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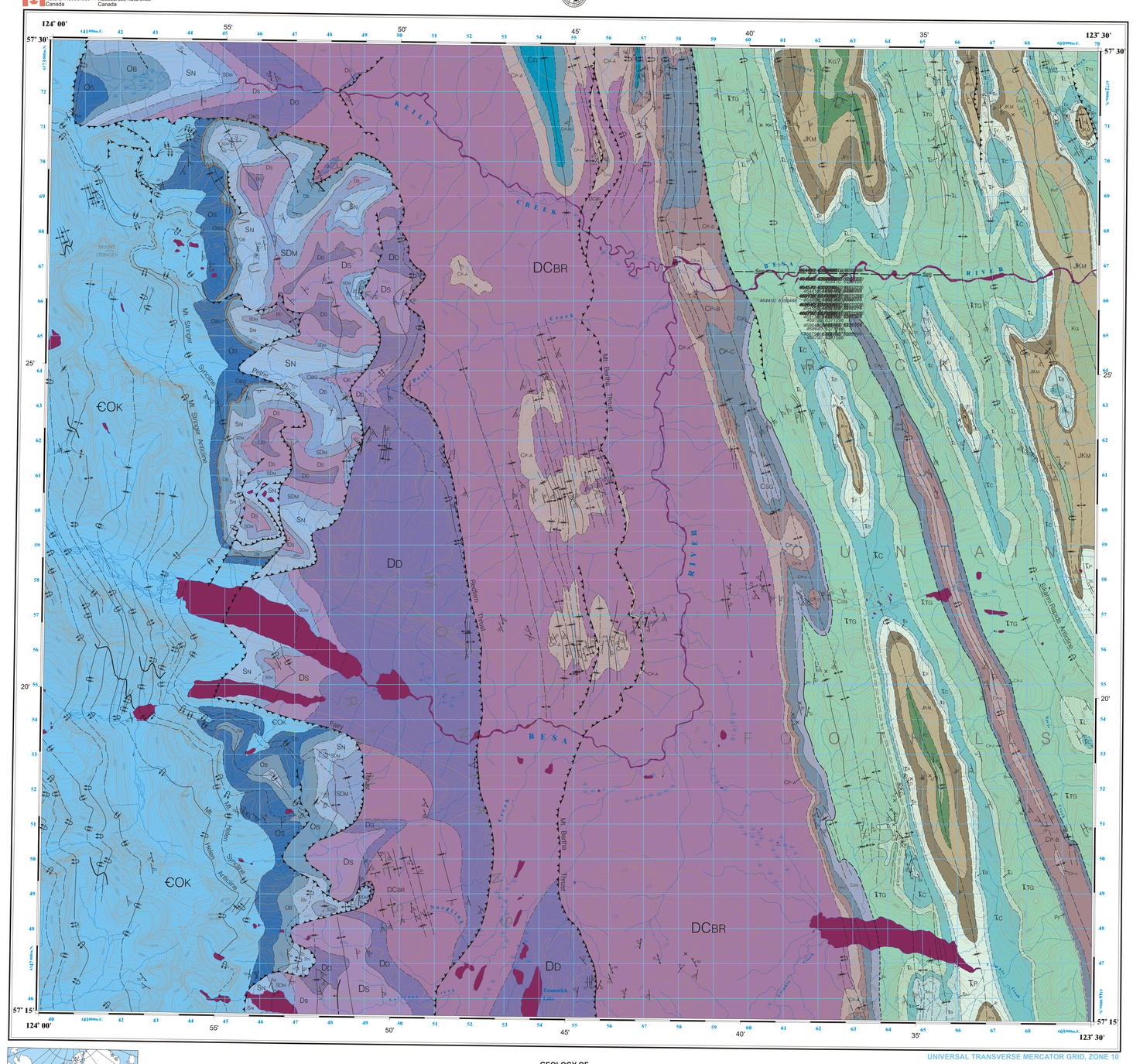
GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA



LEGEND

CRETACEOUS

LOWER CRETACEOUS

BULLHEAD GROUP

- Kg — Ct–Ge — **GETHING FORMATION** - *Quartz arenite, rusty; and shale, black.*
- Kc — Ct–Cd — **CADOMIN FORMATION** - *Chert pebble conglomerate, granule conglomerate, and quartz arenite, medium to thick bedded.*

JURASSIC AND CRETACEOUS

MINNES GROUP

- JKM — Jr–Ct–Mt — **MONTEITH FORMATION** - *Quartz arenite, massive white, or fine grained grey; minor shale, black; and argillaceous quartz arenite, and rare chert pebble conglomerate. Commonly includes underlying Fernie Fm., where it is too thin to show at 1:50 000 scale, and may include overlying Gething Fm. and/or Cadomin Fm.*

JURASSIC

- JF — Jr–F — **FERNIE FORMATION** - *Shale, black rusty; and shale, calcareous, grey.* Jr1 *Transitional upper part of the Fernie Formation containing beds of rusty weathering sand, more abundant and thicker upwards.*

TRIASSIC

SCHOOLER CREEK GROUP

- TP — Tr–P — **PARDONET FORMATION** - *Limestone, recessive flaggy, fossiliferous, shaly and silty; abundant monotid pelecypods are a characteristic feature; bivalves, brachiopods and ichthyosaur bones are locally preserved.*
- TB — Tr–B — **BALDONNEL FORMATION** - *Limestone, massive grey cliff forming, fossiliferous; with minor shale; siltstone; quartz arenite; and argillaceous limestone.* TBu - *upper part consisting of light grey weathering, bluff forming limestone.* TBl - *lower part consisting of thin-bedded, platy, dark grey limestone.*
- TC — Tr–CL — **CHARLIE LAKE FORMATION** - *Dolostone, algal laminae, orange weathering; minor limestone; shale; quartz arenite; and brecia.*
- TL — Tr–L — **LIARD FORMATION (Halfway Fm - subsurface)** - *Quartz arenite, massive, thick bedded, forming metre scale thick units; interstratified with metre scale calcareous quartz arenite and limestone.* TLun - *Locally mappable shale unit near the base of the Formation.*

DIABER GROUP

- TTG — Tr–GT — **TOAD AND GRAYLING FORMATION (Doig and Montney Fms. subsurface)** - *Shale, calcareous, brown-grey weathering, laminated with units of very shaly, brown weathering fine grained limestone. More calcareous in the upper part. More phosphatic in the lower part.*

PERMIAN

- PT — Pr–F — **FANTASQUE FORMATION** - *Chert, dark grey, 5-20 m thick*

CARBONIFEROUS

STODDART GROUP

- CSG — Cb–S — **STODDART GROUP: (Golata, Kiskatenaw, and Taylor Flat Formations)** - *Includes Golata Formation: soft black shale; Kiskatenaw Formation: brown weathering calcareous sandstone with abundant cross-beds, ripple-crosslamination, bioturbation, shale and limestone interbeds; Taylor Flat Formation: rhythmically bedded carbonate, argillaceous shale and marl. Locally, Golata Taylor Flat or entire unit may be absent.*
- CG — Cb–G — **GOLATA FORMATION** - *Dark grey to black shale and silty mudstone; subordinate muddy sandstone and fossilliferous limestone and dolostone; proportion of carbonates decreases and sandstone increases up section.*

RUNDLE GROUP

- CP–BC — Cb–P–bc — **PROPHET MEMBERS B AND C** - *Undivided members B and C.*
- CP–C — Cb–P–c — **PROPHET MEMBER C** - *Limestone, beds <1 m thick, shale interbeds 15-50 cm thick, spiculite. Approximately equivalent to the Debolt Formation in subsurface and Flett Formation farther north. Becomes more chert-rich to the northwest.*
- CP–B — Cb–P–b — **PROPHET MEMBER B** - *Chert, thick-bedded, bioturbated, limestone beds, spiculite.*
- CP–A — Cb–P–a — **PROPHET MEMBER A** - *Chert and shale, thin-bedded, interbedded, dark grey.*

CARBONIFEROUS AND UPPER DEVONIAN

- DCBR — DvCb–BR — **BESA RIVER FORMATION** - *Shale, black siliceous, weathers light brown, locally calcareous. Basal 50 m of black siliceous shale is overlain by 10 m black bedded chert and shale, resembling Prophet A.*

DEVONIAN

- DD — Dv–D — **DUNEDIN FORMATION** - *Limestone, mudstone to wackestone, amphipoid and stromatoporoid dominated beds, argillaceous limestone. In west includes interbeds of dark dolostone.*
- DS — Dv–S — **STONE FORMATION** - *Dolostone commonly with amphipoirids, medium to thick beds, microcrystalline to coarse crystalline, dark grey, light grey and tan. Dark grey colours dominate to the east.*
- DM — SlDv–MM — **MUNCHO-McCONNELL FORMATION** - *Dolostone, medium bedded, tan to cream coloured, with cryptalgal laminae, scattered quartz grains, locally with beds of quartz arenite*

LOWER SILURIAN

- SN — Sl–N — **NONDA FORMATION** - *Dolostone, grey to dark grey, medium to thick bedded; and cherty and silicified dolostone, often with thick biostromes and bioclastic beds containing stromatoporoids, brachiopods, corals, and crinoids.*

UPPER ORDOVICIAN

- OB — Od–B — **BEAVERFOOT FORMATION** - *Siltstone, dolomitic, reddish and brown; overlain northeast by cross-bedded quartz arenite and orange arenaceous dolostone. Uppermost beds have mudcracks with dolomite breccia and hematite nodules and granule quartzite. Transitional southwest into dolomitic shale, quartz turbidites, cherty and dolomitic siltstone, pyritic shale and black shale*

MIDDLE ORDOVICIAN

- OS — Od–Sk — **SKOKI FORMATION** - *Dolostone in medium to thick massive beds, dark grey to tan. Characterized by presence of oncolites, pisolites planispiral gastropods and solitary corals (Bighornia). Bioturbation and grazing trails common upper beds, locally cherty. More massive with fewer fossils on the north side of the Sikanni Chief River.*

LOWER ORDOVICIAN

- €OK — CrnOd–K — **KECHIKA GROUP** - *Limestone, argillaceous limestone, calcareous shale, fossil fragments, thin bedded, often nodular, tan weathering, light grey to dark grey; upper beds are thicker and dolomitic; normally strongly cleaved.*

MESOZOIC

PALEOZOIC

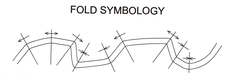
MAP SYMBOLS

- *Outcrop stations*
- *Geological boundary (defined, approximate, assumed)*
- *Bedding form lines*

PLANAR STRUCTURES

- *Bedding, tops known (inclined, overturned)*
- *Bedding, observed from the air*
- *Cleavage*
- *Fault*
- *Thrust surface*
- *Fracture*
- *Joint (inclined)*
- *Mylonitic foliation*
- *Vein*
- *Thrust fault (teeth indicate upthrust plate; defined, approximate, assumed)*
- *Normal fault (symbol indicates dip direction; defined, assumed)*
- *Fault, Strike-Slip (approximate)*
- *Anticline (defined, approximate, assumed)*
- *Syncline (defined, approximate, assumed)*
- *Overturned anticline (defined, approximate)*
- *Overturned syncline (defined, approximate, assumed)*
- *Anticline kink fold (approximate)*
- *Measured section (details listed below)*
- *Map unit labels (on map, in GIS data files)* — DCBR DvCb–BR
- *Fossil locality* — (F)

FOLD SYMBOLOGY



Cross-section view: double arrows are used to indicate folds where the dip direction changes across the hinge, and single arrows are used where the dip direction remains the same across a hinge (see Stockmal et al., 2002).

STRATIGRAPHIC SECTIONS

SECTION	NOTES
1. MTA-98 -3	Measured section of Keg River Fm, Stone Fm, Muncho-McConnell Fm (Nadjiwon, 2001).
2. MTA-99-4	Measured section of Keg River Fm, Stone Fm, Muncho-McConnell Fm (Nadjiwon, 2001).
3. 98RAH7	Measured section of Stoddart Gp (B.C. Richards, 1998, unpublished data).
4. 90RAH2	Measured section of Prophet Fm (B.C. Richards, 1990, unpublished data).
5. Keiley Creek	Measured section of Toad and Liard (J.P. Zonneveld, 1999, unpublished data).
6. NW Besa	Measured section of Toad and Liard (J.P. Zonneveld, 1999, unpublished data).
7. North Trimble	Measured section of Liard (J.P. Zonneveld, 1999, unpublished data).

FOSSIL LOCALITIES

(NOTE: Map symbols may be slightly displaced for clarity)

	Easting	Northing
1 - *C-417648, Mid Triassic (Late Ladinian) (Orchard, 1999)*	*464410*	*6150486*
2 - C-417650, Mid to Late Triassic (Late Ladinian or Early Carnian) (F)	464380	6352000
3 - C-417652, Late Triassic (Carnian) (Orchard, 1999)	464570	6352216
4 - C-417653, Late Triassic (Late Carnian) (Tozer, 1999)	469130	6371296
5 - C-417654, Late Triassic (Late Carnian) (Orchard, 1999)	468640	6371376
6 - C-417655, Late Triassic (Late Carnian) (Orchard, 1999)	466790	6371686

References:

1. *Nadjiwon, L.M., 2001: Facies Analysis, Diagenesis and Correlation of the Middle Devonian Dunedin and Keg River Formations, Northeastern British Columbia, Master's Thesis, University of Waterloo, 220p.*
2. *Stockmal, G.S., Kubli, T.E., Currie, L.D., and McDonough, M.R., 2002: Map symbology and analysis of box and polyclinal folds, with examples from the Rocky Mountain Foothills of northeastern British Columbia and the Liard Ranges of southeastern Yukon Territory and southwestern Northwest Territories; Canadian Journal of Earth Sciences, vol. 39, pp.145-155.*
3. *Orchard, M.J., 1999: Report on Conodonts and other Microfossils; Trutch (94G/5); 7 samples (productive) collected by L. Lane (GSC Calgary, 1998). Paleontological Report MJO-1999-01, 4p.*
4. *Tozer, E.T., 1999: Report on Macrofossils, Trutch (94G) and Halfway River (94B); 41 collections submitted by M.J. Orchard (collected by M.J. Orchard, J. Dixon, M. Johns, L. Lane and M. Hounslow). Paleontological Report ETT-1999-3, 15p.*

Geology by L.S. Lane, based on fieldwork conducted during 1998,1999, 2000, with contributions from: T. Brekko, G. Carrelli, M. Cecile, A.Khudoley, J. McDonald, K. McDonald, P. Mortensen, and M. Pelletier; and able assistance from: R. Aquilini, C. Bass, S. Carter, C. Cecile, C. Kruchkowski, S. Sharpe, J. Tremblay, D. Utting

THIS MAP IS A PROJECTED GRAPHIC OF THE MAIN THEMES INCLUDED WITH THIS GIS DATASET, COMBINED WITH TOPOGRAPHIC BASE MAP INFORMATION. IT IS PROVIDED AS A REFERENCE TO BE USED IN CONJUNCTION WITH THE GIS MAP.

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

Base map at the same scale published by Surveys and Mapping Branch in 1971

Copies of the topographical edition of this map area may be obtained from the Canada Map Office, Department of Natural Resources, Ottawa, Ontario

Recommended citation:
Lane L.S.
2003: A GIS dataset of geological features for the Redfern Lake map area (94G/5), British Columbia; Geological Survey of Canada, Open File xxxx, 1 CD-ROM.

INDEX MAP

Canada

NATMAP CARTNAT
Canada's National Geoscience Mapping Program
Le Programme national de cartographie géoscientifique du Canada

GEOLOGY OF
REDFERN LAKE
PEACE RIVER DISTRICT
BRITISH COLUMBIA

Scale 1:50 000 Échelle 1/50 000

Kilometres 1 0 1 2 3 Kilomètres

Universal Transverse Mercator Projection
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UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 10

94F/9 Mount Justin	94G/12 Richards Creek	94G/11 Minaker River
94F/8 Cyclops Peak	94G/5 Redfern Lake GSC OF XXXX	94G/6 Mount Withrow
94F/1 no title	94G/4 Mount McCusker GSC OF 1748	94G/3 Marion Lake

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