Geoscience BC

GEOSCIENCE BC MAP 2017-10

GEOLOGY
of the
CHRISTIAN VALLEY MAP SHEET

NTS 082E/10

SCALE 1:50 000

0 1 2 3 4 5

KILOMETRES

Geology and Compilation by Trygve Höy

Cartography by Wayne Jackaman

LEGEND

CENOZOIC

QUATERNARY

- Qal — Alluvium, sand, gravel, till

MIOCENE/PLIOCENE

- Pk — KALLIS FORMATION: plateau basalt; black to dark green, fine-grained; locally olivine phyric
- Pk1 — Conglomerate, sandstone, shale

EOCENE

- Ec — CORYELL: undifferentiated syenite and monzonite

PENTICTON GROUP (Ep):

- Epm — MARRON FORMATION: alkali basalt, trachyte; locally amygdaloidal, vesicular or porphyritic; well-banded mafic tuff, blocky tephra; minor black or red shale or slate
- Epm1 — UPPER MARRON: basalt
- Epk — KETTLE RIVER FORMATION: basal conglomerate, overlain by feldspathic grit, conglomerate, siltstone and rare shale or argillite; typically light coloured and well bedded
- Eg — Porphyritic granite; coarse-grained with commonly large, pink euhedral K-feldspar crystals

EOCENE/CRETACEOUS?

- KTg — Granite, locally K-feldspar porphyritic; medium to coarse-grained

MESOZOIC

JURASSIC-TRIASSIC?

- Jgd — Granodiorite; less commonly quartz diorite; pale green to grey, commonly altered
- mJg — Granodiorite; locally porphyritic, granite, minor diorite; may include Eg or KTg

PALEOZOIC

- CPa — ANARCHIST GROUP: undifferentiated metasedimentary and mafic metavolcanic rocks; argillite, silty argillite
- Pw — WALLACE GROUP: undifferentiated metasedimentary and metavolcanic rocks; may include fine-grained, mafic intrusive rocks; siltstone, argillite, mafic tuff, "greenstone", minor limestone; typically altered and metamorphosed

AGE UNKNOWN

- Pm — MONASHEE GNEISS: grey biotite granodiorite gneiss; may include orthogneiss and paragneiss

SYMBOLS

- CONTACT OF ALLUVIUM
- CONTACT: DEFINED, APPROXIMATE, ASSUMED
- UNCONFORMITY: DEFINED AND APPROXIMATE
- FAULT: DEFINED OR APPROXIMATE / ASSUMED
- NORMAL FAULT: DEFINED OR APPROXIMATE / ASSUMED
- FAULT
- BEDDING
- FOLIATION, CLEAVAGE
- JOINT
- VEIN
- DYKE
- MINERAL OCCURRENCE (MINFILE NUMBER) — 082ESE066
- K/Ar and Rb/Sr AGE DATES (Ma) — ID: 12035, K/Ar 51.8
- RGS STREAM SITE (ID NUMBER & AU/AG/CU/PB) — 9210 [Au ppb/Ag ppb/Cu ppm/Pb ppm]
- FOREST SERVICE ROAD: ACTIVE, UNKNOWN
- PARK BOUNDARY

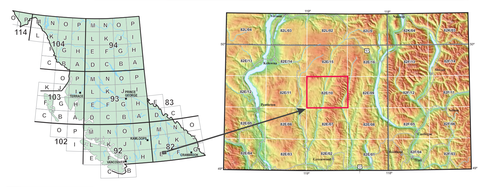
BASE MAP INFORMATION

NORTH AMERICAN DATUM 1983
UTM ZONE 11
TRANSVERSE MERCATOR PROJECTION

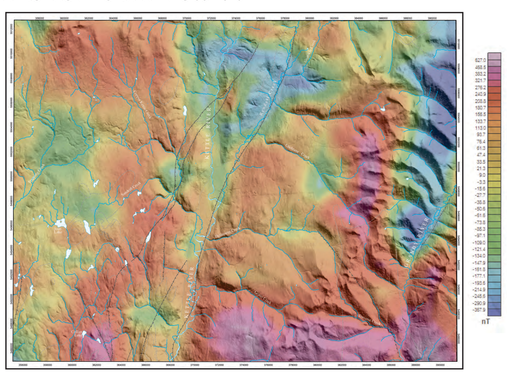
TN: 15° 17' E

APPROXIMATE MEAN DECLINATION 2016
FOR CENTRE OF MAP 82E/10,
ANNUAL CHANGE DECREASING 8.6°.

National Topographic Data Base (NTDB)
URL http://www.geogratis.ca
Natural Resources Canada, Centre for Topographic Information
Canadian Digital Elevation Data (CDED)
URL http://www.geobase.ca
Base Mapping and Geomatic Services - B.C. Government



AEROMAGNETIC DATA - NTS 082E/10



SOURCES OF DATA

Geology

Christopher, P.A. (1978): Geology of the East Okanagan Uranium area (Kelowna to Beaverdell), south-central British Columbia; BC Ministry of Energy and Mines, Preliminary Map 29.

Höy, T. and DeFields, G. (2017): Geology of the northern extension of the Rock Creek graben, Christian Valley map area, southern British Columbia (NTS 082E/10); in Geoscience BC Summary of Activities 2016, Report 2017-1, URL< http://www.geosciencebc.com/s/pdfSummaryofActivities2016/SoA2016_Hoy.pdf > [November 2017].

Little, H.W. (1957): Kettle River (East half); Geological Survey of Canada, Map 6-1957, scale 1:253 440.

Massey, N.W.D. and Duffy, A. (2008): Geology and mineralization of the area east of Beaverdell, British Columbia: BC Ministry of Energy and Mines, Open file 2008-9.

McCandless, P. and Hughes B. (1977): Assessment report: combined geological and geochemical survey on the CLH, Dell and Slate mineral claims; B.C. Ministry of Energy and Mines, Assessment report 6319.

Nicoll, L. (1980): Diamond drilling report on Done, Fuki mineral claims, Greenwood Mining Division, and aerial photography on PB and Donen 361 mineral claims, Osoyoos, Vernon and Greenwood Mining divisions; B.C. Ministry of Energy and Mines, Assessment report 8105.

Okuno, T. (1972): The Diamond drilling report on Donen mineral claims; BC Ministry of Energy and Mines, Assessment Report 3775.

Tempelman-Kluit, D. J. (1989): Geology, Penticton, British Columbia; Geological Survey of Canada, Map 1736A, scale 1:250 000.

Whiting, F.B. (1991): Geological sampling report, Copket Group, Copperkettle Creek; B.C. Ministry of Energy and Mines, Assessment report 21534.

Age Dates

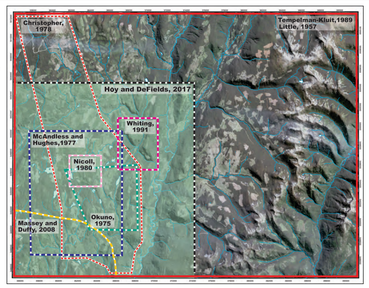
Boyle, D.R. (1982): The formation of basal-type Uranium deposits in south central British Columbia; Economic Geology, Vol 77, p. 1176–1209.

Hunt, P.A. and Roddick, J.C. (1992): A compilation of K-Ar ages: Report 21, Radiogenic Age and Isotopic Studies, Report 5, Geological Survey of Canada, Paper 91-2, p. 207–261.

Mathews, W.H. (1988): Neogene geology of the Okanagan Highland, British Columbia; Canadian Journal of Earth Sciences, Vol 25, p. 725–731.

Stevens, R.D., Delabio, R.N. and Lachance, G.R. (1982): Age determinations and geological studies, K-Ar isotopic ages, Report 15, Geological Survey of Canada, Paper 81-2.

Sun, M., Armstrong, R.L. and Maxwell, R.J. (1991): Proterozoic mantle under Quesnellia; variably reset Rb-Sr mineral isochrons in ultramafic nodules carried up in Cenozoic volcanic vents of the southern Omineca Belt; Canadian Journal of Earth Sciences, Vol 28, p. 1239–1253.



Other

BC Geological Survey (2016): MINFILE BC mineral deposits database; BC Ministry of Energy and Mines, BC Geological Survey, URL <http://Minfile.ca/> [September 2011]. (update Sept 2016 with date of data download)

Canadian Aeromagnetic Data Base (2010): Geoscience Data Repository, Geological Survey of Canada, Earth Sciences Sector, Natural Resources Canada, Government of Canada.

Jackaman, W. (2010): QUEST-South Project Sample Reanalysis; Geoscience BC, Report 2010-4, 4 p., URL <http://www.geosciencebc.com/s/2010-004.asp> [November 2016].

MINFILE

MINFILE	Names	Status	Commodities	Deposit Types
082ENE011	COPKET	Showing	Cu, Au, Ag	Cu skarn, polymetallic veins
082ENE012	ELLSWORTH	Showing	Cu, Au, Ag	Polymetallic veins, breccia
082ENE015	FUKI	Developed Prospect	U	Basal uranium
082ENE030	COLLIER	Showing	U	Basal uranium
082ENE036	BLUE	Showing	Cu, Au, Ag	Unknown
082ENE040	SAND	Showing	Cu, Pb	Unknown
082ENE041	CUP LAKE	Developed Prospect	U	Basal uranium
082ENE046	BLIZZARD	Developed Prospect	U	Basal uranium
082ENE047	LASSIE	Showing	U	Basal uranium
082ENE048	ML	Showing	Cu, Au, Ag, Mo	Polymetallic veins, breccia
082ENE064	CANE 7	Showing	Uranium	Basal uranium
082ENE074	KET	Showing	U	Basal uranium
082ENE081	GRANO CREEK	Prospect	Granite,	Dimension stone - granite
082ENW046	ROSEMONT	Past Producer	Au, Ag, Cu	Au-quartz veins, polymetallic veins

AGE DATES

Lab ID	UTME	UTMN	Method	Age (Ma)	Reference
13025	360753	5495225	K/Ar Whole rock	4.8	Sun, M., Armstrong, R.L. and Maxwell, R.J. (1991)
13442	360919	5496209	K/Ar Whole rock	4.4	Boyle, D.R. (1982)
13451	361050	5495552	Rb/Sr mineral	99.0	Sun, M., Armstrong, R.L. and Maxwell, R.J. (1991)
13452	361050	5495552	Rb/Sr mineral	646.0	Sun, M., Armstrong, R.L. and Maxwell, R.J. (1991)
13134	361469	5497766	K/Ar Whole rock	5.1	Mathews, W.H. (1988)
12256	362672	5497735	K/Ar Whole rock	5.9	Stevens, R.D., Delabio, R.N. and Lachance, G.R. (1982)
12663	363719	5503408	K/Ar Biotite	56.3	Hunt, P.A. and Roddick, J.C. (1992)
12911	364386	5493984	K/Ar Whole rock	3.6	Mathews, W.H. (1988)

Large exposure of the Marron Formation within the Rock Creek graben on the east shore of the Kettle River.

Acknowledgements

G.M. DeFields is thanked for her assistance in the field.

Geoscience BC is an independent, non-profit organization that generates earth science in collaboration with First Nations, local communities, government, academia and the resource sector. Our independent earth science enables informed resource management decisions and attracts investment and jobs. Geoscience BC gratefully acknowledges the financial support of the Province of British Columbia.