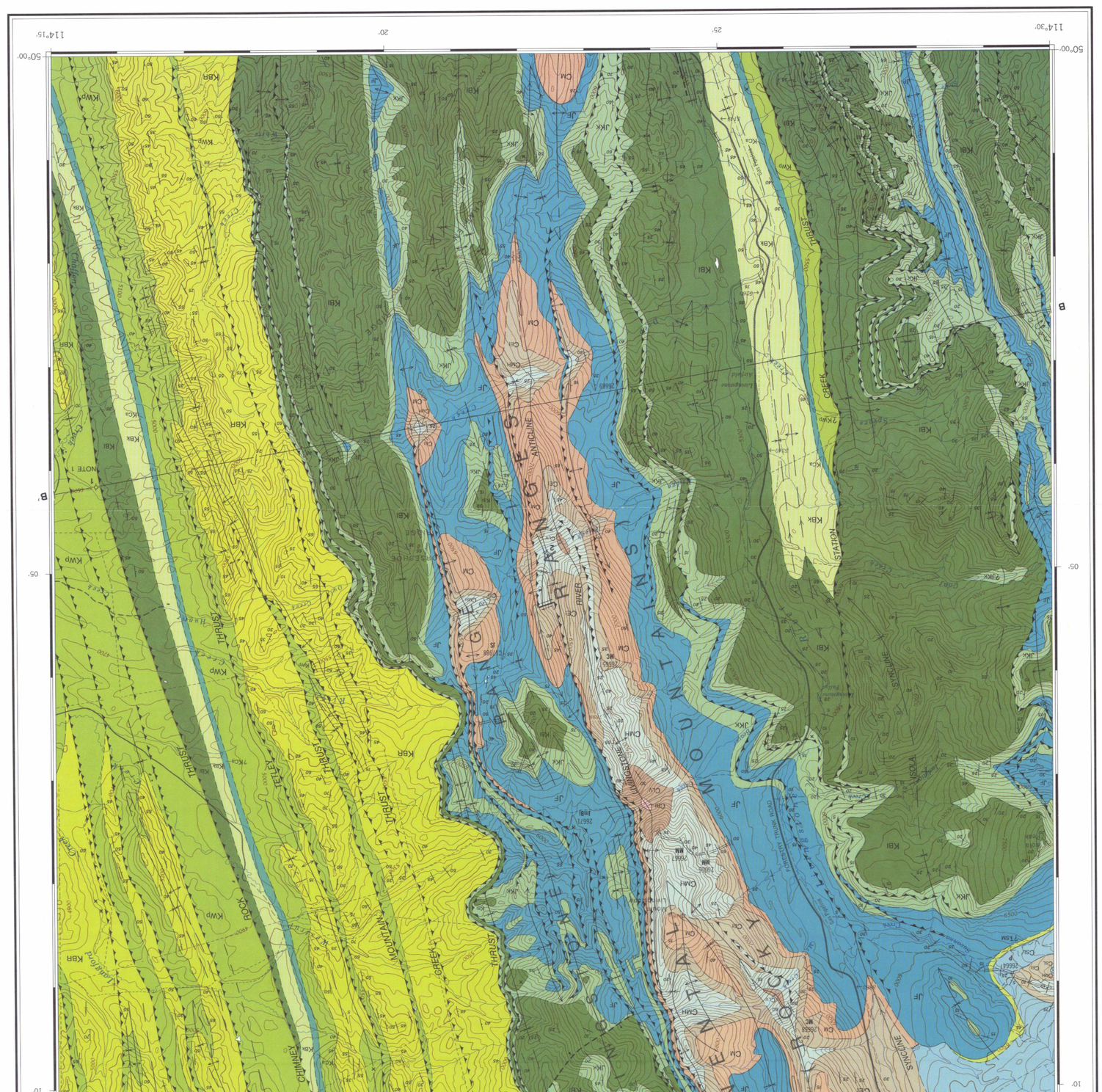
Universal Transverse Mercator Projection
Projection transverse universelle de Mercator

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

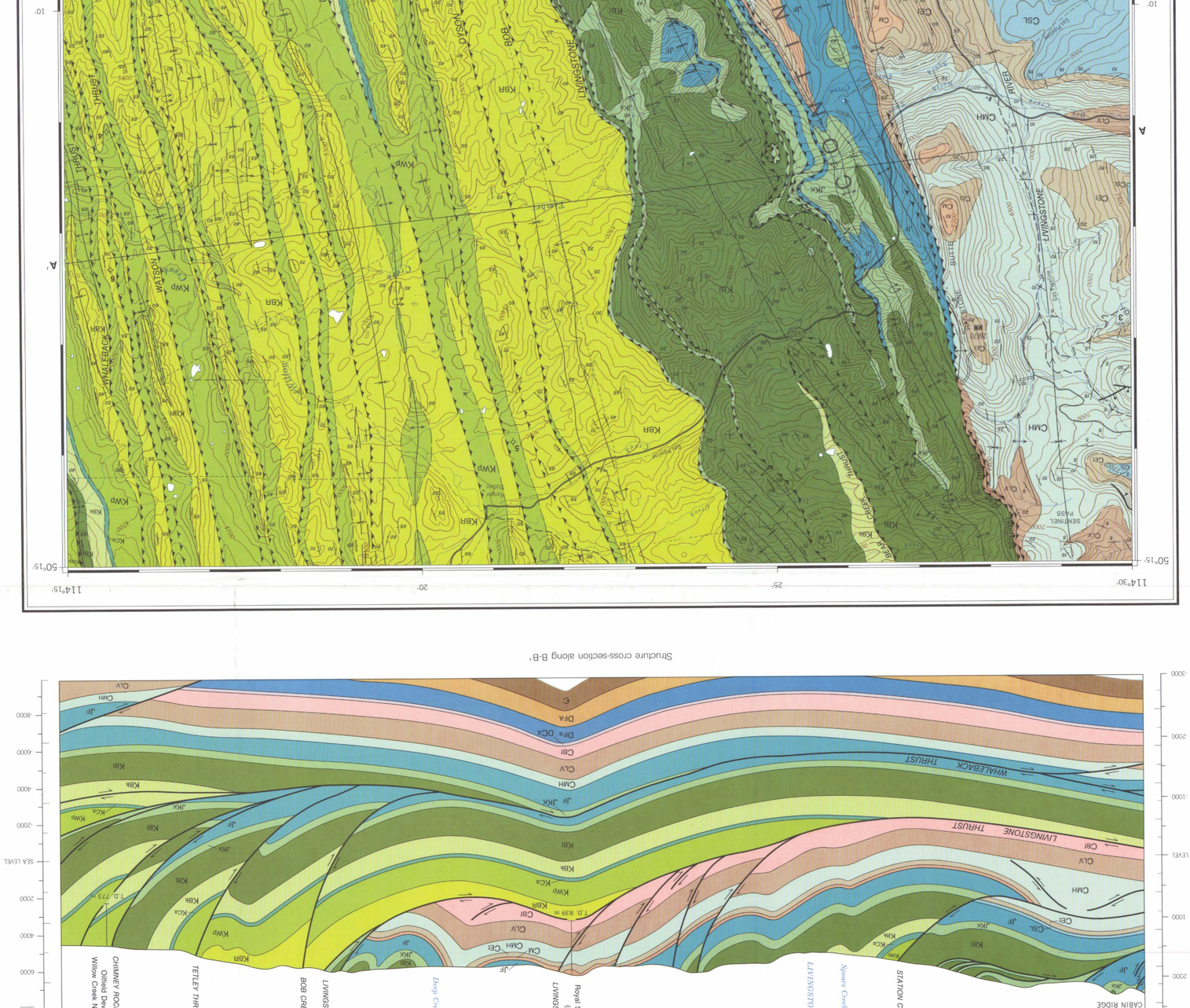
	82J/7	82J/8	82J/9
105A	698A	93A	82J/10
182A	183A	183/A	98A	82J/1	82J/2	82J/3	82J/4
182A	183A	183/A	98A	82G/15	82G/16	82H/13	82H/14
182A	183A	183/A	98A	82G/15	82G/16	82H/13	82H/14

INDEX MAP





Structure cross-section along B-B'



Structure cross-section along A-A'

LIVINGSTONE RANGE

LEGEND

MESOZOIC

CRETACEOUS
UPPER CRETACEOUS

KBR — *BELLY RIVER FORMATION: undivided; grey and green sandstone, silty, grey and green shale*

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
BLAIRMORE GROUP

KBl — *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; interbedded siltstone, sandstone, mudstone, shale and bituminous coal (Mist Mountain Formation). Coarsening upward sequence of grey and brown weathering quartz-chert 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 black limestone; basal coquina and phosphate-pebble conglomerate. May include thin lower Triassic Sulphur Mountain Formation on the west flank of the Livingstone Range*

TRIASSIC
LOWER TRIASSIC
SPRAY RIVER GROUP

TSM — *SULPHUR MOUNTAIN FORMATION: dark grey siltstone; dark grey and brown sandstone; black phosphate-pebble conglomerate*

PALEOZOIC

CARBONIFEROUS
UPPER CARBONIFEROUS
SPRAY LAKES GROUP

CM — *MISTY FORMATION: fine grained, grey, dolomitic sandstone; minor limestone and chert*

LOWER CARBONIFEROUS
RUNDLE GROUP (CLV – CEl)

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

CMH — *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*

CLV — *LIVINGSTONE FORMATION: massive, grey, fine-to coarse-crystalline limestone, grey, cinolial limestone, cherty, grey limestone and dolomite*

CGl — *BANFF FORMATION: dark grey and black, cherty and argillaceous limestone; black siltstone and mudstone; banded chert*

DEVONIAN AND CARBONIFEROUS
UPPER DEVONIAN AND LOWER CARBONIFEROUS

DCX — *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

C — *Cambrian and earlier formations: undivided (structure sections only)*

CSL — *SPRAY LAKES GROUP: undivided*

Outcrop examined, bedding attitude not measured ×
Geological boundary (defined, approximate, assumed)
Bedding (horizontal, inclined, vertical, overturned) 35 / ⊥ 60
Fault, extension (solid circle indicates downthrow side; defined, approximate, assumed)
Fault, tear (arrows show sense of displacement; defined, approximate, assumed)
Fault, thrust or high-angle reverse (teeth indicate upthrust side; defined, approximate, assumed)
Anticline (overturned; arrow indicates direction of plunge; defined, approximate, assumed)
Syncline (overturned; arrow indicates direction of plunge; defined, approximate assumed)
Anticline and synicline (asymmetrical; long arrow points in direction of dip of axial surface)
Fossil locality (GSC catalogue number; Calgary, Ottawa) CL7988, 26621
Paleontological age (determined, indeterminate); for explanation of time symbols, see Geological Survey of Canada, Paper 76-1B, p. 263-265 MC, I
Tentative formational assignment ? KCa
Stratigraphic section A A'
Line of section
Dotted line denotes change in mapping precision CSL CM
Coal mine (abandoned) C
Well (gas, dry and abandoned)

SCHEMATIC STRATIGRAPHIC RELATIONSHIPS

W E Metres 0 6000 4000 2000
(Palinspastic base is approximate only)
KBR KCa KWp CEl CMH CLV CGl CSL JKK JF KBl KBk DFa DCX C
Suprawedge Infrawedge
Horizontal Scale 0 40 Kilometres
Unconformity

1. Cutting samples from Oilfield Development No. 1 well suggest the presence of deformed and thickened Cardium Formation close to or at the surface in the immediate footwall of the Chimney Rock Thrust.

NOTE

Note: Well listing is in order of spudding date

1. *Oilfield Development Co. Willow Creek No. 1 7-7-13-2W5*
2. *Royal Sun Pete No. 1 2-17-13-3W5*
3. *Phillips Savanna Creek 5-33-14-4W5*
4. *BA Bayrel Riley 7-19-14-2W5*
5. *Skelly A1 Stimson 10-4-15-3W5*
6. *Pex Amoco Horseshoe 15-30-14-2W5*

SCHEDULE OF WELLS

Geology by D.K. Norris 1955, 1956, 1960, 1964, 1982 and 1985

Geological cartography by S.D. Orzech, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base map at the same scale published by the Surveys and Mapping Branch in 1980

Copies of the topographic edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources Ottawa, Ontario, K1A 0E9

Approximate magnetic declination 1993, 18°32' East, decreasing 6.9' annually

Elevations in feet above mean sea level

ACKNOWLEDGMENTS

Geological syntheses based on field observations, data from exploratory wells, and airphoto interpretation by D.K. Norris, 1955, 1956, 1960, 1964, 1982 and 1985; M.K. Dwyer in 1984 and 1985; and K.C. Richards in 1986.

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

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